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Preparing for and managing a renewed increase in COVID-19 cases in Switzerland
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1 Background

Switzerland has managed to successfully master the first wave of the COVID-19 epidemic. By international standards the number of deaths in Switzerland has been low, and case numbers currently remain at a low level. Nevertheless, the epidemic demanded a great deal from the federal and cantonal authorities, many organisations, other actors and members of the public. For this reason the priority in the next few weeks and months will be to prevent a renewed increase in case numbers and the emergence of a second wave of the epidemic.

The timing, scale and duration of any second wave cannot be predicted. One thing, however, is certain: the conditions have changed significantly. A sharp increase in the numbers of cases will no longer come as such a surprise to Switzerland as it did at the beginning of the year. Thanks to insights and experience from the first wave, this country is better prepared for a pandemic virus and has greater resources. Building on this, thanks to the broader toolkit now available, new approaches to prevention and control now available can be adopted to manage a renewed increase in COVID-19 cases. These approaches are based on the one hand on basic measures implemented throughout the entire COVID-19 epidemic, and on the other on additional measures that will be taken in the event of a renewed increase.

The following document takes initial stock of the experience gathered in the course of the first wave of the epidemic and formulates the cornerstones of largely decentralised efforts to prepare for and manage its ongoing development.

2 Experiences from the first wave

The Federal Council’s approach to managing the first wave of COVID-19 was designed to protect the health of the public in Switzerland and minimise, as far as possible, the effects of the outbreak and spread of SARS-CoV-2. It was divided into three phases: containment, mitigation and a phase of easing of measures accompanying the transition from mitigation into a renewed containment phase.

Given the high number of cases occurring at the beginning of the epidemic and the exponential increase in case numbers, after only a short time the transition had to be made from containment to mitigation. Subsequently a series of measures were taken at the national level over a short period of time that in some cases had an important impact on members of the public and businesses. While this enabled a very rapid response, it took only limited account of regional differences in the development of the epidemic. In the subsequent phase of easing, industry-specific precautionary measures guaranteed that the risk of infection remained low despite the step-by-step social and economic opening-up.

Since mid-May 2020 it has become evident that the measures taken from the onset of the crisis drastically reduced the spread of the epidemic and limited the number of severe cases of the disease and deaths. In addition to the positive effects, however, the measures taken

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1 This is also reflected in an analysis by the Deep Knowledge Group published on 8 June 2020: Switzerland is currently the safest country in the world in terms of Covid-19 (see http://analytics.dkv.global/covid-regional-assessment-200-regions/full-report.pdf).

2 The transition between a renewed increase in new Covid-19 infections and a so-called second wave is fluid. Often it is only possible in retrospect to assess whether a reversal in the trend of new infections marks a temporary renewed increase in case numbers or a new wave of the epidemic with a sharp rise in case numbers over a protracted period.

3 Containment phase: the phase after a wave of the epidemic has subsided; here the goal is to prevent a renewed spread and a massive, renewed increase in the number of cases of the disease. Mitigation phase: a phase characterised by a rapid increase in case numbers; here the goal is to flatten the epidemiological curve as quickly as possible. Easing phase: step-by-step removal of mitigating measures.
by the Federal Council also had massive negative economic and social impacts, leading to heavy loss of revenues. They also led temporarily to a severe curtailment of fundamental rights (in particular freedom of movement, economic freedom, freedom of religion, right to basic education, etc.).

So far there has been only little scientifically corroborated data on the efficacy of the individual measures. In the past few weeks and months, however, numerous national and international research projects have been initiated to investigate the efficacy of measures from an epidemiological, socio-economic and societal point of view.

On the basis of the measures taken in the course of the phase of mitigation between the end of March and the beginning of May 2020, many establishments had to limit or interrupt their business activities. At the same time, Swiss companies were hit by a sharp decline in foreign demand and disruptions in international supply chains. SECO has estimated the loss of value creation during the mitigation phases at around 25 per cent of gross domestic product. This corresponds to economic costs of around CHF 15 billion per month. If there were a second wave with similar restrictions on domestic economic activity, even higher economic costs would have to be anticipated than previously: the risk of a sharp rise in unemployment and waves of corporate bankruptcies would rise significantly, as companies have already drawn heavily on their cash reserves and levels of debt have increased. From an economic point of view it is therefore crucial that measures taken to control the COVID-19 epidemic be less severe going forward.

