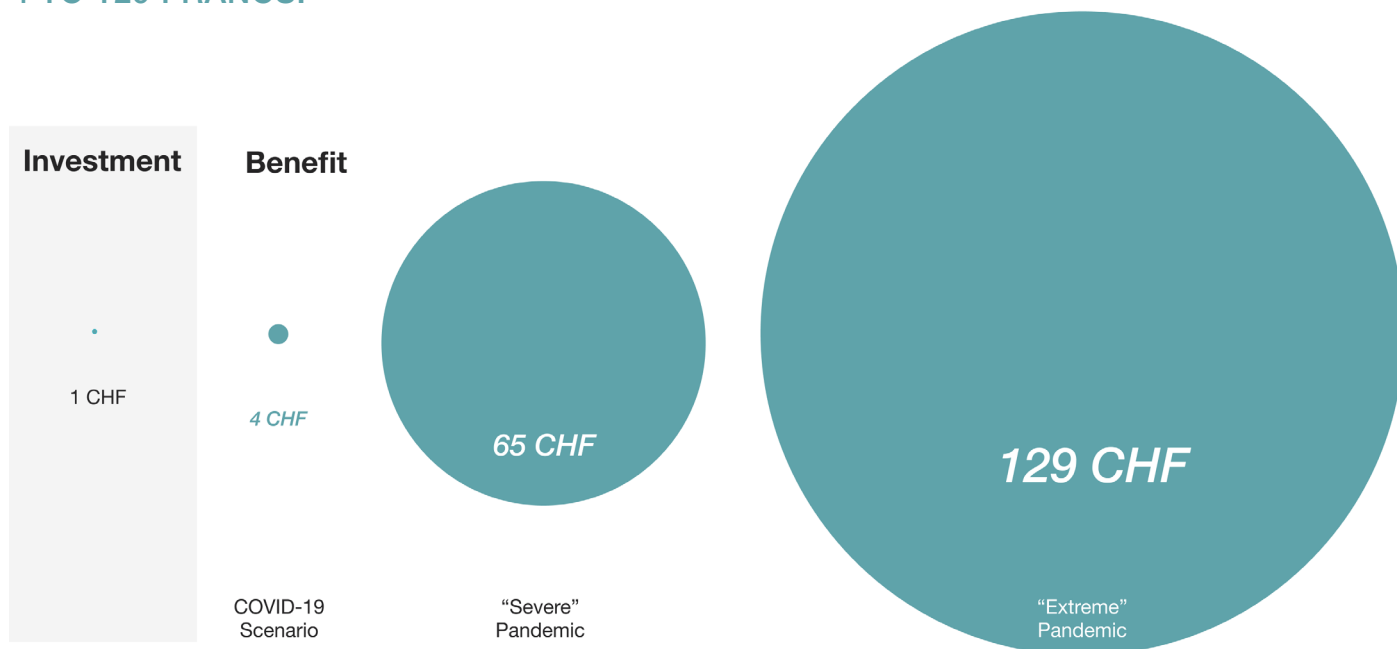


# The potential of an institutionalised early warning system for pandemics in Switzerland: an economic benefit-cost analysis

A study by the think tank Pour Demain in collaboration with Eraneos and INFRAS

IN SWITZERLAND, THE INVESTMENT OF ONE FRANC IN THE EARLY DETECTION AND MONITORING OF A PANDEMIC LEADS, ON AVERAGE, TO A BENEFIT OF 4 TO 129 FRANCS.



The study evaluates the following options in favour of an institutionalised pandemic early warning system:



Continuous monitoring of five pathogens with the greatest pandemic potential in 50 wastewater treatment plants and short-term scaling to 100 plants in the event of a pandemic throughout Switzerland



Continuous sequencing of five pathogens from hospitals, health practices and wastewater



Data processing, management, analysis and interpretation for measures regulation

## The benefit-cost analysis shows that investing in early detection and surveillance of communicable diseases using wastewater and sequencing is worthwhile.

- The costs for regular wastewater monitoring and the ongoing sequencing of five pathogens amount to around CHF 5 million per year outside of a pandemic.
- Depending on the scenario, the **benefits range from 1 billion francs (for a COVID-19-like pandemic) to 15 billion (for a severe pandemic), increasing to around 30 billion for an extreme pandemic.** In a pandemic similar to COVID-19, each franc invested yields a benefit of around 4 francs; in an extreme pandemic, up to 129 francs.
- The calculations of the studies are limited to the human and economic losses in a first pandemic wave. **The benefits of a pandemic early warning system are likely to be many times higher.** Increased surveillance of pathogens goes hand in hand with increased health protection outside of a pandemic (e.g., monitoring of antibiotic resistance).

The following **recommendations** can be derived from the results of the study:

- **Institutionalise wastewater monitoring:** The monitoring of communicable diseases with the help of wastewater must be expanded to include other pathogens and ensured in the long term.
- **Institutionalise sequencing of pathogens:** Samples of pathogens with pandemic potential are to be sequenced continuously.

### Switzerland: prerequisites for pandemic early warning system in place

Switzerland's pandemic early warning system must be strengthened and institutionalised as soon as possible. With 14,000 deaths in Switzerland and CHF 30 billion in debt at the federal level, the COVID-19 pandemic has highlighted the importance of reducing human and economic losses in the event of a new pandemic outbreak in the future. The next pandemic is only a matter of time. Thanks to its progress in coping with COVID-19, Switzerland has the prerequisites in place to contain future epidemics and pandemics at an early stage and thus avoid the problematic pattern of panic during a pandemic and neglect following pandemics.

### Versatile pandemic defence system needed

An institutionalised early detection system for pandemics is only one of several important instruments. To contain epidemics and pandemics, Switzerland needs versatile and complementary instruments. The think tank Pour Demain is committed to promote effective measures along the impact chain *Prevention, Detection, Response*.