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# Bad law or implementation flaws? Lessons from the implementation of the new law on epidemics during the response to the first wave of COVID-19 in Switzerland<sup>☆</sup>



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## ABSTRACT

After the 2009–2010 H1N1 pandemic, Switzerland overhauled its 1970 law on epidemics. The reform aimed at improving early detection, surveillance, and preparedness for future outbreaks of infectious diseases. Notably, the law introduced stronger coordination between Federal and Cantonal authorities, better management tools and international cooperation. The new law entered into force in 2016 after a long legislative process. During the process, the law survived a referendum fuelled by concerns about vaccine safety and pharmaceutical industry interference. The law was first applied during the COVID-19 pandemic in early 2020. The epicentre of the outbreak in Europe was in Lombardy, a large Italian region adjacent to Switzerland and with strong economic ties with its southern region of Ticino. The first months of pandemic response highlighted two major weaknesses. Firstly, the mechanisms introduced by the new law did not ease the tension between Cantonal autonomy and central coordination of the pandemic response. Central and Cantonal authorities will need to put in place new rules and arrangements to avoid dangerous delayed responses to foreseeable problems related to the spread of infectious diseases. Secondly, relevant stakeholders excluded from the policymaking process (trade unions, firms, large industries) should be involved to allow the introduction of harsh restrictions when needed, both internally and in relation to cross-border workers.

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## 1. Background and purpose of the policy

In June 2009, the World Health Organization (WHO) declared a pandemic associated with an influenza virus A H1N1 outbreak [1,2]. A first cluster emerged in March 2009 in Mexico and quickly spread to North America and Europe by the end of April 2009 [3]. The early response of WHO in 2009 built on previous reflections related to the 2003 SARS outbreak which led to the International Health Regulations (2005). The IHR (2005) were introduced in 2007 with the aim of offering a global health governance framework in global or international pandemic scenarios, regulating and fostering international cooperation [4]. The management of the H1N1 pandemic generated wide criticism with regards to the

role and actions of WHO, however. The main critical issues were related to the recommended stockpiling of antiviral drugs [5–7], vaccine acceptance and safety [8–10] and more generally to the leadership of WHO and Governments concerning their independence from the pharmaceutical industry [7,11–14]. In August 2010, the WHO declared the end of the pandemic after a relatively mild impact of the disease on population health and without major secondary waves [15]. The H1N1 experience provided useful information to further improve the IHR (2005) [3,4] and pandemic plans in many countries, including Switzerland [16].

Following intense work in 2009 and 2010 – which revealed several flaws in planning, preparedness, and execution of the pandemic response across the country – the Swiss Federal Council presented a bill to the Parliament in December 2010 proposing a complete overhaul of the old law on epidemics dated 1970 [17]. After a long legislative process and a popular referendum, a new law was approved in 2012 and entered into force in 2016 [18]. The broad objectives of the 2012 Swiss law on epidemics (henceforth “2012 LEp”) included the promotion of strengthened surveillance and prevention, extended room for intervention in extraordinary

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situations, better management, coordination of activities between central and regional governments, development of a vaccination strategy and international coordination [19]. The 2012 LEp was first applied during the COVID-19 pandemic in early 2020 [20].

## 2. The policy process

In the wake of the debate and criticism during and after the 2009–2010 pandemic, the 2012 LEp took over five years to enter into force [21]. The final version of the bill was approved on September 28, 2012, after over one year in the parliamentary commissions and three rounds of amendments in the two chambers of the Parliament [22]. A popular referendum to stop the law was successfully submitted on February 19, 2013 [23]. The referendum committee proposed three main arguments [24]:

- Adverse consequences for individual freedom as a result of mandatory vaccination campaigns imposed on the population by the Federal Government and WHO. Related to this point, the committee mentions the dangerous commitment of public funding towards private companies producing vaccines and antiviral drugs;
- Risks related to the generalized collection of data on individual behaviours and movements for pandemic surveillance purposes. Additionally, privacy concerns related to sharing of sensitive individual data with foreign authorities and WHO;
- Risk of increased child exposure to sexual education during prevention campaigns, in relation to sexually transmitted diseases.

The referendum in Switzerland was fuelled by concerns related to vaccine safety [10] and the involvement of a large Swiss pharmaceutical company in the controversial WHO recommendation to stockpile the antiviral drug oseltamivir during the H1N1 pandemic [25]. On 22 September 2013, Swiss citizens backed the new law with large margin in the popular vote [26]. After the population

approved the 2012 LEp, the Federal Government went on to develop a decree to apply the law. Between July and October 2014, the Federal Government promoted a consultation procedure to finalize the decree which involved the 26 Cantonal authorities and 28 organizations representing a wide range of stakeholders [27]. The decree was approved with minor changes by all Cantonal authorities and several organizations (see Appendix A1 for a full list).

Only one organization rejected the decree: the advocacy network “Infovac”, a forum for information and consultancy about vaccines mostly focusing on safety among children [28]. The main concern of “Infovac” was the potential introduction of mandatory vaccination campaigns. The association representing Swiss health insurers (santésuisse) officially refused to take a position whilst the Swiss Association of Pharmaceutical companies did not reply [27]. Somewhat surprisingly, four stakeholders potentially affected by the law were excluded from the consultation: police forces, trade unions, small and medium enterprises, and large industries. Provided the large support among the stakeholders involved, the decree was approved. The law finally entered into force in 2016 and was first fully applied in early 2020 to face the COVID-19 pandemic [20].

