

MOVERS

John McNeil, scientific director, Program for Appropriate Technology in Health, Malaria Vaccine Initiative, Bethesda, Maryland



2006: Chief, Laboratory of Advanced Clinical Development, Dale and Betty Bumpers Vaccine Research Center, National Institute of Allergy and Infectious Disease, Bethesda, Maryland

2001-03: Deputy director, Division of Retrovirology, Walter Reed Army Institute of Research, Washington DC

John McNeil was certain of two things early on in his career: he would become a doctor and he would not follow in his parents' military-service footsteps. But burdened with debt after medical school at Wake Forest University in Winston-Salem, North Carolina, and Harvard School of Public Health, he reluctantly broke his pledge and joined the army for a health-profession scholarship. It was the start of a 23-year military career at the cutting edge of HIV vaccinology.

While finishing his residency at Walter Reed Army Hospital, McNeil also pursued an MS in public health at Harvard, and turned his focus to vaccines. He was among the first to use diagnostic tests for HIV infection. "My interest in infectious diseases and public health got swept up in AIDS," he says of the early days of the epidemic. He spent the late 1980s documenting the frequency and distribution of HIV infection in new populations. In the 1990s, he identified candidate HIV vaccines to test in Thailand — an ideal location because of its low genetic diversity. McNeil retired from the army in 2003, a day after the start of a 16,000-person phase III efficacy trial for one of his candidate vaccines. He decided his army work was complete; the best opportunities were elsewhere.

So McNeil moved to the vaccine research centre at the US National Institutes of Health. There, he shepherded candidate vaccines into larger field trials and explored new approaches such as DNA vaccines. Lamenting the limited cross-fertilization of ideas among experts in HIV, malaria and tuberculosis, McNeil became increasingly interested in applying his knowledge of HIV to malaria. Recent work on inducing cellular immunity to HIV should be more vigorously applied to malaria, he suggests.

Jim Tartaglia, vice-president for R&D at Sanofi Pasteur's facility in Canada, recommended McNeil for his latest post, as scientific director of the Program for Appropriate Technology in Health's Malaria Vaccine Initiative. He lauds McNeil's experience with novel vaccine-development technologies and his ability to partner industry, academia and non-governmental organizations, a crucial skill for developing vaccines in multiple international locations.

McNeil acknowledges the many challenge ahead: for example, developing live virus vector approaches to induce immunity early on in malaria's complex life cycle. Nevertheless, he remains optimistic, and predicts that there will be an effective malaria vaccine within the decade. ■

Virginia Gewin

BRICKS & MORTAR

A step between bench and bedside

A new clinical research facility at the National Institute of Environmental Health Sciences (NIEHS) in Research Triangle Park, North Carolina, aims to narrow the gap between research and patient care, and investigate how environmental exposures affect health. For the first time, scientists at the NIEHS, part of the US National Institutes of Health (NIH), will have on-campus clinical-research space.

The move will help the NIEHS embrace translational research, a critical NIH roadmap component that transforms bench science into medical practice, says William Martin, director of translational research at the NIEHS. Having an onsite clinical research unit is a necessary step towards turning basic research findings into patient care.

Initial topics of study will include the environmental triggers and inflammatory mechanisms of airway diseases such as asthma and chronic obstructive pulmonary disease. NIEHS director David Schwartz says that the centre will help scientists "move the field more towards human health than it has been in years, and contribute to an understanding of human biology".

The 1,100-square-metre unit will be built close to the main NIEHS building with room for up to 40 study subjects

daily. It is expected to begin accepting out-patients by summer 2007, and Schwartz hopes it will eventually take in-patients too.

The unit will provide routine evaluations, biological-sample collection and processing, pulmonary-function testing and bronchial-sampling capabilities. Exposure chambers will allow researchers to determine responses to different types of air pollution, such as ozone, in healthy people, those with chronic respiratory diseases, and those with genetic polymorphisms that may influence their reaction.

Future research interests include reproductive, neurodegenerative and metabolic diseases. Schwartz also aims to develop sophisticated imaging techniques for the lungs, bones, brain and metabolic processes.

The NIEHS will invest heavily in teaching principles of environmental-health science to physician-scientists at the unit, where Schwartz aims to increase their number from 6 to 12. He hopes the blend of basic research and clinical facilities will encourage PhD investigators to participate in clinical activities derived from their research. There will also be 20 technicians, nurses and physician assistants to run the unit and its research projects. ■

Hannah Hoag

GRADUATE JOURNAL

Done deal

I took the stand to defend my dissertation research three weeks ago. I have a hard time remembering what actually took place on that day, but I know that I passed. I do remember that the weather was beautiful, although it was exceptionally hot, even for Hawaii. I replaced my normal work attire — a pair of surf shorts and a T-shirt — with slacks and an aloha shirt, the closest I've come to wearing a jacket and tie during my nine years in Hawaii.

I wasn't all that nervous because I had difficulty contemplating that I was really about to defend. After practising my talk aloud to myself in front of a mirror a final time, which always makes me feel like an idiot, I felt the need to review the literature and my old notes. So with two hours to go, in an absolutely random fashion, I started to skim through a number of papers and notebooks in order to make up for anything I may have missed during the past five years. Remarkably, I actually got some questions on the topics I was able to cover. The defence itself went smoothly and, according to the 'objective' opinion of my mother, it was very good — although I am not sure how much of it she understood.

Despite the three weeks that have passed, I still cannot grasp that it actually happened. However, I am happy to be back wearing a T-shirt and shorts again. ■
Andreas Andersson is a final-year PhD student in oceanography at the University of Hawaii.