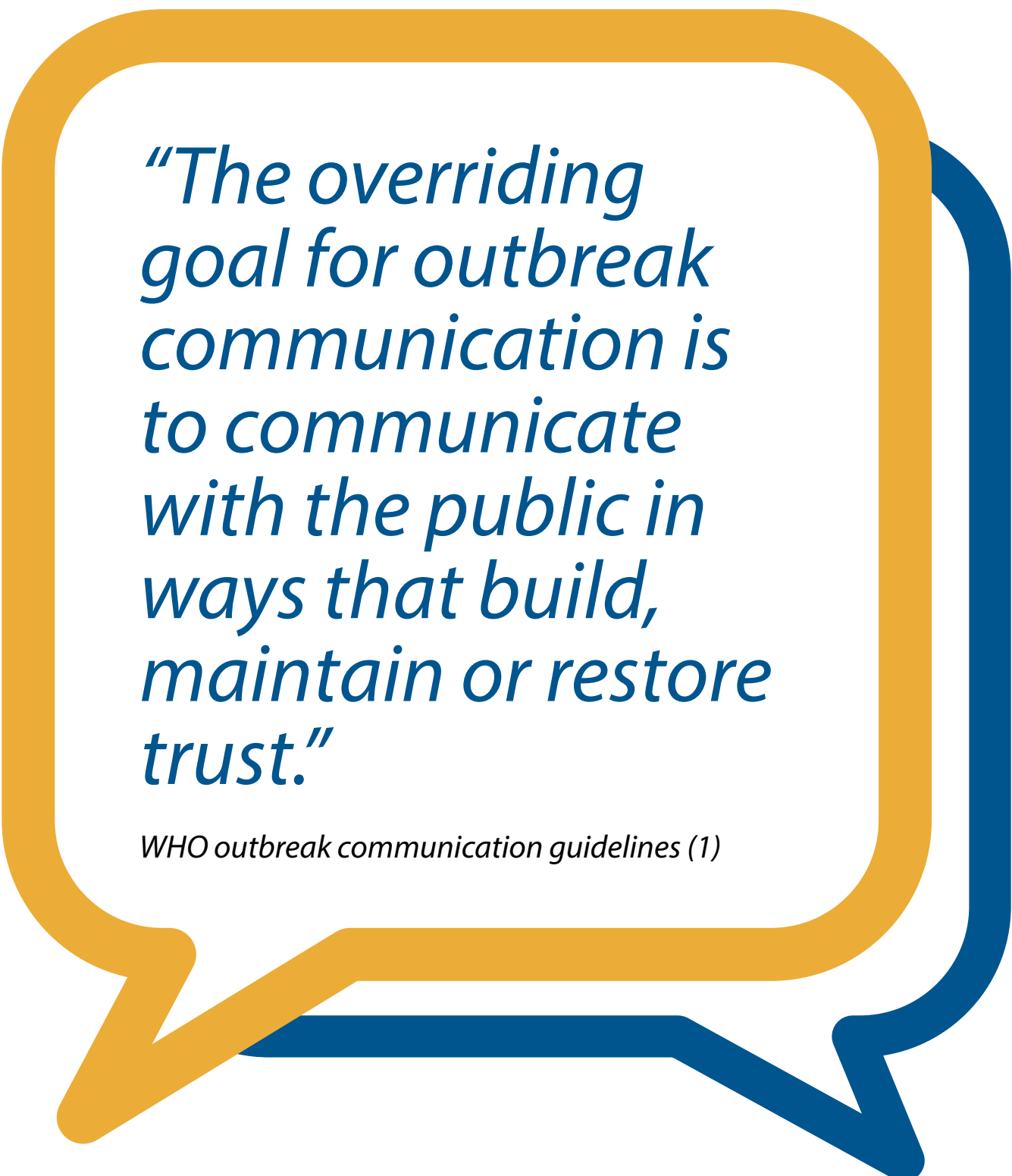


# COMMUNICATING UNCERTAINTY IN HEALTH EMERGENCIES



Guidance and tips



*“The overriding goal for outbreak communication is to communicate with the public in ways that build, maintain or restore trust.”*

*WHO outbreak communication guidelines (1)*



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In risk communication during emergencies, it is vital that you are able to communicate your uncertainty: it allows you to provide public health advice that is appropriate (though necessarily provisional) and, at the same time, to retain your credibility.