## 3. Selected relevant improvements of the new law

The 2012 LEp built on the previous 1970 version, expanding greatly in scope and adding several tools to prevent or curb an epidemic. These tools included surveillance, prevention, vaccination, medical care, isolation, quarantine, restriction of movements nationally and international border control [18]. The main advancements compared to the previous law were related to: vaccination; definition of tasks and coordination among Federal and Cantonal authorities; coordination with other countries and notably the WHO [19].

Box 1 highlights the main features of the 1970 and 2012 versions of the LEp across five main dimensions: scope, responsibility

### Box 1

Characteristics of 1970 and 2012 Laws of Epidemics in Switzerland across selected dimensions of pandemics containment.

	1970 Law on Epidemics dated 18 December 1970 valid until 01.01.2016 (1970 LEp)	Law on Epidemics dated 28 September 2012 valid from 01.01.2016 (2012 LEp)
Stated scope	Fight transmission of infectious diseases that affect humans (art. 1).	Surveillance; prevention; induce individuals and groups among the population to contribute toward prevention; set up organizational, technical and financial means for detection, surveillance and prevention of infectious diseases (art. 2).
Responsibilities of the Federal Government	Publishing updated information, when necessary informing Cantons and public, publishing guidelines (art. 3); authorizing laboratories (art. 5); imposing limitations to international movement of people (art. 7); coordination, vigilance and enforcement of the law (art. 9); if necessary, coordination of Cantonal activities (art. 9); in case of “extraordinary circumstances”, impose measures to specific regions or across the entire country (art. 10).	Leading definition of policy goals, strategies and evaluate policy implementation (art. 4, 24, 81); defining the state of “special situation” (art. 6); if necessary, coordination of Cantonal activities (art. 6); in a “special situation”, impose measures on individuals or population to prevent or mitigate the pandemic (art. 10); in case of “extraordinary circumstances”, can impose measures on specific regions or across the entire country (art. 7); coordination of prevention and surveillance (art. 8, 19); share relevant data, information and guidelines with Cantonal bodies and public (art. 9, 10, 11); authorizing laboratories (art. 16, 17); deciding on limitations of movement of people and goods (art. 43, 45); coordination, vigilance and enforcement of the law (art. 77).
Responsibilities of the Cantonal Governments	Organization of health services within their boundaries (art. 14, 25); setting up appropriate testing capability (art. 13); surveillance (art. 15, 22); preventive and/or restrictive measures on population and firms including ban on meetings, closing schools or limit access to buildings but excluding quarantine of entire regions (art. 19, 21); arrange aid for disruption of economic or income generating activities (art. 18, 20).	Organization of health services within their boundaries (art. 36, 37, 39) and appropriate testing capability (art. 18); surveillance (art. 12, 15, 33, 44); preventive and/or restrictive measures on population and firms, including ban on events, gatherings, school closures, limit on access to buildings, quarantine, isolation (art. 31, 32, 38, 40).
National coordination	The Federal Government informs (art. 3) and coordinates the activities (art. 9) of Cantonal bodies.	The Federal Government and Cantonal authorities set up a coordination body to share information and uniformly define public health measures in the interest of the entire Country (art. 54, 55).
International coordination	The Federal Government can impose limitations and sign international agreements in relation to transportation of dead bodies constituting risk of generating contagion (art. 8).	The Federal Government can: impose limitations and sign international agreements in relation to transportation of dead bodies constituting risk of generating contagion (art. 46); sharing relevant data with international authorities (art. 62); sign international agreements in relation to exchange of surveillance data and exchange of information on management of pandemic response (art. 80); communicating with WHO (art. 80).

Sources: Legge federale per la lotta contro le malattie trasmissibili dell'uomo (LEp), 1970. RS 818.101. Repealed on 01.01.2016. Legge federale sulla lotta contro le malattie trasmissibili dell'essere uomo (LEp), 2012. RS 818.101. Enacted on 01.01.2016. Version 01.01.2017.

ities of Federal and Cantonal Governments, national and international coordination.

Firstly, the 2012 LEp introduced a strengthened stewardship role for the Federal Government in deciding pandemic risk levels, providing country-level surveillance, gathering and sharing information with Cantonal authorities and the public. Notably, according to the 2012 LEp the Federal Government is responsible for defining so-called “special” and “extraordinary” situations, based on a comprehensive risk assessment. In these medium- to high-risk circumstances, stronger measures can be implemented and freedom of action of Cantonal Governments may be restricted [18]. Furthermore, the implementation of all measures is delegated to Cantonal authorities, in line with the decentralized structure of the Swiss political and health system [29].

Secondly, the 2012 LEp requires Federal and Cantonal Governments to form a common coordination body to define country-level interventions and share relevant information, with a clear definition of responsibilities for both parts [19]. The coordination body needs to have a mixed composition, with technical and political competencies but no independent scientific support from research institutions [30].

