BRUCE H. WOOLLEY

JOSEPH MCPHIE

QUINTON HARRIS

G. HOMER ELLSWORTH

DEVON HALE

JAMES GOODRICH

CECIL SAMUELSON

Pathogens, Parasites, and Proselyting

The Medical Advisory Committee Enhances the Health of the Missionaries

CHARLES D. CRANNEY,
EDITOR

IN MARCH 1988, a little over a half year since completing his assignment as mission president in Mexico, Quinton Harris, M.D., found himself talking with Elder Melvin J. Ballard, a member of the Quorum of the Twelve.

"I thought," said Dr. Harris, "he just wanted a report on my mission. But it soon became apparent that his concerns were much broader than one mission in Mexico."

Several parents of missionaries serving in the third world had sensed there were health problems with their sons and daughters. Elder Ballard had been told of the pitiable health of some missionaries in third-world environments. As with any second- or third-hand information, some tales were hearsay but others seemed more substantial.

Elder Ballard was also aware of a recently completed study of Bruce H. Woolley, Pharm.D., director of BYU Health Services, on the health of the returned missionaries who attended BYU. Bruce had been bombarded with health problems suffered by missionaries returning from third-world countries.

It soon became obvious to Elder Ballard that the Church needed to expand services aimed at safeguarding missionaries' health.

"Before I knew it, he had gone ahead and put together an ad hoc committee," said Dr. Harris, now the committee's chairman. "As I've reviewed the group, it turned out to be a most propitious combination, a unique blend of skills that has fit the challenge perfectly."

Brother Joseph McPhie of the Missionary Department has "felt totally convinced that there was tremendous inspiration from the Lord in forming this committee. The time was right. Dr. Harris had just come back from his mission in Mexico; Bruce Woolley had just finished his study at BYU; and Elder Ballard had additional communication, including some from returned missionaires in his home ward. I have never worked with a group so complementary to one another."

Besides internist Quinton Harris and Bruce Woolley, the committee comprises Cecil Samuelson, an internist who is vice president for Health Sciences at the University of Utah; Homer Ellsworth, an obstetrician and gynecologist; DeVon Hale, an internist with a specialty in infectious disease who, until recently, was at the University of Utah; and James Goodrich, a public health specialist and head of the Church's Health Service Department.

In 1981 two members of the present committee, DeVon Hale and Jim Goodrich, had been part of an ad hoc medical consultation group set up by the Church because of queries from a mission president in Santiago, Chile. "He asked how to diagnose and treat typhoid," said DeVon. "We decided to send two medical technologists to establish a laboratory and look at diarrheal disease in general. Over a year-and-a-half period, we had the missionaries give us stool specimens when they got sick. We also did some studies where we got stool specimens from everyone simultaneously.

"In any given week . . . 15 percent of the missionaries in Santiago had diarrhea." In Bolivia, the figure was 35 percent and in Peru, nearly 40 percent.

"From the laboratory standpoint, we found the same illness ratio in Latin American missionaries as those from North America. Yet, the Latin Americans didn't complain of illness as often."

The study found the pathogens most responsible for illness were giardia, shigella, and rotovirus. Others found, but in less abundance, were salmonella, amoeba, and round worms, such as ascaris. Entamoeba coli, which comes from fecal contamination, was found in 90 percent of the native missionaries in Bolivia.

During this earlier probe, Jim Goodrich noted several links between the living conditions and health. "We found that if hot water was available the incidence of diarrhea decreased. Diarrheal problems were reduced in places where missionaries had flush toilets and refrigerators. The study also showed an increase in illness when missionaries ate food from street vendors or when there were high numbers of insects and rodents in the apartments."

At the conclusion of the study, the group recommended that missionaries be taught better principles of hygiene, water purification, and food preparation.

To the disappointment of Drs. Hale and Goodrich, not much was done initially with the recommendations that came from the 1981 Chilean study. But with Elder Ballard's organization of the ad hoc medical advisory committee in 1988, the wheels were again rolling.

THE FINDINGS OF THE MEDICAL ADVISORY COMMITTEE

The committee initially met and made recommendations based on the earlier findings. It soon became apparent, however, that on-site inspection and evaluation was needed. So, at the suggestion of the Church's Missionary Committee, the medical team went to South America for an initial, five-mission trip.

"Being a physician and having been a mission president recently, I thought I knew all about it," said Dr. Harris. "I had worked well in Mexico City. We had excellent physicians there and a good hospital.

"But when we got to Ecuador, to Quito and Guayaquil, and to Lima, Peru, I found the problem much broader than I had ever surmised."

The group found one baffled mission president spending more than half his time on health matters. Another mission hospitalized missionaries in an old folks home, whose personnel were "thirty or more years behind the times." Certain of the

Charles D. Cranney is the assistant director of University Publications at Brigham Young University.

local doctors had the attitude, "Why treat it when they're just going to get it again?"