Uncertainty is inherent in all scientific knowledge. In Peter Sandman's words: "Absolutely certain statements about risk are almost by definition mistaken. Like any scientific statement, a risk statement must always be qualified in principle by the possibility of new data." (2)

As such, it is a consistent characteristic of disease outbreaks, particularly when their origin is unknown. The COVID-19 pandemic demonstrated the full extent of the challenge of communicating fast-changing information that contains significant levels of uncertainty and issuing guidance in the context of rapidly evolving scenarios.

# Acknowledging the uncertainty

Information in emergencies is characterized by:

- high demand for information – and an overabundance of information
- an urgent timeframe for action
- a rapid and global spread
- polarization
- rumours and disinformation
- use of digital platforms.

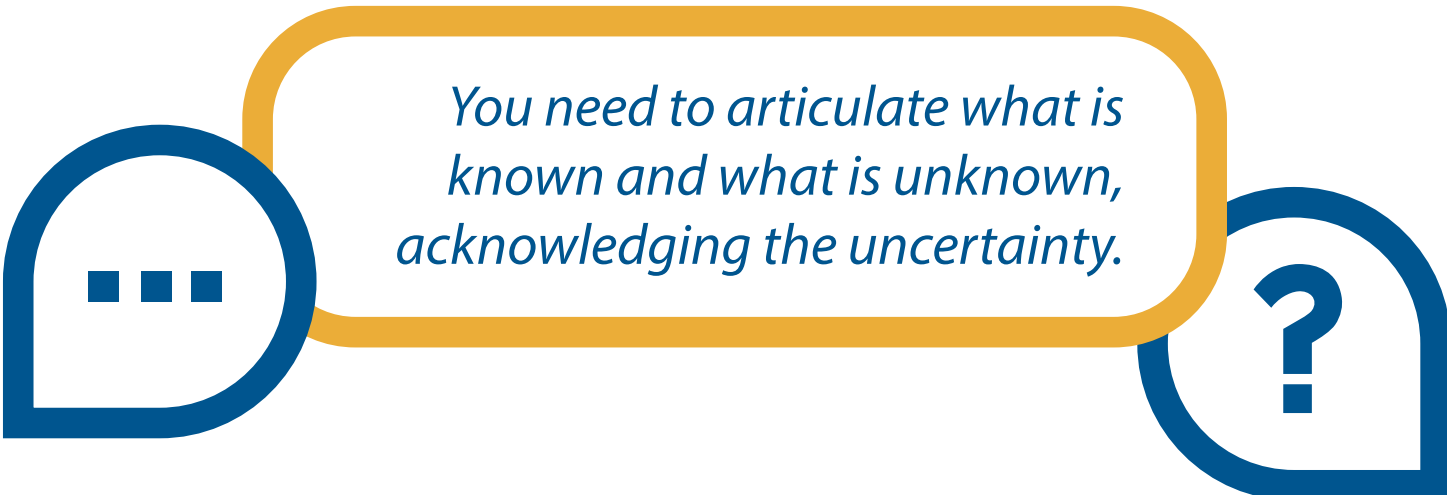
Moreover, there is one single feature that is central to risk communication during emergencies: uncertainty.

Imagine that you are communicating about seasonal influenza. Now imagine you are communicating about pandemic influenza. What is the difference?

- When you communicate about seasonal flu, you know the virus, you know the measures to prevent it, you know the vaccine and the treatment.
- When you communicate about pandemic flu, there are many uncertainties about the virus and its origin, severity, preventive measures and treatment. As you find out more, other uncertainties emerge.

However, you cannot afford to stay silent until you know for sure because:

- the public want to know about the threat and the response
- communities and individuals need to take informed decisions to protect themselves.