Thirdly, the 2012 LEp attributes all responsibilities of coordination with foreign countries and international organizations to the Federal Government, essentially aligning with the requirements of the IHR (2005). According to the 2012 LEp, the Federal Office of Public Health is responsible for implementing the IHR (2005) and acts as national focal point in the communications with WHO [19]. The implementation of the IHR (2005) requires prompt reporting of all situations which represent potential risks of cross-border disease spread, as well as implementing and coordinating internationally all relevant public health measures for travellers (including testing or need for specific vaccinations), conveyances and goods [31]. The 2012 LEp does not explicitly mention other international regulation other than the IHR (2005), although the related decree states that pandemic and emergency plans should be coordinated with those of the neighbouring countries [30].

#### 4. Political and economic background

Despite the introduction of several mechanisms for coordination with the 2012 LEp, the Swiss health system remains highly decentralized. Each Canton is independently responsible for regulating and steering its health system. Cantonal responsibilities include organizing public healthcare services and regulating health service delivery for private providers [29]. Healthcare financing in Switzerland is based on mandatory health insurance for all residents, co-funding (55% of costs) by the Cantonal Government for inpatient care and a large share of out-of-pocket payments [29].

Decentralization in the Swiss health system mimics the administrative and political structure of the Swiss federal system. The Swiss healthcare system is known to promote the values of autonomy and individual responsibility [32], as well as strong community solidarity (mandatory insurance, socialized healthcare expenditure and generous health insurance premium subsidies for poorer families). The federal setting allows high flexibility and the ability to tailor healthcare to the needs of local communities. This feature – coupled with high income availability – contributes to the high responsiveness of the Swiss healthcare system and its high valuation among citizens. However, the complex institutional infrastructure needed to support a federal health system makes health policy reforms rather difficult [33]. The policy process involves Cantonal and Federal Governments and is exposed to the influence of corporations, interest groups and ultimately citizens through direct democracy [34]. These characteristics are exacerbated by the Swiss cultural mix, namely a population divided into 3 main cultural regions with 4 official languages. Whilst unques-

tionably important and enriching, the language and cultural divide adds complexity to health policymaking and contributes to delaying policy adoption or decision-making.

The Swiss economy is strongly integrated with the neighbouring countries and more generally with the rest of the world. In 2018, international trade of goods resulted in net exports worth 31 billion Swiss francs [35] while the trade surplus including services was 84.3 Billion Swiss francs or 12% of GDP [36]. Many major international NGOs have headquarters in Switzerland (mostly in Geneva), including the WHO. Besides trade integration, all border regions of Switzerland have a relevant share of cross-border workers from Italy (Ticino), France (Geneva and Vaud), Germany and Austria (Basel and Zurich). For example, in the southern Italian-speaking region of Ticino, in 2018 about 62'000 Italians (27% of the total workforce and out of a population of about 350'000) crossed the border daily to work [35,37]. Cross-border workers contributes crucially to the local economy across various sectors, including healthcare.

The political and economic characteristics summarized above are critical for pandemic response. A positive balance of trade implies a strong dependence upon international trade routes [12]. Likewise, a high share of cross-border workers implies – especially for border regions – high dependence upon free movement of people. However, during an epidemic, this entails an increased risk of spread of the virus, either inbound or outbound. Furthermore, decentralization and cultural divide can inevitably create institutional and geographical distance between the areas where an outbreak first emerges and the central authorities. Cantonal authorities can promptly detect an outbreak and react locally. However, the Federal Government is supposed to coordinate the pandemic response nationally and even limit Cantonal autonomy in high-risk situations. In the 2012 LEp, this potentially dangerous trade-off is eased by increased cooperation, information sharing and a common coordination body for Federal and Cantonal Governments [18].

#### 5. A critical commentary of the Swiss response to the first wave of COVID-19

The first cluster of COVID-19 emerged in late December 2019 in Wuhan, a city in the Chinese province of Hubei [38]. Around mid-February 2020 the outbreak spread to Europe from a cluster in Italy, in the northern region of Lombardy [39]. On January 30 the WHO declared the novel coronavirus outbreak a Public Health Emergency of International Concern [40]. After repeatedly warning that the window of opportunity to contain the outbreak was narrowing, on March 11 – with over 118'000 confirmed cases in 114 countries and 4'291 deaths – the WHO characterized COVID-19 as a pandemic [41]. One month after the first registered case in Lombardy, the pandemic exploded in the epicentre in Lombardy and spread quickly to other European countries. The number of cases grew quickly and the number of deaths associated with COVID-19 kept increasing alarmingly.

When the first case in Lombardy was detected, multiple regions in Switzerland were in the midst of carnival celebrations, which potentially acted as “superspreading” events. For example, in the southern region of Ticino alone, the local carnival in Bellinzona gathered 160'000 people squeezed in tents over 7 days (from February 19 to February 25). The first COVID-19 case in Switzerland was detected on February 25, in Ticino. Box 2 describes a timeline of interventions implemented to curb the pandemic by the Federal and some selected Cantonal authorities in Switzerland.