Many were big on prescriptions. "One missionary covered the tops of two tables with prescriptions he'd received from one doctor for one illness," said Dr. Harris. "He had a prescription for headache, one for fever, one for pain, one for nausea, and others—all drugs to treat the symptoms but no drug to kill the bug."

Wisely using the resources of other groups in those areas, the medical team gathered significant information from health officials in the American embassies and the Peace Corps. For example, Ecuador has a malaria problem, but only in certain areas, and the embassy had already identified the hot spots.

The team also visited with the countries' ministers of health and came to understand better the prevalent attitudes and perspectives.

While on the initial visit, the group took advantage of each committee member's abilities, and the hospitals were thoroughly evaluated. For example, "Cecil Samuelson, who is involved in hospital administration, could check the facilities," said Dr. Harris. "DeVon Hale, who has significant laboratory experience, checked the equipment to see if it was up-to-date or outmoded. Bruce Woolley could analyze the pharmacies and the drugs used."

Using the literature available from the American College of Physicians, the group could also identify physicians who were academically prepared. They visited many doctors to evaluate the type of care missionaries were receiving and the attitude of the doctors. "We found some doctors treating malaria where malaria didn't exist," said Dr. Harris.

Members of the medical team discovered that some practices of Church members spread disease. For example, sacrament cups were recycled. "We sat in a sacrament meeting and there was the blackest rim around the sacrament cups—and sometimes lipstick stains," said Dr. Harris. "These cups were being used until they wore out and nobody was washing them. This practice has been the same in many third-world countries I've visited since then. We do suggest the members throw away sacrament cups after use, but that seems like squandering resources to the third-world Church members. At the least they should wash and treat plastic cups properly between each use."

But perhaps even more unsafe was the water used in the sacrament cups. Nobody had been boiling or treating the water in any way.

The group also looked at the environment of the temples. At the São Paulo temple, an on-site well provided excellent, pure water. In Lima, however, the samples analyzed proved unfit for human consumption.

Finally, the medical team evaluated the living quarters of the mission presidents and made recommendations to them.

After this first whirlwind trip, it was apparent that all of the missions in the third-world countries needed to be visited. With the approval of the First Presidency, the medical advisory committee's ad hoc designation was dropped and the board became a permanent addendum to the Missionary Committee of the Church.

During the last year, two-member teams from the Missionary Medical Advisory Committee (MMAC) have visited over 82 of the 103 missions in third-world countries. And the challenges have been abundant.

"We are trying to identify and prevent the major illnesses in the missions," said Dr. Harris. "In some places, there was no prophylactic medication being given where malaria was a major difficulty. We've tried to change that. We're also seeing diseases we heard of only in medical school text books, and now we are talking about them continually."

One major task during the visits has been to identify the best doctors, hospitals, and laboratories—and then to introduce the mission president to them. "Mission presidents have been forever grateful for what we've done," commented one committee member.

The mission tours have also exposed various inept practices and facilities. For example, one laboratory was issuing reports from numerous tests. The team visited the lab and only found a microscope—and none of the equipment needed for the tests. Those issuing the reports had simply been pulling numbers out of the air.

Many hospitals are in dire straits, too. Some high-technology equipment exists, but much of it in disrepair—with not much promise for fixing it.

Occasionally, however, committee members have been able to identify tertiary care centers in such places as, Quito, Eduador; São Paulo, Brazil; Santiago, Chile; Hamilton, New Zealand; and Brisbane, Australia.

A General Authority asked one committee member what should be done for a Brazilian Church member's critical bone infection. "I had just been to São Paulo," the doctor said, "and I had been with the doctors and the hospital. I referred the patient to the Frey Clinic. There was no point in sending her to Salt Lake City."

The committee instituted a carefully controlled six-month test in the missions of Ecuador and Peru, teaching the missionaries prevention and treatment protocols. The response was dramatic. President Martin Durrant of the Lima North Mission reported a 75 percent reduction in the illness rate. Others reported substantially reduced downtime.

Bruce Woolley's pharmacological service on the committee has been invaluable. "When we surveyed 14,000 returned missionaries at BYU," he said, "we found that most of those who experienced problems in developing countries still had those problems. It is very difficult to treat certain of these disorders with the medications available in the United States." Sometimes, the drugs of

choice—those proven most effective elsewhere—simply aren't available.

But in the mission field, because of MMAC recommendations, many missionaries are now routinely treated every six months for parasites and immediately before returning home. First, the missionaries are given 500 milligrams (four tablets) in a single dose of Tinidazol (Fasygyn). Then they are given 100 milligrams of Mebendazole (Vermox) twice a day for three days. The treatment for amebiasis must be effective against both the intestinal and hepatic aspects of the disease. This requires the administration of two drugs—Fasygyn followed by Falmonox.