*You need to articulate what is known and what is unknown, acknowledging the uncertainty.*

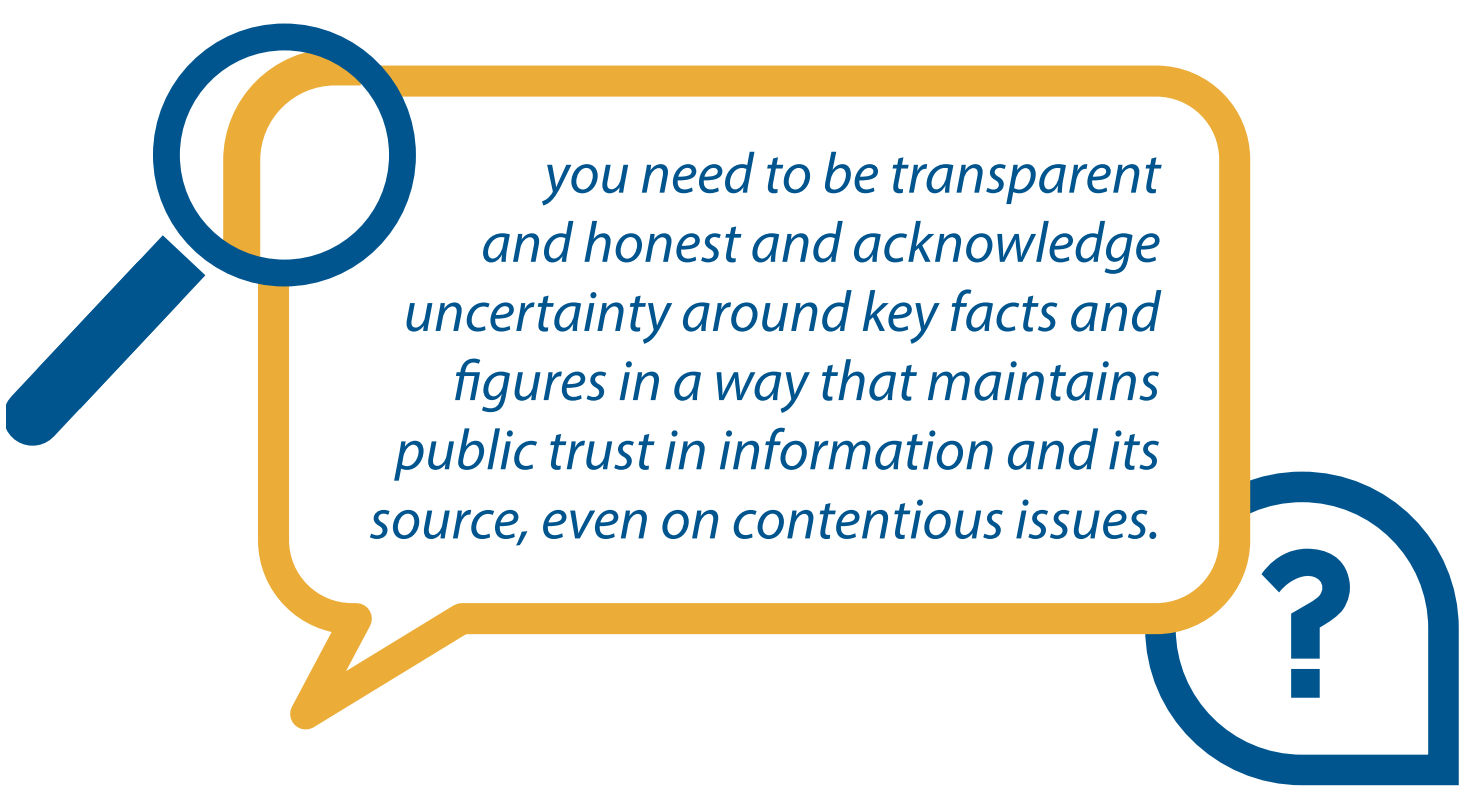
# The dilemma of uncertainty

Many spokespeople shy away from openly communicating their uncertainty about what they know, fearful of negative consequences, such as signalling incompetence, encouraging critics and decreasing trust.

However, recent studies have refuted the idea that communicating uncertainty automatically leads to an erosion of public trust.