A first critical junction in the Swiss COVID-19 response was the introduction of a “Special situation” in Switzerland (February 28). The Swiss Government acknowledged that COVID-19 was a problem only after a first case was officially recorded in Switzerland, banned events with more than 1'000 people but left freedom to

**Box 2**

Timeline of selected events and Government interventions in Switzerland and in three Cantons (Ticino, Geneva and Basel Stadt).

Date	Region	Event/Decision
25.2.2020	Ticino	First Swiss COVID-19 case registered in Ticino. Stop to carnival celebrations, ice hockey matches played behind closed doors.
27.2.2020	Basel Stadt	First case in Canton Basel Stadt.
28.2.2020	Switzerland	“Special situation” declared. Ban on events with more than 1'000 people.
	Basel Stadt	“Fasnacht” carnival cancelled.
6.3.2020	Ticino	Ban on events with more than 150 people; limitations to visits to residents in nursing homes.
	Basel Stadt	Cantonal authorities issues recommendations for nursing homes, hospitals and clinics on how to deal with visitors.
9.3.2020	Ticino	Ticino reorganized healthcare services to allow proper treatment of COVID-19 patients; ban on visits to nursing homes.
11.3.2020	Ticino	All tertiary schools close; ban on all public events and gatherings of 50 or more people.
13.3.2020	Switzerland	All compulsory education institutions close; ban on events and gatherings with 100 or more people; adequate spacing in bars and restaurants imposed.
13.3.2020	Geneva	Cantonal authorities set up the emergency unit.
14.3.2020	Switzerland	The Federal Government highlights that measures also apply to ski resorts.
	Ticino	Ticino introduces a lockdown, closing most non-essential activities, bars, restaurants and clubs.
16.3.2020	Switzerland	“Extraordinary situation” declared. All non-essential activities, bars, restaurants and clubs close; deployment of 8'000 soldiers to support public health activities; increased border control.
18.3.2020	Geneva	Ban on visit to hospitals and care homes. Closure of all building sites.
20.3.2020	Switzerland	Ban on gatherings of more than 5 people.
	Basel Stadt	Basel region reorganizes healthcare services.
21.3.2020	Ticino	Individual movement limited to essential needs; strict isolation for over 65; remaining non-essential commercial and productive activities including building sites close.
	Switzerland	Plan for the containment phase published. Once the number of new infections fall sufficiently, all cantons are required to conduct interviews to trace transmission chains throughout the country.
27.4.2020	Switzerland	Opening of personal care services (barber shops, etc.) and DIY shops announced. Protection measures for funerals and private events eased.
11.5.2020	Switzerland	Resuming in-person teaching for primary and secondary schools. Reopening of non-essential shops and markets, museums, libraries, restaurants, sports activities and infrastructures. Measures to control inbound travel eased.
6.6.2020	Switzerland	Mask on public transport compulsory for all people aged 12 or older. Resuming in person teaching in all other schools. Restrictions for restaurants are further eased (groups of more than 4 people allowed). Events up to 300 people allowed, dancing clubs reopen, as well as most tourism infrastructures.
15.6.2020	Switzerland	Border controls with Germany, France and Austria lifted.
22.6.2020	Switzerland	Events up to 1'000 people allowed. Further easing of rules for restaurants/bars.
3.7.2020	Ticino	Limit to 100 people in restaurants, bars and clubs. Ban on gatherings of more than 30.
6.7.2020	Switzerland	Quarantine for people entering Switzerland from areas at risk. Country list updated periodically based on the epidemiological situation.
16.7.2020	Ticino	Mandatory masks for employees serving in bars and restaurants.
14.8.2020	Geneva	Mandatory masks in all closed public spaces. Closure of all bars and clubs.
15.8.2020	Switzerland	Masks mandatory for all flights taking off from or landing in Switzerland.
1.10.2020	Switzerland	Events with more than 1'000 people allowed.
9.10.2020	Ticino	Clubs and disco bars close.
16.10.2020	Basel Stadt	Cantonal authorities tighten their regulation, banning gatherings of more than 50 people.
	Ticino	Further strengthening of protective measures, including specific restrictions on visits to care homes.
23.10.2020	Geneva	Ban on gatherings of 6 or more people.
	Basel Stadt	Closure of restaurants and bars at 11PM introduced.
28.10.2020	Switzerland	Most protective measures reintroduced, less than a month after lifting the ban on events with more than 1'000 people.

Sources: (1) Federal Office of Public Health. Media releases. [https://www.bag.admin.ch/bag/it/home/das-bag/aktuell/medienmitteilungen.html?dyn\\_startDate=01.01.2020](https://www.bag.admin.ch/bag/it/home/das-bag/aktuell/medienmitteilungen.html?dyn_startDate=01.01.2020) (Accessed March 22, 2020); (2) Ufficio del Medico Cantonale. Pagina Coronavirus. <https://www4.ti.ch/dss/dsp/covid19/home/> (Accessed March 22, 2020); (3) République et Canton Genève. COVID-19 - Restrictions, fermetures et autres mesures. <https://www.ge.ch/covid-19-restrictions-fermetures-autres-mesures> (Accessed January 20, 2021); (4) Kanton Basel-Stadt. Informationen zum Coronavirus (COVID-19). <https://www.coronavirus.bs.ch/> (Accessed January 20, 2021).

the Cantons in relation to harsher protective measures. Only Ticino reacted swiftly introducing strict measures, most likely due to its closeness to Lombardy. Most other Cantons in Switzerland, including border regions such as Geneva and Basel, adopted a “wait and see” strategy and simply implemented the decisions of the Federal Government.

