

H1N1 vaccination struggles against resistance and supply

Pandemic influenza H1N1 vaccination campaigns are at last underway across the world. Public health officials are finding, however, that a major barrier to vaccination is not the availability of the vaccine but a lack of enthusiasm from the general public and some health professionals.

Meanwhile, developing countries do not even have the vaccine yet, since promises made by some rich countries to provide the vaccine to poor nations have yet to be fulfilled.

Despite the massive drive to produce an H1N1 vaccine earlier this year, there were substantial shortfalls by the time the northern hemisphere's autumn influenza season came around. The production glitches led US Health and Human Services Secretary Kathleen Sebelius to call for a review by early 2010 of the federal government's system for handling public health emergencies, and to update vaccine technology.

"We were working to squeeze every last bit of efficiency and dependability out of a safe but outdated technology", Sebelius said at a meeting of the American Medical Association's on health system readiness in Washington DC, on Dec 1. "For us, the conclusion was clear: if we wanted to avoid these problems in the future, we needed to make some long-term investments in developing countermeasures that were just as safe and effective, but could be produced faster and more reliably."

But even though the vaccine is being rolled out across the world, public health officials say uptake has been patchy. Surveys of health-care workers in the UK have already hinted at doubts over the vaccine's safety. This apparent reluctance could be explained by the fact that, in many countries, doctors on the frontline of care have been left out of discussions of H1N1 vaccine policy, says Javier Garau, president of European

Society of Clinical Microbiology and Infectious Diseases (ESCMID)

Garau says that ESCMID is also extremely concerned that this scepticism is being fuelled by antivaccination campaigns. The two main messages from the antivaccination camp are that H1N1 is not severe enough to warrant a vaccine and that the rush to manufacture means the vaccine is not safe enough.

There are side-effects from all medical interventions, points out Garau. "If you take aspirin, there is a risk, if you take an antimicrobial, there is a risk." There have been bad experiences with previous influenza vaccines, he says, especially with the vaccine against the 1976 swine flu epidemic in the USA, but now the situation is different.

Indeed, a Nov 19 report by WHO says that among the first 65 million people vaccinated there were "fewer than ten suspected cases of Guillain-Barre syndrome", a disease that has been linked to vaccination, and "a small number of deaths have occurred in people who have been vaccinated".

Although Garau agrees that the disease is mild in many cases, enough people have symptoms that land them in hospital emergency rooms, which is overwhelming health-care systems. The fact that many people have mild symptoms means that some critics say that H1N1 has "caused a lot of noise for nothing", says Garau, but, he argues, people do die. "And those who die are young and one in three do not have any pre-existing comorbidity. Although in relative terms, there are few people who are very sick, the absolute numbers are important."

The number of H1N1 swine flu deaths in Europe has doubled almost every 2 weeks since mid-October, and this means there is another important reason for vaccination, says Garau. "It will curtail the number of



Some health professionals lack enthusiasm for the vaccine

replicating viruses in different hosts, which is a consideration because by mutation or reassortment, a new strain may develop that is much more lethal."

To counter the antivaccination messages, health experts should publicise the WHO figures on safety among health professionals, he says. "Clinicians have been left aside in all of this."

For many developing countries meanwhile, these discussions are largely moot since they do not yet have access to the vaccine.

GlaxoSmithKline has just had its H1N1 vaccine prequalified by WHO so that it can now be rolled out in developing countries. The pharmaceutical company announced last month that it would donate 50 million doses of vaccine to poor countries. Whereas countries such as India and Kenya are expected to receive doses of H1N1 vaccine in the next month or so, India along with nations such as Brazil and South Africa, are working on their own vaccine. These countries have little experience of influenza-vaccine production, so the question is how many people in developing countries will die before home-grown vaccines are ready?

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