RESIDENT & FELLOW SECTION

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International Issues: Tropical neurology in Vietnam

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During the last elective period of my neurology residency, I went to Vietnam. My reasons for choosing Vietnam were twofold. First, David Warrell, Professor of Tropical Medicine at Oxford, suggested Vietnam because of its abundance of tropical neurology and because he loves venomous snakes, such as kraits, cobras, and vipers, which flourish in the region. My other motivation for this location was the Vietnam veterans whom I had treated at the Boston VA. Their stories about tropical jungles, unbearable humidity, and armies of blood-sucking insects, and the horrors of a war they were still coming to terms with so many years later, had piqued my curiosity.

Times have changed in the 35 years since the end of the war in 1975. Bomb craters still pockmark the landscape. Children still regularly lose their limbs to land mines. There are still humidity and blood-feasting mosquitoes. However, the ghosts of the past are slowly being laid to rest.

According to UNICEF statistics, Vietnam is one of the poorest countries in Asia. With a population of 87 million, it has a lower average personal income (US $800–$900/year) than India (US $1,070/year). Almost one-quarter of the population live below the international poverty line of US $1.25/day.[1]

The introduction of "Doi Moi" (literally translated as "renovation") in the mid-1980s produced a dramatic change in the societal landscape of communist Vietnam, including its previously universal health care. Doi Moi instituted economic reforms, including the end of party central planning, and opened the country to foreign investment. The United States lifted its embargo against Vietnam in 1993, ushering in remarkable economic growth and the development of a middle class that became increasingly able to afford luxury goods and services, including private health care.[2,3]

In the wake of this change, health care became less of a government priority and was no longer fully subsidized, which has had positive and negative results. The country is doing well on certain UNICEF health indicators such as infant mortality rates and life expectancy (74 years), whereas other measures, such as a relatively low rate of childhood tetanus vaccination of about 84%, still need some work.[1] The cost of health care is partly to blame. Only a select few are insured, i.e., party cadre and people who are employed. However, even for these individuals, insurance does not fully cover costs. In fact, over the last 20 years, out-of-pocket payments have become the largest contributor to the country's health care costs. Fees must be paid in advance of any hospital or clinic visit, and patients are often turned away if they cannot pay. There is a formal government program to waive fees for the poor, but, in practice, those who are willing to pay up front are preferentially seen.[3] Furthermore, recent efforts have focused on building new health care facilities, but often the budget is not adequate to maintain the structures or to staff them with trained employees.[3] Thus, most doctors employed in government hospitals earn a monthly salary of approximately US $100–$200 and are forced to supplement their income by running private clinics from their homes after hours.

This was the backdrop against which I visited several hospitals in Ho Chi Minh City, a 6 million–person (and about half as many mopeds) megalopolis in the Mekong Delta. I was able to visit inpatient wards and outpatient clinics in diverse hospitals, including the Infectious Disease Hospital and associated MRC Wellcome Trust Unit (figure) and the Cho Ray and Gia Dinh Hospitals. Most of these institutions were similar to those I had seen during other trips to the tropics. On the public wards, the hot, humid air, saturated with the smell of sweat, sickness, and antiseptic, was being propelled around in slow circles by old, tired-looking ceiling fans. Paint was peeling off the walls, and large numbers of people crowded the rooms. There were usually 2 patients in each of the beds lined up against the walls, and there was barely enough space for the attending relatives to help with the washing, toileting, feeding, and comforting of their loved ones. Men and women shared these confines without refuge for privacy and

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Disclosure: The author reports no disclosures.

Figure Infectious Disease Hospital, Ho Chi Minh City, Vietnam

modesty, their pain and plight a curious spectacle to the hapless collection of people who found themselves thrown together here.