A second important moment was the announcement of an “Extraordinary situation” on March 16. According to the 2012 LEP, in these circumstances the Federal Government can limit the freedom of Canton coordinating the pandemic response across the country. This decision came about three weeks after the first case in Switzerland, when the effects of the initial infections began to unfold in terms of hospitalizations and deaths. Besides failing to take advantage of the time and the information originating from Italy and Ticino, the Federal Government opted for a somewhat mild approach rather than a strict lockdown. Most Cantons in central and northern Switzerland kept this same stance throughout the entire first wave, aiming at maintaining as much economic activity as possible. Border regions such as Ticino and later in the summer Geneva – which unsurprisingly suffered the most in terms of

burden on the healthcare system given the high share of mobility due to cross-border work - implemented stricter measures [42]. Initially, these uncoordinated decisions generated a strong negative reaction from the Federal Government, with open criticism and threats of backlash.

The Swiss Government started to ease restrictions from the end of April 2020, reopening all activities from mid-May and lifting border controls in June. Whilst Ticino and Geneva kept a high alert level during the summer and into the fall, most other Cantons followed the lead of the Federal Government. International travel was allowed with minor restrictions and a loose approach of quarantine for people entering from some areas at risk. Borders have never been effectively closed throughout the pandemic and no restriction to mobility for cross-border workers from the neighbouring regions has been put in place. The Federal Government even lifted the ban on events with more than 1'000 people on October 1<sup>st</sup>. This decision – which was already in stark contrast with the evolution of the epidemiological situation and with the decisions adopted by some Cantons – was reversed less than a month later (October 28) when the second wave started to unfold. Although the approach

of the Federal Government has been consistent with the rules of a Federal state, it also highlighted a spectacular lack of foresight and failure to take advantage of the local experiences of Cantons.

## 6. Discussion

In the response to COVID-19, the Swiss Government admittedly weighed carefully every action [43]. In the implementation of increasingly stringent limitations for people and economy, the Federal Government intervened only when the growth in the number of cases called for immediate reaction. When some Cantons – above all Ticino – independently instituted harsher restrictive measures on firms and population, the autonomy conflict between Federal and Central emerged [33]. The implementation of the law and decree – specifically in relation to coordination bodies – failed to reduce tension between locally perceived needs and precautionary principle applied by Federal authorities [44]. The friction between local and central authorities ultimately generated delayed reactions to foreseeable problems, such as a surge in cases and a subsequent increase in hospitalizations.

The type of decentralized decision-making and organization of health systems common to most federalist states – in regular times – has the advantage of being very responsive to local population needs [45]. However, during a public health crisis it requires a high degree of collegiality, which can make the decision-making process quite lengthy and thus inconsistent with the decisive timing required in a public health crisis [46]. Decentralization of health authority also exacerbates the risk of political rent-seeking behaviour among local administrators. The latter may be tempted to accommodate concerns of citizens and economic players, relaxing restrictions to gain public support whilst deflecting political and fiscal responsibility for measures restricting freedom to the national government. This is further intensified in situations where local and central governments are led by representatives of opposite political factions [47]. The Swiss experience offers clear examples for many of these policy trade-offs, which concur with cultural factors in determining the perception of policies by citizens, their compliance with the rules and ultimately the effectiveness of the pandemic response [48,49]. The Swiss Government seamlessly overlooked the different perceptions of (and compliance with) COVID-19 regulations across the country, possibly to avoid conflict [49]. Along the same lines, the Swiss Government shied away from strong coordination of the response across Cantons, often waiting until the situation escalated instead of anticipating the natural progression of the epidemics [50]. It also showed no apparent ability to take advantage of the experiences of the most exposed external Cantons (e.g. Ticino and Geneva) [42]. These problems have not been unique to Switzerland: similar tensions emerged in other countries with varying degrees of federalism, for example Belgium [51], Italy [52] and the United States [53]. On the other end of the spectrum, countries like Germany, Austria or Canada were able to build a stronger consensus around coordinated efforts to fight the pandemic [42,46]. Whilst the study of different approaches of federalist states in the response to COVID-19 is not central to the goals of this paper, the issues highlighted above represent critical elements of reflection for health policy reforms targeting pandemic preparedness.

Another relevant area where the Swiss response to COVID-19 appeared somewhat mild was international cooperation and border controls, above all in relation to the many cross-border workers from Italy, France and Germany [50,54]. Reluctance to impose national lockdown measures and to enhance stricter border controls were likely related to the underlying narrative of a trade-off between public health and economic activity [55], and to the potential role of large industries [56]. Interestingly, the latter were not directly involved in the policy process leading to the 2012 LEp.