3 Legal framework and responsibilities

With effect 19 June 2020, the extraordinary situation under the terms of the Epidemics Act declared by the Federal Council on 16 March 2020 will revert to a special situation. This means that the main responsibility for preventing and controlling a renewed increase in COVID-19 lies with the cantons. Under the special situation, however, the Federal Council still has the power, after consultation with the cantons, to itself prescribe certain measures, specified exhaustively in the law, which would normally fall within the cantons’ area of responsibility. In a special situation the federal government’s measures are coordinated by the Federal Department of Home Affairs (FDHA). Enforcement remains the responsibility of the cantons.
4 Cornerstones of the approach to managing the COVID-19 epidemic going forward

4.1 Goals

The main goal is to prevent a clear, protracted renewed increase in case numbers and a second wave. Alternative approaches such as infecting the population by means of “controlled” spread of the virus, or focusing exclusively on protecting vulnerable groups, are not deemed useful or practicable, and, given experience in other countries (such as Sweden) and the latest scientific findings, appear not to be expedient either.

At the same time the goal is to minimise as far as possible the negative health, societal and economic impacts of the epidemic and any renewed curtailment of fundamental rights.

4.2 Principals

Government actions must be informed by the principal of proportionality. Any measures imposed must therefore always be appropriate and necessary, as well as serving the public interest. The following principles must also apply:

- Holistic approach: The effects on society and the economy of the measures to be taken at the cantonal and regional (cross-cantonal) and, as the case may be, national level should be viewed in their entirety. Consistent account should be taken of experience from the first wave in order to minimise both health and economic damage. Every person falling ill must be guaranteed access to adequate treatment. The resources of the healthcare system must be reinforced accordingly. At the same time, direct and indirect damage triggered by measures to combat COVID-19 should be avoided wherever possible.

- Evidence-based approach: As far as possible, measures and recommendations should be chosen on the basis of scientific evidence and risk. Experience has shown the importance of involving the scientific community. In cases where sufficient scientific evidence is not available, where it is possible and makes sense, the precautionary principle should be applied.

- Communicating with and involving the public: Members of the public have basically understood the risks of SARS-CoV-2 infection, and gave the spring 2020 measures good backing. Efforts to foster dialogue with and involve the public should be maintained to continue to help assure the successful implementation of measures and encourage people to take responsibility for themselves. Appropriate communication and participation should therefore be attended to at an early stage.

4.3 Approach to managing a renewed increase in cases

The response should be based on four principles:

- Regional: Cantons that observe an increase in the number of cases and/or local outbreaks should counter these developments with appropriate measures and, if entire regions are affected, coordinate their efforts on an intercantonal basis and in consultation with the federal government. In many cases this is likely to be more efficient and effective than measures prescribed on a nationwide basis.
- **Specific:** Given experience from the first wave, preference should be given to measures that proved to be especially effective in terms of controlling the spread of new infections or are particularly effective in a specific setting (such as schools or events). Measures that lead to unequal treatment of competing companies and are not clearly justified in terms of controlling the occurrence of infection should be avoided (no measures distorting competition).

- **Differentiated:** Unlike the situation at the beginning of the first wave, in many areas precautionary measures are in place that can be rapidly adapted and refined. This will allow more differentiated responses. The epidemic can be managed more efficiently and effectively by flexibly deploying the different types of measures (social distancing, precautionary measures, closures, etc.).

- **Step by step:** In the first wave the introduction of packages in steps, particularly in the course of easing, proved its worth. This approach should be maintained in efforts to manage the COVID-19 epidemic going forward.

At the same time, “go-it-alone” solutions should be avoided in the international context. Switzerland’s approach must take account of the global pandemic situation and, where it is possible, necessary and makes sense, should be coordinated with neighbouring countries and the EU. This applies particularly to the cross-border coordination of basic and mitigating measures within the framework of existing coordinating bodies in the event of a sharp increase in new infections or local outbreaks in border regions.

### 5 Implementation measures

The main responsibility for effectively preventing and/or managing a renewed increase in the number of COVID-19 cases, or a second wave, lies with the cantons. The federal government will limit itself to the role assigned to it in a special situation under the terms of the law (coordination, monitoring enforcement, supporting the cantons, etc.).

The choice of measures must continue to be geared to epidemiological developments. The response falls into three packages of measures: basic measures, cantonal and regional mitigating measures, and national mitigating measures. The basic measures will be applied for the entire time that SARS-CoV-2 poses a risk to public health. If there is a sustained, powerful renewed increase in case numbers, the packages of measures must be applied on a cumulative basis. Wherever it is possible and makes sense, measures in an earlier package should be continued when additional measures are introduced. If there is a decline in the occurrence of infection, measures should be discontinued in stages in reverse order.