The private wards provided a startling contrast, even more so than that posed by the gleaming penthouse locations of Boston's private wards. Just down a corridor and past fancy glass doors were air conditioning, a sparkling white environment, and a sense of exclusiveness. There was one patient per bed and, at most, 6 beds per room. The cost was at least 3 times as much as a stay on a regular ward. These patients were the hitherto nonexistent middle class that was slowly emerging after decades of war and still-palpable communist rule. These separate worlds of the regular and private wards were connected by a thread of nurses in white uniforms replete with starched white caps and doctors in white, embroidered coats who moved swiftly back and forth between them, uncomfortably aware of this duality in their professional lives.

There are probably fewer than 100 fully trained and fewer than a half-dozen subspecialty neurologists in Vietnam (Dr. L. Thao, personal communication). Neurology training begins after a 6-year medical degree and has 2 tracks: regular and academic. Both are 2-year programs, although the academic track requires a doctorate and further clinical training. A program established by the University of Paris is striving to increase the number of neurologists by offering an accelerated curriculum; however, a main training concern remains the need for subspecialists.

Despite these worries, my Vietnamese colleagues had an impressive amount to teach me. I had expected to see mainly diseases such as Japanese encephalitis and cerebral malaria, but in fact I saw a huge variety of tropical neurologic conditions. The largest burden of infectious neurologic disease is now due to the complications of HIV infection, often in combination with tuberculosis, with large numbers of patients with cryptococcal and tubercular meningitis. An entire ward was full of patients with tetanus, mostly poor, unvaccinated farmers who had stepped on a nail and developed trismus a few weeks later. Most of these patients required intensive care and received meticulous nursing care, ingenious nasogastric feeding with a high-calorie soup cooked in the local kitchen, and ventilator support that was often provided by relatives squeezing ventilator bags at the bedside.

I saw only one case of cerebral malaria which, due to the effectiveness of artemisinin-based compounds, seems to be rare these days. The incidence of head injuries has also decreased since a recent law made moped helmets mandatory.

Other conditions commonly seen in Boston, such as Parkinson disease, brain tumors, epilepsy, and strokes, are also seen in Vietnam. One particularly memorable patient was a 54-year-old man with a complete left middle cerebral artery territory infarct. He was in the intensive care unit and was being ventilated by his relatives, when his condition worsened. Rapid imaging and neurosurgery were unavailable in the hospital to address his brain edema, and the patient was proclaimed to be terminal. His relatives proceeded to load him—still intubated—onto a motorbike, sandwiched between the driver and a relative who held him upright and continued to ventilate him, so that he could die at home, the only place where his soul would find peace.

The doctors I met work hard. They continue to take night calls throughout their attending lives, and, bound by the necessity to survive, they have to supplement their meager income with work in private clinics. Many physicians had studied or trained abroad in France, Germany, Russia, or Cuba for at least 1 year, but they opted to return home, despite having to face enormous challenges.

Vietnamese neurologists continue to encounter multiple obstacles during and after training. One of the ways to empower local physicians is to support education and make Web-based, current medical information more easily available. Another important and mutually beneficial training strategy has been referred to as North–South partnerships that foster exchange programs between physicians in our institutions and physicians in the tropics. The logical next step, however, is to expand on what David Weatherall has called South–South partnerships that, to some extent, have already started to develop. In these relationships, a specialized local center provides aid to hospitals in surrounding regions that lack this

expertise.[4] For example, the Wellcome Trust has a flourishing Tropical Diseases Unit in Ho Chi Minh City that has close ties to units in Thailand and Laos. This type of networking and infrastructure also is needed in neurology because it confers the added benefits of developing a reciprocal learning process and interpersonal relationships and is far more instructive than journal articles in teaching about the complicated and enriching world that surrounds us.

After the trip, Professor Warrell asked about the snakes I had seen. He was disappointed that I had not seen a single one. I have to admit that I did not share his disappointment.

ACKNOWLEDGMENT

The author thanks Professor David Warrell for suggesting Vietnam for her elective and putting her in touch with colleagues there. She is also grateful to Dr. Jeremy Farrar and the staff at the Tropical Disease Hospital, Ho Chi Minh City, and Dr. L. Thao in Neurology for welcoming her to their departments.

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Neurology 2011;76;e102-e104
DOI 10.1212/WNL.0b013e31821ccc61