## 7. Conclusion

Overall, the 2012 Swiss law on epidemics, which entered into force in 2016, provides a largely improved set of tools and procedures to prevent and fight a potential pandemic affecting Switzerland. Notably, the law promotes strong national coordination and international cooperation, in line with the IHR (2005). The law brought inevitable trade-offs between the need for coordination and the decentralized structure of the Swiss health system. In the long policy process that led to the approval of the law, a consensus was reached among the vast majority of stakeholders involved. Notably, the process excluded trade unions, small and medium enterprises, and large industries.

The analysis proposed here suggests that the Swiss response to COVID-19 suffered from several flaws in the implementation of the 2012 LEp. The major factor leading to a sub-optimal response seems to be the latent tension between central and local authorities, inherent to any strongly decentralized health system. The Swiss experience was similar to other European countries, which also experienced a resurgence in tensions between central and local government [57]. To this regard, some of the problems outlined above may offer useful insights from an international comparative angle [58].

The evidence discussed above suggests that Swiss authorities should build on the COVID-19 experience to improve preparedness and planning for future outbreaks of infectious diseases [57,59], especially outlining clear decision-making rules and chains of command to build upon Cantonal experiences and coordinate action at the country-level. This should aim at limiting the potential influence of political gaming and opportunism, for example in relation to consequences for public spending and taxation resulting from interference with economic activity. To this end, the consequences on trade, economic activity, and working conditions should be better integrated into pandemic plans [12], involving the relevant stakeholders well in advance and promoting transparency in the relationships with large industries. Crucially, Federal authorities need to exploit the aftermath of the pandemic emergency to build trust among the population in relation to the promotion of public health. Two crucial elements seem to be a transparent and critical review of the pandemic response [11,45], and a forward-looking approach concerning vaccination campaigns [60,61]. Despite a relatively limited death toll, the rich and oversized Swiss health system [34] remained under extreme pressure for several months during the COVID-19 crisis [42]. In the event of a deadlier pandemic in the future, the weaknesses highlighted above may result in much worse consequences for the entire country.

## Declaration of Competing Interest

None declared.

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## Supplementary materials

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## References

- [1] Coker R. Swine flu. *BMJ* 2009;338(apr30 3) Apr 30b1791–b1791.
- [2] World Health Organization Regional office for South-East Asia. pandemic H1N1 2009 [Internet], New Delhi, India: World Health House; 2009. Report No.: SEA-CD-193. Available from <https://apps.who.int/iris/handle/10665/205605>.

