

Backgrounder for media

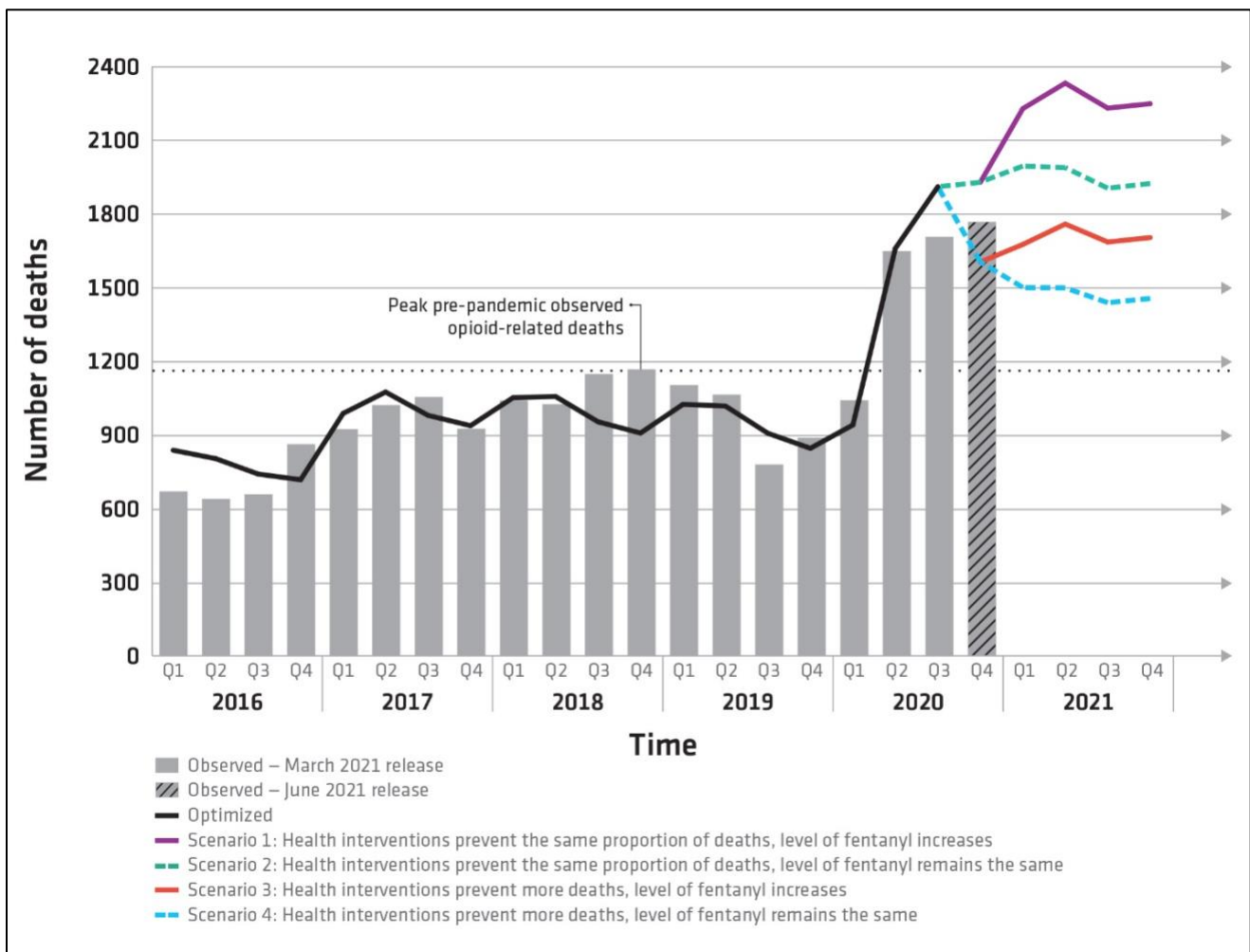
Modelling projections for opioid-related deaths during the COVID-19 outbreak

June 23, 2021



The Public Health Agency of Canada (PHAC) released new modelling projections of the number of opioid-related deaths that may occur over the course of the coming months. The results of the model suggest that, under some scenarios, the **number of opioid-related deaths may remain high or may even increase through to December 31, 2021.**



Observed and projected opioid-related deaths, Canada, January 2016 to December 2021





Questions and answers

What would be the projected number of deaths under each scenario?



