

Menno de Jong

He is so soft-spoken you may have to strain to catch his words, but on the topic of recognition for scientists in resource-poor regions, Menno de Jong is ready for a fistfight.

The first victim was an eight-year-old girl whose pet duck had died. It was December 2003 in Vietnam and the fear of a bird flu pandemic was looming.

The Vietnamese government flailed initially, uncertain of the extent of the outbreak or how to combat it. Over the next few years, the country would see 93 of the more than 250 cases of the disease worldwide.

But Vietnam has had one advantage that has helped it avert disaster: Menno de Jong, a virologist who had joined the Hospital for Tropical Diseases in Ho Chi Minh City just three months before the young girl was brought in.

Faced with the crisis, de Jong's reaction was "to stand firmly with both feet on the ground and make decisions," as he puts it. Although he had never worked on bird flu before, he knew how to set up a state-of-the-art virology lab while scrambling to diagnose the disease.

"There were some sleepless nights and everybody in the lab was working crazy hours," de Jong recalls. "The whole world was watching."

Using samples from the first victim as a positive control, the team developed sensitive diagnostics. They also polished their protocols and, with future analysis in mind, took twice the number of samples needed for diagnosis. Those samples provided some of the first answers to why the virus is so deadly, how to detect it and how the disease might spread in humans.

In collaboration with Hong Kong's Malik Peiris, de Jong and his team reported that the H5N1 bird flu strain prefers to grow in the lower respiratory tract and kills much the same way the Spanish flu pandemic of 1918 did—high levels of the virus trigger an intense immune response, which can lead to lung failure (*Nat. Med.* 12, 1203–1207; 2006).

"[de Jong] has really made some of the most valuable contributions to the understanding of the disease in people," says Fred Hayden of the World Health Organization's Global Influenza Program. "He's a very rigorous thinker, creative in his approaches, and a real problem solver."

In person, de Jong is quiet and unassuming, but quick to smile. At a bird flu meeting in October at the New York Academy of Sciences, he spoke so softly, even with a microphone, that audience members leaned forward in unison to better hear him.

That image is hard to reconcile with the feistiness that surfaces when he speaks about recognition for local scientists' contributions to bird flu research. It's the only issue, he says, that might cause him to "get into a fistfight."

Over the past two years, the World Health Organization has come under fire for allowing only scientists affiliated with the organization to access bird flu data. At the same time, some scientists have criticized governments and teams for keeping their data private, in part to ensure that local researchers receive credit for their work.

"If you really want to open it up and get governments and local scientists to make their sequences and viruses available," says de Jong, "you should make sure that those local scientists become more equal partners in the science."

In the end, the scientific community decided in August to set up the Global Initiative on Sharing Avian Influenza Data to rapidly release genetic sequences of emerging strains and allow researchers to collaboratively analyze and publish findings (*Nature* 442, 981; 2006). The initiative also

calls for all researchers to receive credit for their contributions—something de Jong is thrilled about.

"This whole initiative should be more than another old boys' club of scientists who have more access," he says. Without the help of local scientists, he adds, an outbreak might not be recognized until it is out of control.

On that front, de Jong found great support from Peiris, one of the 72 researchers who signed the initiative. "It's in everyone's interest if these front lines are strengthened," Peiris says.

On the ground in Vietnam, de Jong is doing his part to build defenses. He's training local scientists to take over the virology lab in the next two years and helping to build laboratory capacity in 11 hospitals in Indonesia, Thailand and Vietnam through the Southeast Asian Influenza Clinical Research Network.

Bringing together scientists from these countries is no easy task—but de Jong is up to it, says Jeremy Farrar, de Jong's superior at the hospital. "Not many have that extra personality on top of being a great clinical scientist," says Farrar. "It's a colorful, warm relationship that Menno has within the unit and with other units."

It was in the early 1990s, when de Jong visited his girlfriend Constance Schultsz—now his wife—who was working at the International Center for Diarrheal Disease Research in Bangladesh, that he decided to work in the region. "This was a great research clinic with local presence, but doing really, really good research," de Jong recalls. Both were "so amazed" by the model that they agreed to finish their degrees and work in a similar place.

"We didn't want to go to a country like Cambodia or Vietnam as junior doctors, sort of adventurers," says de Jong. "We came to Vietnam when we could add something."

Even as a graduate student at the University of Amsterdam studying HIV, de Jong was collaborative, seeking experts in other disciplines, such as mathematical modeling, to improve the team's approach.

"He very much broadened the scope of what we were doing," says Joep Lange, director of the National AIDS Therapy Evaluation Centre in Amsterdam and de Jong's advisor.

In those days, de Jong was so focused on his research that daily chores such as cleaning his desk often fell to the wayside. "He would have these fungal cultures coming out of his cups going down the leg of the table, and it wouldn't bother him in the least," Lange says.

It didn't bother de Jong's many admirers either. "He had a whole gallery of female suitors in those days," Lange recalls. "But he chose Constance."

The family plans to stay in Vietnam for another three years, until the oldest of their three children turns 12. In the meantime, the urgency over bird flu has diminished somewhat, allowing de Jong to shift his focus to other research. He's building a database of the viruses circulating in the region and studying encephalitis, acute respiratory illness and emerging infections.

But he continues to keep an eye on bird flu.

Whether H5N1 disappears or becomes a pandemic, de Jong says he hopes the scientific community has learned from the situation. "To have capacity in a country, even simply to diagnose disease by more modern methods," he says, "that's the only guarantee that you'll early on recognize a new SARS or a new pandemic threat."

"Local scientists should become more equal partners in science."

Alisa Opar, New York

