

## ***Sick number games***

**Society is incapable of dealing with uncertainty. This is especially the case with swine flu, says Gerd Antes of the German Standing Vaccination Committee (STIKO).**

People feel insecure about the threat posed by swine flu and the vaccination against it. Now Gerd Antes – and thus for the first time a member of the German Standing Vaccination Committee (STIKO) which in October recommended the swine flu vaccination – comments on the situation. Antes' word is of great weight. He is the director of the German Cochrane Centre in Freiburg which evaluates the quality of scientific data. Horror scenarios with high numbers of deaths are the headlines of the day: with 35,000 deaths in the coming winter in Germany alone, the predicted wave has finally arrived, and the second wave which will be even worse, is sure to come in spring. Experts' response to scepticism is that the number of infections rises visibly, thus assuring that the wave has begun. Single cases of death are virtually celebrated in the press. Graphics with steeply rising curves signal the greatest danger and show that we are standing at the edge of an abyss.

For those seeking examples of how not to interpret or data, this is a golden age. All that first-year students are warned about is on display. The rules are simple though. To count deaths by flu or vaccination damages one by one is pointless if it is not taken into account how many people are infected or vaccinated. This is the denominator to which all cases must be put into relation. Absolute numbers stir emotions but for the description of risks, they are meaningless. Risks and benefits are to be described with proportions!

### **No authoritative numbers**

What is more important: risks are always competing with other risks. Their assessment requires a balanced consideration. The risk posed by swine flu has to be weighed against the risk caused by vaccination. The question: if the benefits of a vaccination are greater than the risks of infection or side effects has to be determined using a fair comparison. The methods to do so are clinical studies and the systematic observation of clinical practice.

This sounds simple, but unfortunately, in reality, it is not. We have no reliable basis for a risk-benefit calculation in which we can trust, and we are facing an astonishingly large gap of knowledge. Even with regards to the simple question of how many of those infected have only mild symptoms, and what mild symptoms are, there is still no empirical answer. This is surprising considering the prognoses that the German economy could suffer severe damage due to missed work. Instead of reliable data, there are reports about tennis player Tommy Haas's "surprisingly" quick recovery from swine flu. A statement of this kind can only be made by people who have already conformed their worldview to worst-case scenarios.

Regarding the central question of how many infections there are in Germany, there is no solid answer either. The numbers reported are registered infections that can exceed the number of actual infections by ten times. Reliable numbers are scarce.

### **Objective risk assessment is missing**

Lack of knowledge means uncertainty. This seems to be taken as an invitation to create certainty with statements built on belief. Often there is no point trying to find numbers and objective risk assessments. This would be acceptable if belief were declared as such and not presented as false knowledge. Especially annoying for the general public are statements on the safety of the vaccine. Calling the vaccine safe is wrong and is not corrected by the regular repetitions by the presidents of the Paul Ehrlich Institute and the Robert Koch Institute.

It is just as wrong to call the vaccine unsafe, no matter how often opponents of the vaccination say so. The word “safe” is misleading because the desired safety does not and cannot exist. This is not a problem specific to this vaccine but a general one.

Before its introduction, every medical drug has to go through a development process in which everything is done to minimize harmful effects. Safety has an established meaning in the drug approval process, as a prerequisite for the introduction of the vaccine. In common language “inoffensive” is the more appropriate term.

However, the result is never completely safe, because it cannot be. Whoever makes this claim is no better than people who label obscure products “guaranteed free” of any side effects. A look at the websites of the British Ministry of Health shows just how great the uncertainty is. There, one finds model calculations for expected cases of death. In summer, optimists came up with 50,000, pessimists with 750,000. Nothing can illustrate uncertainty better than this enormous span.

This older prognosis was then reduced in September to a span from 3000 to 19,000 – these are common numbers of victims of seasonal flu. Thus, the worst fears of the optimists about the pandemic were two and a half times as dramatic as those of the pessimists in September. In Germany, this sort of problem is avoided by naming no span but just a single number – with the greatest certainty.

### **Ignoring the facts**

The aversion to numbers runs like a thread through the reports. One reason may be the insufficient data, but even the available information is being ignored. Currently, the best data comes from the southern hemisphere. Experiences and numbers of the soon-ending winter do not give cause for catastrophic scenarios.

Whilst the yellow press’s ignoring of the facts is not surprising, this kind of behaviour in more serious media like the TV programmes of Maybrit Illner and “Hart aber fair” is striking. Even though both editorial offices were informed about the data from the southern hemisphere, these programmes were also filled with fact-free banter on vaccination. Another chance for clarification was lost. This continued in “Hart aber fair;” in the “check of facts” for clarifying open questions; the fact-free check of facts was created.

It is the citizens who suffer. The wish for certainty is thwarted by statements by real and alleged experts that produce confusion and annoyance. However, we should not fault the “experts” if they do not present a singular, decisive message – this level of certainty simply does not exist. The diffuse picture is the natural result of the objective uncertainty. What is reprehensible is that this uncertainty is not called by its name, and that through ignorance an image of certainty is produced that has nothing to do with reality. Society’s inability to deal with risks rationally is alarming.

At the moment, there is no cause for excessive concern as the flu events are in the usual range, despite the tragic of individual fates. More attention should be directed in containing the media *pandemic*. The responsible interpretation of completely and transparently presented numbers must be the basis of individual and societal decisions. Hoping for certainty, however, is utopian. We have to learn to deal with uncertainty in a safe and rational way.

**Original article (in German):**

**Sueddeutsche.de: Gerd Antes: Schweinegrippe: [Kranke Zahlenspiele](#), 06.11.09**