- [3] Fineberg HV. Pandemic preparedness and response – lessons from the H1N1 Influenza of 2009. *N Engl J Med* 2014;370(14):1335–42 Apr 3.
- [4] Wilson K, Brownstein JS, Fidler DP. Strengthening the international health regulations: lessons from the H1N1 pandemic. *Health Policy Plan* 2010;25(6):505–9 Nov 1.
- [5] Cohen D. Search for evidence goes on. *BMJ* 2012;344 Jan 17.
- [6] Doshi P, Jefferson T, Mar CD. The imperative to share clinical study reports: recommendations from the tamiflu experience. *PLoS Med* 2012;9(4):e1001201 Apr 10.
- [7] Butler D. Flu experts rebut conflict claims: reports throw unsubstantiated suspicion on scientific advice given to the World Health Organization. *Nature* 2010;465(7299):672–4 Jun 10.
- [8] Abeysinghe S. Vaccine narratives and public health: investigating criticisms of H1N1 pandemic vaccination. *PLoS Curr* 2015;7 Feb 25.
- [9] Schwarzingler M, Flicoteaux R, Cortarenoda S, Obadia Y, Moatti J-P. Low acceptability of A/H1N1 pandemic vaccination in french adult population: did public health policy fuel public dissonance? Li W, editor. *PLoS One* 2010;5(4):e10199 Apr 16.
- [10] Schindler M, Blanchard-Rohner G, Meier S, Martinez de Tejada B, Siegrist C-A, Burton-Jeangros C. Vaccination against seasonal flu in Switzerland: the indication of pregnant women encouraged by healthcare professionals. *Revue d'Épidémiologie et de Santé Publique* 2012;60(6):447–53 Dec 1.
- [11] Larson HJ, Heymann DL. Public health response to Influenza A(H1N1) as an opportunity to build public trust. *JAMA* 2010;303(3):271 Jan 20.
- [12] Mackey TK, Liang BA. Lessons from SARS and H1N1/A: Employing a WHO–WTO forum to promote optimal economic–public health pandemic response. *J Public Health Policy* 2012;33(1):119–30 Feb.
- [13] SteelFisher GK, Blendon RJ, Bekheit MM, Lubell K. The Public's Response to the 2009 H1N1 Influenza Pandemic. *N Engl J Med* 2010;362(22):e65 Jun 3.
- [14] Leung GM, Nicoll A. Reflections on pandemic (H1N1) 2009 and the international response. *PLoS Med* 2010;7(10) Oct 5.
- [15] Burkardt H-J. Pandemic H1N1 2009 ('swine flu'): diagnostic and other challenges. *Expert Rev Mol Diagn* 2011;11(1):35–40 Jan 1.
- [16] Federal Office of Public Health Swiss influenza pandemic plan. Bern, Switzerland: FOPH; 2018.
- [17] Consiglio Federale. Messaggio concernente la revisione della legge federale sulla lotta contro le malattie trasmissibili dell'essere umano (Legge sulle epidemie, LEp) [Internet]. 10.107 Mar 12, 2010. Available from: <https://www.parlament.ch/it/ratsbetrieb/suche-curia-vista/geschaefte?AffairId=20100107>
- [18] Confederazione Svizzera. Legge federale del 28 settembre 2012 sulla lotta contro le malattie trasmissibili dell'essere umano (Legge sulle epidemie, LEp) [Internet]. RS 818.101 settembre, 2012. Available from: <https://www.admin.ch/opc/it/classified-compilation/20071012/index.html>
- [19] Ufficio federale di sanità pubblica. La nuova legge sulle epidemieInformazioni. Bern: UFSP; 2013. Jul.
- [20] Nonella N. Una legge al suo debutto. *Corriere del Ticino*; 2020.
- [21] Consiglio Federale. Cronologia. LEp del 28 settembre 2012. [Internet]. 2020 [cited 2020 Mar 22]. Available from: <https://www.admin.ch/opc/it/classified-compilation/20071012/history.html>
- [22] Confederazione Svizzera. Deliberazioni. Legge sulle epidemie. Revisione (10.107). Bern, Switzerland: Servizi del Parlamento; Report No.: VH 10.107.
- [23] Confederazione Svizzera Referendum contro la legge federale del 28 settembre 2012 sulla lotta contro le malattie trasmissibili dell'essere umano (Legge sulle epidemie, LEp). Bern: Switzerland: Cancelleria Federale Svizzera; 2013. Feb. Report No.: FF 2013 1499.
- [24] Confederazione Svizzera Votazione popolare del 22 settembre 2013. Spiegazioni del Consiglio federale. Bern: Switzerland: Cancelleria Federale; 2013. Jun.
- [25] Kmietowicz Z. Study claiming Tamiflu saved lives was based on “flawed” analysis. *BMJ* 2014;348 Mar 19.
- [26] Confederazione Svizzera Decreto del Consiglio federale che accerta l'esito della votazione popolare del 22 settembre, Bern, Switzerland: Consiglio Federale Svizzera; 2013. 2013 Nov. Report No.: FF 2013 7549.
- [27] Federal Office of Public Health Rapporto dell'indagine conoscitiva Ordinanza concernente la lotta contro le malattie trasmissibili dell'essere umano (ordinanza sulle epidemie, OEep). Basel, Switzerland: FOPH; 2015. Apr.
- [28] InfovacChi siamo? [Internet]. INFOVAC - Le persone e le istituzioni che alimentano la piattaforma 2020. [cited 2020 Mar 23] Available from <https://www.infovac.ch/it/infovac/chi-siamo>.
- [29] De Pietro C, Camenzind P, Sturny I, Crivelli L, Edwards-Garavoglia S, Spranger A, et al. Switzerland: health system review. *Health Syst Transit* 2015;17(4):1–288 xix.
- [30] Confederazione Svizzera. Ordinanza concernente la lotta contro le malattie trasmissibili dell'essere umano (Ordinanza sulle epidemie, OEep) [Internet]. RS 818.101.1 Apr 29, 2015. Available from: <https://www.admin.ch/opc/it/classified-compilation/20071012/index.html>
- [31] World Health Organization. International health regulations: 2005, 74. editor. Geneva: WHO; 2008. 2nd. edp.
- [32] Biller-Andorno N, Zeltner T. Individual responsibility and community solidarity – the Swiss health care system; 2015. <http://dx.doi.org/10.1056/NEJMp1508256>.
- [33] Crivelli L, De Pietro C. Federal government, cantons and direct democracy in the swiss health system. In: Health reforms across the world. Singapore: World Scientific; 2020. p. 151–81.