- A study from the United Kingdom Royal Society found that not acknowledging or adequately communicating uncertainty could lead to unwarranted weight being put on certain pieces of evidence in the process of decision-making, and that stating uncertainty did not necessarily correlate with reductions in trust (3).
- A recent Nuffield Foundation study showed that expressing certain terms of uncertainty, such as “estimated”, and communicating a range of possible figures did not negatively affect the reception of data, and could indeed increase trust (4).

This evidence and good practice show that:

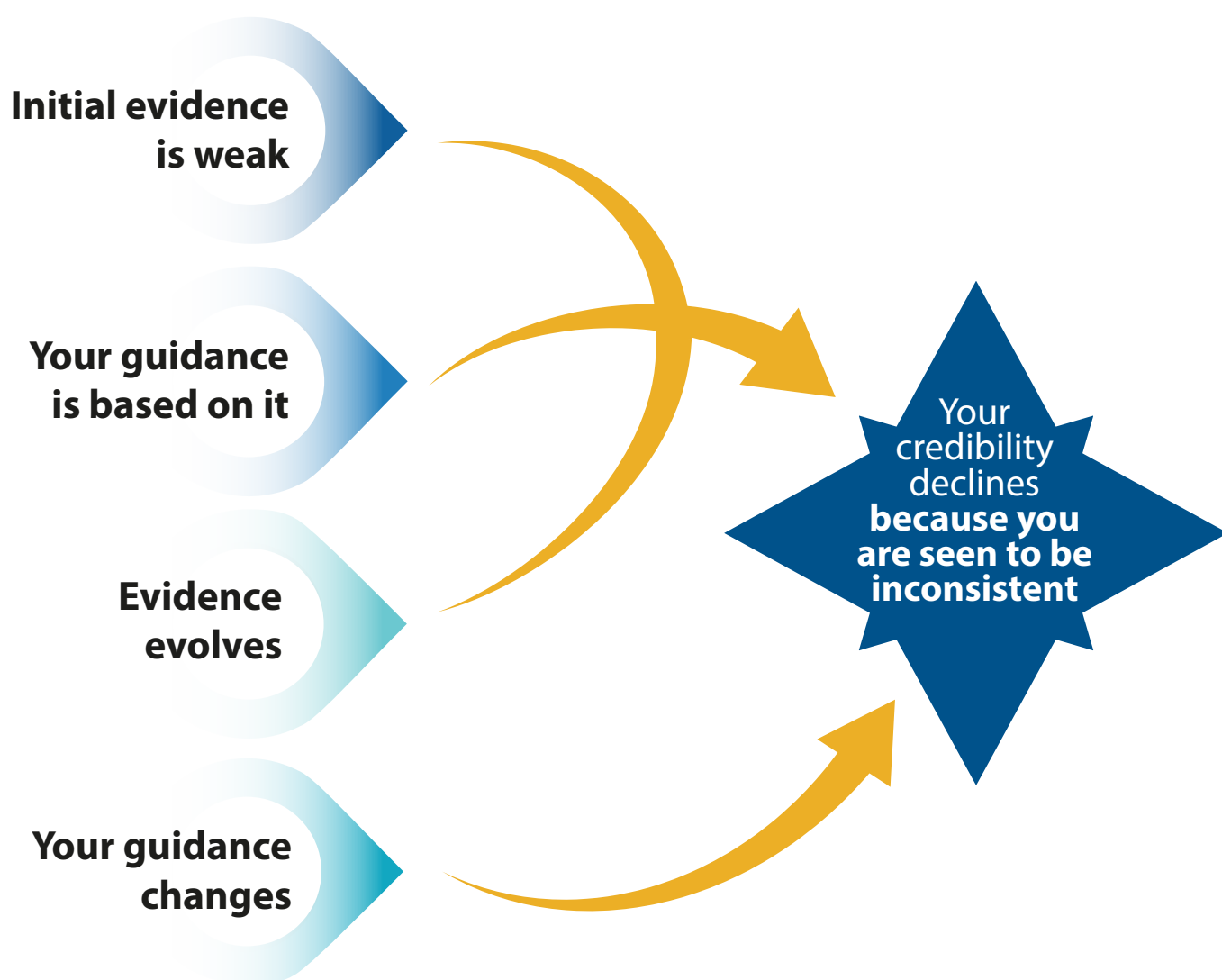


*you need to be transparent  
and honest and acknowledge  
uncertainty around key facts and  
figures in a way that maintains  
public trust in information and its  
source, even on contentious issues.*