#### 5.1 Basic measures

This package contains the following measures, designed to supplement and underpin the personal responsibility of members of the public, of vulnerable groups, and of companies and educational establishments. Companies and educational establishments can at any time voluntarily switch to home working arrangements or dispense with classroom teaching.

- Testing and contact tracing (breaking chains of transmission by means of isolation and quarantine) by the cantonal authorities, including use of the SwissCovid app
- Rules of behaviour (based on the corresponding hygiene and social distancing rules from the FOPH)
- Precautionary measures for establishments, businesses and events, if necessary based on the federal government’s requirements
Accompanying measures (for example measures such as compulsory wearing of masks on public transport) taken by the federal or cantonal governments or private agents

Communications (with national campaigns in the mass media, the FOPH website and social media activities supporting local information and communications campaigns)

Information from the federal government at the border (airports and land borders)

Socio-economic and economic measures taken by the federal government (for example the continuation proposed in the preliminary draft of the COVID-19 act of measures such as loss of earnings compensation to cushion the effects of the coronavirus).

Unless the law specifies different responsibilities, these measures must be decided and implemented by the cantons. Arrangements from the Federal Council, for example concerning hygiene and social distancing rules or the recording of contact data, can simplify and harmonise enforcement by the cantons (c.f. the draft COVID-19 special situation ordinance). Regardless of the severity of the epidemic situation, the basic measures are of crucial importance at every phase of managing the epidemic (containment, mitigation and easing) and should be adapted to the current epidemiological situation if necessary. For example contact tracing – with the corresponding additional personnel expense resulting from the high numbers of cases – should be continued during any mitigation phase. The main goal, however, is, with the help of the basic measures, to keep the number of new infections at a low level in the long term. In particular this involves rapidly identifying and isolating new cases of infection, breaking transmission chains at an early stage, identifying potential hotspots (such as meat processing facilities), and efficiently controlling local outbreaks⁴.

A key measure is conventional contact tracing. This is conducted by cantonal medical services, in some cases supported by external partner organisations, and further supported by the SwissCovid app. In terms of a renewed increase in case numbers, the cantons are called upon to:

- Develop their own policies governing case and contact management (structural and technical measures) on the basis of the principles formulated by the Federal Office of Public Health;
- If required, organise support from third parties such as the lung league, Red Cross or Spitex home nursing, or the labour-market-neutral deployment of the civilian service; ensure the personnel working on contact tracing receive training and that people in isolation and quarantine are looked after;
- Provide low-threshold access to diagnostic tests (e.g. via additional services such as test centres and drive-ins);
- If required organise accommodation for people who have been ordered to go into isolation or quarantine but cannot do so at home.

It is also important for the cantons to share information on the chains of transmission being traced to enable inferences to be drawn about especially frequent patterns of infection and take the corresponding measures if necessary.

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⁴ See also: NCS-TF Strategy to control the epidemic of SARS-CoV-2 in Switzerland and protect lives and livelihoods (18.05.20)
5.2 Cantonal and regional mitigating measures

The mitigating measures at cantonal and/or regional level build on experience from the first wave. There are extensive tools available to augment ongoing basic measures, ranging from temporary closures of individual companies or educational establishments in the event of local outbreaks all the way to restricting certain activities throughout the canton or region affected in the event of an overall increase in case numbers.

These measures are deployed if, despite the basic measures, the number of new infections continues to rise steadily cantonally and regionally. They apply to the whole population but are limited to the cantons or regions where there is an increase in new infections. In these cases account should be taken of potential undesired side-effects and the impact on regions not affected by the measures.

The basic measures may also have to be adapted if there is an increase in case numbers. This involves reviewing the existing response (e.g. precautionary measures for specific establishments or public transport) and augmenting or replacing it as necessary.

National mitigating measures

National mitigating measures, for example a renewed ban on large events, measures to assure the supply of important medical products, or requirements relating to hospital and clinic capacity, are designed to supplement the measures already taken on a cantonal and regional basis. They come into play if these cantonal and regional measures are unable to curb the epidemic, or to appropriately underpin measures limited to specific cantons or regions. For this reason the information systems monitoring the epidemiological situation and enforcement must provide extremely timely data so that the federal government can take the necessary measures at the national level in good time. The Federal Council can prescribe measures for specific regions and/or extend these measures to the whole country if the situation requires. In certain cases it may make sense to take measures at a national level early on, for example a ban on large events.
6 Measures for tracing the epidemic and further preparatory measures

6.1 System of indicators

To detect a potential renewed increase in SARS-CoV-2 infections and monitor the response (monitor enforcement), the following indicators in particular are captured on a regular basis:

- **Number of confirmed new infections**: The number of people tested positive for SARS-CoV-2 on a daily basis presented on a cantonal, regional, or even, if required, local level. Any reversal in the trend can only be identified reliably after two to three weeks.