- [34] de Pietro C, Camenzind P, Sturny I, Crivelli L, Edwards-Garavoglia S, Spranger A, et al. The performance of the Swiss health system: good results but high costsWilm Quentin. *Eur J Public Health* 2015;25(suppl\_3) Oct 1.
- [35] Federal Statistical Office. Cross-border commuters [Internet]. 2020 [cited 2020 Mar 18]. Available from: <https://www.bfs.admin.ch/bfs/it/home/statistiken/arbeit-erwerb/erwerbstaetigkeit-arbeitszeit/erwerbstaetige/schweizer-innen-auslaender-innen/grenzgaenger-innen.html>
- [36] Ufficio federale di statistica Comunicato stampa. Crescita marcata per l'economia svizzera nel 2018, Neuchâtel, Switzerland: UST; 2019. Aug.
- [37] Ufficio di statistica Annuario statistico ticinese 2018, Bellinzona, Switzerland: Ufficio di statistica; 2018. Report No.: 79.
- [38] Adalja AA, Toner E, Inglesby TV. Priorities for the US health community responding to COVID-19. *JAMA* 2020 Mar 3.
- [39] Grasselli G, Pesenti A, Ceconi M. Critical care utilization for the COVID-19 outbreak in Lombardy, Italy: early experience and forecast during an emergency response. *JAMA* 2020 Mar 13.
- [40] World Health Organization. WHO Director-General's statement on IHR Emergency Committee on Novel Coronavirus (2019-nCoV) [Internet]. 2020 [cited 2020 Mar 24]. Available from: [https://www.who.int/dg/speeches/detail/who-director-general-s-statement-on-ih-ermergency-committee-on-novel-coronavirus-\(2019-ncov\)](https://www.who.int/dg/speeches/detail/who-director-general-s-statement-on-ih-ermergency-committee-on-novel-coronavirus-(2019-ncov))
- [41] World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020 [Internet]. 2020 [cited 2020 Mar 24]. Available from: <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19-11-march-2020>
- [42] Desson Z, Lambert L, Peters JW, Falkenbach M, Kauer L. Europe's Covid-19 outliers: German, Austrian and Swiss policy responses during the early stages of the 2020 pandemic. *Health Policy Technol* 2020;9(4):405–18 Dec.
- [43] Ufficio federale di sanità pubblica Rapporto esplicativo relativo all'ordinanza 2 del 13 marzo 2020 sui provvedimenti per combattere il coronavirus (ordinanza 2 COVID-19), versione del 20 marzo 2020, Bern, Switzerland: FOPH; 2020. Mar.
- [44] Stoto MA. The precautionary principle and emerging biological risks: lessons from swine flu and HIV in blood products. *Public Health Rep* 2002;117(6):546–52 Nov.
- [45] Hattke F, Martin H. Collective action during the Covid-19 pandemic: the case of Germany's fragmented authority. *Adm Theory Praxis* 2020;42(4):614–32 Oct 1.
- [46] Rozell MJ, Wilcox C. Federalism in a time of plague: how federal systems cope with pandemic. *Am Rev Public Adm* 2020;50(6–7):519–25 Aug 1.
- [47] Capano G, Howlett M, Jarvis DSL, Ramesh M, Goyal N. Mobilizing policy (in)capacity to fight COVID-19: understanding variations in state responses. *Policy Soc* 2020;39(3):285–308 Jul 2.
- [48] Naumann E, Möhring K, Reifenscheid M, Wenz A, Rettig T, Lehrer R, et al. COVID-19 policies in Germany and their social, political, and psychological consequences. *Eur Policy Anal* 2020;6(2):191–202.
- [49] Deopa N, Coronaraben FP. Culture and social distancing in times of COVID-19 [Internet]. Rochester, NY: Social Science Research Network; 2020. Jun [cited 2021 Jan 20] Report No.: ID 3635287. Available from <https://papers.ssrn.com/abstract=3635287>.
- [50] Willi Y, Nischik G, Braunschweiger D, Pütz M. Responding to the COVID-19 crisis: transformative governance in Switzerland. *Tijdschrift voor economische en sociale geografie* 2020;111(3):302–17.
- [51] Desson Z, Weller E, McMeekin P, Ammi M. An analysis of the policy responses to the COVID-19 pandemic in France, Belgium, and Canada. *Health Policy Technol* 2020;9(4):430–46 Dec 1.
- [52] Font JC, Levaggi R, Turati G. Resilient managed competition during pandemics: lessons from the Italian experience during COVID-19. *Health Econ Policy Law*. undefined/ed;1–8.
- [53] Benton JE. Challenges to federalism and intergovernmental relations and takeaways amid the COVID-19 experience. *Am Rev Public Adm* 2020;50(6–7):536–42 Aug.
- [54] Eckardt M, Kappner K, Wolf N. Covid-19 across European regions: the role of border controls [Internet]. Rochester, NY: Social Science Research Network; 2020. Aug [cited 2021 Jan 20] Report No.: ID 3688126. Available from <https://papers.ssrn.com/abstract=3688126>.
- [55] Lin Z, Meissner CM. Health vs. wealth? Public health policies and the economy during Covid-19 [Internet]. Natl Bureau Econ. Res. 2020. May [cited 2021 Jan 20] Report No.: w27099. Available from <https://www.nber.org/papers/w27099>.
- [56] Sager F, Mavrot C. Switzerland's COVID-19 policy response: Consoicational crisis management and neo-corporatist reopening. *Eur Policy Anal* 2020;6(2):293–304.
- [57] Anderson M, McKee M, Mossialos E. Covid-19 exposes weaknesses in European response to outbreaks. *BMJ* 2020;368 Mar 18.
- [58] Greer SL, King EJ, Fonseca EM da, Peralta-Santos A. The comparative politics of COVID-19: the need to understand government responses. *Glob Public Health* 2020;15(9):1413–16 Sep 1.
- [59] Fidler DP. H1N1 after action review: learning from the unexpected, the success and the fear. *Future Microbiol* 2009;4(7):767–9 Sep 1.
- [60] Gilles I, Bangert A, Clémence A, Green EGT, Krings F, Staerklé C, et al. Trust in medical organizations predicts pandemic (H1N1) 2009 vaccination behavior and perceived efficacy of protection measures in the Swiss public. *Eur J Epidemiol* 2011;26(3):203–10 Mar 1.
- [61] Bangert A, Krings F, Mouton A, Gilles I, Green EGT, Clémence A. Longitudinal investigation of public trust in institutions relative to the 2009 H1N1 pandemic in Switzerland. *PLoS One* 2012;7(11) Nov 21.