Scenario 1

 <p>Health interventions continue to prevent the same proportion of opioid-related deaths.</p>	<p>Projections reach the highest levels since 2016</p> <ul style="list-style-type: none">• between approximately 2,200 and 2,300 deaths quarterly
 <p>The level of fentanyl in the drug supply is higher than in 2020.</p>	



Scenario 2

 <p>Health interventions continue to prevent the same proportion of opioid-related deaths.</p>	<p>Projections continue to show slightly higher levels than what we have seen in the last year</p> <ul style="list-style-type: none">• between approximately 1,900 and 2,000 deaths quarterly
 <p>The level of fentanyl in the drug supply remains the same as in 2020.</p>	

Scenario 3

 <p>Health interventions prevent an increased proportion of opioid-related deaths.</p>	<p>Projections remain high, but similar to levels than what we have seen from April 2020 to December 2020</p> <ul style="list-style-type: none">• between approximately 1,600 and 1,800 deaths quarterly
 <p>The level of fentanyl in the drug supply is higher than in 2020.</p>	

Scenario 4

 <p>Health interventions prevent an increased proportion of opioid-related deaths.</p>	<p>Projections show a decrease, to levels lower since the onset of COVID-19</p> <ul style="list-style-type: none">• between approximately 1,400 and 1,500 deaths quarterly
 <p>The level of fentanyl in the drug supply remains the same as in 2020.</p>	

Which scenario are we currently trending towards to in Canada?

The [most recent national data](#) from October to December 2020 suggests we are currently trending between scenario 2 and 3.

Can we use these projections for specific regions or provinces/territories?

This model was developed at a national level only and cannot be used for simulations at a provincial or territorial level.

What do you mean by “health interventions to reduce opioid-related deaths”?

Given that models are simplifications of real-life systems, this model does not include specific health interventions to prevent opioid overdose deaths. Rather, we include a value representing the combination of all efforts to reduce opioid-related deaths, such as:

- **prevention** (e.g. public education, reduction of stigma around drug use and impacting people who are using drugs);
- **harm reduction** (e.g. supervised consumption sites, overdose prevention sites, safer supply, naloxone access/distribution and training); and
- **treatment** (e.g. opioid agonist treatments).

In the model, the impact of these efforts is represented as the proportion of opioid-related deaths they may be preventing together.

How are fentanyl levels measured? What data do you use in relation to these levels?

Similar to how we represent health interventions in the model, we include a value representing the level of fentanyl in the drug supply rather than the direct measurement of this. To create this “proxy” value, PHAC used data from Health Canada’s Drug Analysis Service.

Why are you doing modelling projections for the opioid overdose crisis? Why is it important?

While models have recently been widely used in Canada in relation to infectious diseases, they can also be applied to other public health issues, such as the opioid overdose crisis.

While models cannot predict what **will** happen, they can help us understand what **might** happen in certain scenarios. This can help us plan and take action.

What kind of model is used in this case and how does it work?

PHAC developed a dynamic simulation model of opioid-related deaths. Models use mathematical equations to estimate how many cases of a disease may occur in the coming days, weeks, months or years. They help researchers simulate real-world possibilities in a virtual environment.

This model simulates how opioid-related deaths across Canada may unfold over the coming months, based on the level of fentanyl in the drug supply and the proportion of opioid-related deaths that are prevented by health interventions. PHAC uses data and information in the simulation model from many sources, including data from Statistics Canada, the Canadian Institute for Health Information, PHAC, Health Canada, the provinces and territories, and peer-reviewed literature.

Are the impacts of COVID-19 public health measures reflected in these projections?

Not directly. This model does not simulate the direct impact that COVID-19-related measures could have on the projections of opioid-related deaths.

Indirectly, the model accounts for this by changing the value of the proportion of opioid-related deaths that are prevented by health interventions within the context of the pandemic. This value can be influenced by a number of factors related to the pandemic such as isolation, causing people to use drugs alone, or the limited availability or accessibility of health and social services for people who use drugs, including life-saving harm reduction and treatment.

How often are these projections updated?

As opioid use and related harms have changed significantly over the past years, and especially during the COVID-19 pandemic, this model will be updated on a quarterly basis.

How do I learn more about the methodology behind this model or fact check my news story?

[Contact us](#) and we will connect you with experts to answer your questions.

Related Links

- [Modelling opioid-related deaths during the COVID-19 outbreak](#)