- **Number of new admissions to hospital**: The number of people who have to be hospitalised because of COVID-19 disease (new admissions to hospital). There is likely to be a delay of around twenty days before this indicator reflects a change in the occurrence of infection.

- **Number of new deaths**: In cases of mortality an average of fourteen days elapses between the beginning of symptoms and death. The number of new deaths reflects infections that occurred three to four weeks previously.

- **Hospital capacity**: This indicator captures information, broken down by canton, on managed beds in intensive care units with and without ventilators and normal hospital beds for COVID-19 patients. The percentage of free beds is an indicator of hospital occupancy.

- **Cantonal contact tracing resources**: This indicator captures both the number of people in isolation or quarantine and the human resources currently available or that can be additionally mobilised to assure contact tracing.

- **Enforcement monitoring**: This is designed to indicate the quality of enforcement, and alongside the development of the epidemic (and the relevant trends) to identify weak points or the need for action in the implementation of the measures ordained by the cantons and the Federal Council.

Further tools such as models of the course of the epidemic (e.g. estimating the effective reproduction number, $R_e$) can help identify and analyse a trend or a reversal in the trend of the epidemic.

A system with defined thresholds as the basis of specific measures will not be implemented. The epidemiological situations that require a response from the authorities are too variable for them to be adequately covered by such a system. For this reason the focus should rather be on making sure that the international, national, regional and cantonal situation and threats are assessed continuously by the federal and cantonal authorities on the basis of the available indicators and information, and that appropriately rapid action is taken if needed (for example if there is a reversal in the trend of the epidemic or measures are inadequately enforced).

6.2 Preparatory measures

To be able to effectively implement the decentralised management strategy, the federal and cantonal authorities are called upon to embark on the necessary preparatory work in the following areas:

- **Assuring supply**: The federal and cantonal authorities must assure the supply of the necessary therapeutic products, drugs and protective equipment to healthcare
personnel (in hospitals, care homes and outpatient healthcare facilities) and the public at large (including hygiene masks). Accordingly, the cantons are to procure inventories to last at least forty days in the event of a renewed flare-up of the epidemic. As a subsidiary measure the federal government should maintain the same quantities in stock. Requirements could thus be met for an epidemic wave of twelve weeks.

- **Define packages of measures in more detail:** The packages of cantonal and regional mitigating measures and the package of national mitigating measures are to be defined in more detail.

- **Border measures:** The tighter entry requirements and internal border controls in the entire Schengen Area were lifted on 15 June 2020. The measures on entry from third party states effective 6 July 2020 depend on the further development of the epidemic and must be coordinated with the measures imposed by the EU and Schengen Area nations.

- **Simultaneous occurrence of SARS-CoV-2 and other respiratory pathogens (including flu viruses):** Annual efforts to prevent seasonal flu and other respiratory infections for autumn and winter are to be prepared.

- **Extension of information systems:** To enable a precise assessment of the situation, the requisite information and monitoring systems must be further established and extended where necessary. This particularly applies to the recording of data in connection with contact tracing.

- **Assuring the capacity of the healthcare system:** The cantons are to review the capacity (including personnel) of the healthcare system, particularly intensive care units and contact tracing, with an eye to a renewed increase in case numbers, and are to increased capacity if necessary.

7 Conclusions

In March 2020, the dramatic development of the epidemic made it necessary for the Federal Council to rapidly take the lead. To a large extent the federal government’s crisis management organisation and the measures taken by the Federal Council to control the COVID-19 epidemic in Switzerland proved their worth. On the other hand the measures taken led to major disruptions to social and economic life and placed great demands on members of the public.

Given the scientific information that has emerged in the meantime, experience from managing the first wave, and the additional resources now available, the current situation is no longer comparable to the situation at the beginning of the year. For this reason a new approach can be taken to further control the COVID-19 epidemic: after the transition to a special situation, to be made by 19 June 2020, primary responsibility for managing the further development of the epidemic will lie with the cantons. They are called upon in particular to ensure systematic containment in order to prevent a renewed increase in the numbers of cases. As long as the development of the COVID-19 epidemic allows, the federal government should only act on a subsidiary basis.