# Declaring the uncertainty

The COVID-19 pandemic created the unprecedented challenge of having to promptly communicate the changing nature of the threat from new virus variants and emerging knowledge about vaccines, masks and other preventive measures.

During an outbreak, it is natural that guidance changes as understanding of the situation grows. What is undesirable is your credibility (and possibly the public's estimation of the risk) declining because the way you adjust your guidance makes you appear inconsistent, as shown below:





To avoid being accused of inconsistency as and when guidance is updated, you need to proclaim and explain uncertainty – prominently and repeatedly – and make clear that science-based advice may change as science evolves.

The public and journalists want certainties. When you speak, they tend to see things in black and white, ignoring the shades of grey in between. This means that **acknowledging uncertainty might not be enough:**



This does not mean you need to use an uncertain tone: confidently saying that you could well be wrong inspires trust, even as it flags the genuine uncertainties of the situation.



# Tips for communicating uncertainty



## 1. Base your statements on **what you know** at the time, transparently.

- Focus on the fundamentals of what you do know (“Vaccines prevent serious illness and death”).
- Emphasize the scientific consensus (“An ECDC/WHO study found that vaccines have saved close to half a million lives from COVID-19”).



## 2. Be honest about **what you don't know**.

- Label your messages with the caution that they are based on what you know at that point in time. Use language such as:
  - The current evidence indicates that ...
  - Based on preliminary data ...
  - It is expected that ...
  - It appears that ...
- Acknowledge uncertainty and the limits of scientific evidence:
  - Don't use absolutes such as “We are sure that...”.
  - Say “We are confident that ...” or “We expect that ...” for things you are sure about.
  - Saying “We are hopeful t having to be tentative – and acknowledge people's desire for certainty. You wish you could be sure, but you know you can't; despite the uncertainties, you are able to make necessary decisions and recommendations. This shows you as human, but accountable.
- Explain how uncertainty affects taking precautions. The greater the uncertainty, the more justified the precautions – not because you're sure the risk is serious, but because you're not sure it isn't.



## 3. Set expectations that **information and guidance are likely to change** throughout the event as you know more. **Repeat this message often.** Helping people understand that the situation and recommendations may change over time increases trust.



# References<sup>1</sup>

1. WHO outbreak communication guidelines. Geneva: World Health Organization; 2005 (<https://iris.who.int/handle/10665/69369>).
2. Sandman PM (2004). Acknowledging uncertainty. *The Synergist*, November 2004. (<https://www.psandman.com/col/uncertin.htm>).
3. van der Bles AM, van der Linden S, Freeman ALJ, Mitchell J, Galvao AB, Zaval L et al. (2019). Communicating uncertainty about facts, numbers and science. *Royal Society Open Science*, 6:181870. doi:10.1098/rsos.181870.
4. Nuffield Foundation [website] (2020). Uncertainty about facts can be reported without damaging public trust in news. London, 24 March 2020. (<https://www.nuffieldfoundation.org/news/uncertainty-about-facts-can-be-reported-without-damaging-public-trust-in-news>).

# Resources

**For more information on how to communicate uncertainty, see the following pieces by Peter Sandman:**

- Sandman PM. Acknowledging Uncertainty [website]. The Peter Sandman Risk Communication Website. November 11, 2004 (<http://www.psandman.com/col/uncertin.htm>), accessed 7 April 2025.
- Sandman PM, Lanard J. Explaining and proclaiming uncertainty: risk communication lessons from Germany's deadly E. coli outbreak. 2011 Aug 14. (<https://www.psandman.com/col/GermanEcoli.htm>)

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<sup>1</sup> All references were accessed on 7 April 2025.

## The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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