Covering the coronavirus outbreak at times seems like a course in morbid accounting: a litany of economic impacts, case and death counts, and tallies of how the virus has spread into other countries.

The latest counts from the World Health Organization (WHO) are 77,042 confirmed cases and 2,445 deaths in China, as well as 1,729 cases and 17 deaths across 28 other countries. Then there’s the veritable spreadsheet of economic implications, such as 94% of the Fortune 1000 facing supply chain disruptions and plunging Dow futures.

The world is so awash in statistics on virtually everything—grain production, incomes, tourism traffic, and, yes, diseases—that there should be little wonder people expect numerical precision on every aspect of existence.

But when life and death are on the scales, unpredictability quickly becomes an unwelcome companion. Such is the case in tracking COVID-19, the disease this coronavirus causes: a sudden jump in cases and deaths one week, a drop the next. Nervously following the news—and asking whether to place that online order for a face mask—can leave people bewildered. Even professionals find themselves scratching their heads over the emerging statistics.

“They’re confusing not just to the general public but even to people working in the field,” said Andrew Noymer, an associate professor of public health at the University of California at Irvine.

Surely something isn’t right. Somewhere, someone must have the “real” data—or maybe they don’t. Experts in epidemiology and public health tell Fortune that there are five underlying reasons why the information can seem contradictory: assumptions about China’s forthrightness; the challenges of treating a new virus
in rapidly changing conditions; the limitation of predictive models; time differences in overlapping reports; and the uncertainly of implications.

**Trusting China?**

When information from China is in question, suspicion comes too quickly because the country has a [reputation for releasing unreliable data](#).

Currently, there is no independent case count inside China because of the way the global infectious disease response system works. A World Health Organization spokesperson said that under international health regulations, “WHO is notified by member states on confirmed cases of COVID-19.” In other words, China’s numbers come from the government there, not a third-party organization.

However, wholesale falsification seems unlikely to some experts.

“I am not ruling out that China is not telling us everything,” said Catherine Troisi, an epidemiologist at the University of Texas Health Science Center at Houston. “That’s probably true, but it’s hard to differentiate between a new disease and what a government may be trying to hide. These are huge numbers coming out of China, so if they’re covering something up, they’re not doing a good job of it.”

Chances are other factors have had a bigger impact on the unpredictability of information.

The eruption of an epidemic across China’s massive 1.4 billion population means that medical personnel are focused on trying to respond to patients’ needs. Accurate record keeping may have taken a back seat. Or, as Troisi put it, “These hospitals are overwhelmed, and the doctors are concerned with saving lives.”

The doctors—and nurses, orderlies, pharmacists, administrative staff, and others—are also trying to understand how the disease works and what distinguishes it from other illnesses with similar symptoms.

Then there is the question of adequate testing resources.

Last Friday, WHO director-general Tedros Adhanom Ghebreyesus noted in a [press briefing](#) that China had shifted reporting from clinical (by symptoms) to laboratory-confirmed (tested) counts.
It might sound like an attempt to make data sound better, but it is more likely an issue of testing resources. “This may indicate … the health system in Wuhan has regained the ability to test all suspected cases,” Tedros said. In other words, perhaps there weren’t enough testing materials to go around before. Overwhelmed, indeed.

**Reporting challenged**

Part of the reporting also involves mathematical models that predict how fast the virus will spread in other countries. Those highly complex computerized models, tailored for whatever illness is on the move, have their own snags.

“When we don’t know something, we make certain assumptions,” Noymer said. Mistakes in the assumptions can mean wrong or at least misleading results, and the models also depend on the quality of available data. “It makes it hard to say for sure that we really know what’s going on,” he said.

Then there are overlapping reports. Unlike global supply chains, which constantly run goods through multiple time zones, information gets instant dissemination. But reports with an earlier set of numbers don’t disappear because more recent information comes out later. Casual readers may not realize the difference in timing.

Finally, and perhaps the biggest problem, is the uncertainty of the implications they present. The vast majority of cases and deaths have occurred in China, which has its own complicating conditions for a respiratory illness like COVID-19. Heavy smoking, an aging population, and widespread air pollution all affect the combined outcomes.

Noymer is looking for fuller data from countries like South Korea that have “more of a tradition of transparency” and the experience of an imported disease. Those countries will show what the potential effects might be for the United States, which has time to anticipate and plan for imported cases.

In the meantime, the [Centers for Disease Control has reported](https://www.cdc.gov/coronavirus/2019-ncov/what-to-know público.html) only 14 cases in the U.S., out of 414 people tested.