Fasygyn isn't available in the United States. Pfizer had done most of the research necessary to have it approved by the FDA, but they sold the U.S. marketing rights to Ortho Pharmaceuticals. Because of the small demand for the drug in the United States, Ortho hasn't gone through the expensive process of finalizing FDA clearance. Ironically, the prescribed treatments available in the United States aren't nearly as effective and have greater side effects.

Members of the MMAC were surprised to find that in many countries the standard treatment for intestinal bacterial problems was chloramphenicol. The committee has now informed mission presidents that chloramphenicol is not a recommended treatment. The medical team also discovered that doctors weren't fully treating the tissue phase in amebiasis, so a missionary would feel better for a time but would relapse into illness after a couple of months.

Of course, the committee has encouraged prevention as the first step in ensuring missionary health. All missionaries are encouraged to boil their drinking water. In a search for alternatives, DeVon Hale injected soda pop with several pathogens and found that after three or four hours the drink was safe. "Soda pop should be safe if it has been bottled for more than 24 hours," said Dr. Hale. "But missionaries should not drink soda pop out of fountains, and they should avoid contaminated ice."

SISTER MISSIONARIES

As the committee began addressing problems common to all missionaries, they soon realized the need to address specific problems with sister missionaries. Thus, the appointment of Homer Ellsworth, the only gynecologist on the committee, was propitious.

One common complaint among the sisters is amenorrhea. Some of them panic, thinking they won't be able to have children. "Reassurance is important," said Dr. Ellsworth. "I usually spend an hour or two talking with the mission presidents' wives about how to handle the sisters' problems."

Also, sisters can obtain antibiotics as easily as any commodity, and they have been overused in the past. So, Dr. Ellsworth has found a great incidence of monilial infections. In some tropical areas, it takes longer to clear up yeast and other fungal infections. Sometimes a mother will send a missionary daughter the standard three- or seven-day treatment regimens from the United States to clear up a yeast infection. Those kits don't treat the infection long enough in tropical areas. However, drugs like Clotrimazole are readily available in the tropical areas to clear up a yeast infection. "It's simply a matter of training," said Dr. Ellsworth. Nylons exacerbated the fungal problems, and most of the sisters in the tropical areas don't wear them anymore.

Dr. Harris realized that during his service as a mission president, he was unaware of many of the sisters' problems. "Homer has provided a great service for the sisters," he said.

One committee member recommended that all sister missionaries in tropical areas infested with fleas and mosquitos should wear pants—but that suggestion has not been accepted yet.

SOLVING PROBLEMS BACK HOME

Since people have become more aware of the committee's existence, committee members have received calls from many who have returned from third-world countries with continuing medical problems.

For example, Dr. Harris received a call from a former mission president who had just returned from a Latin American country. The man became ill, went to his doctor, and found his pulse rate at 36. The physician suggested installing a pacemaker. Frightened with the idea, the patient called Dr. Harris. On Dr. Harris' recommendation, the president asked the attending physician to explore the possibility of an exotic illness from Latin America. They found the mission president had Chagus disease.

Dr. Ellsworth has also noted that some medications used to treat parasites may render patients lactose intolerant. "I knew a great mission president in the East," said Dr. Ellsworth, "and he told me he had had amoeba for 25 years, ever since he had been a young missionary in Guatemala. I doubted he had amoeba that long, and I found that every time he had milk products he got sick." The mission president confided in him, "I noticed that about two years ago, but I didn't tell anybody because I was afraid I would have to give up ice cream."

A COLLEGIUM SEMINAR ON MISSIONARY AILMENTS

After hearing from the entire Missionary Advisory Committee at the 1989 annual Collegium meeting (in Park City), the physicians requested a special seminar be held that would train them in the international "travelers" diseases so they would be better prepared. Many felt that they could be of greater benefit to both returning missionaries and those leaving for missions.

Collegium officials have scheduled the meeting for

March 28–30, 1990. The first day will be for nonmedical professionals (missionary couples, bishops, stake presidents, travel-industry officials, etc.). Subjects for doctors and other health professionals include: (1) the hepatitides and other viral illnesses (for example, Dengue, Yellow Fever, Polio, Rotavirus, Japanese Encephalitis); (2) bites and stings of arthropods and coelenterate envenomation; (3) protozoan, dermatologic, and helminthic diseases; (4) dog and other animal bites; (5) women's disorders; and (6) post-mission management.

Those attending the seminars will certainly have increased skill in dealing with third-world health problems of missionaries.

RETIRED PHYSICIANS

Another invaluable service that has aided missionaries has come from retired physicians who serve proselyting missions. Though called on proselyting missions, the doctors will be asked to also assist the mission president in missionary health matters. Currently, there is no mechanism in the Church to flag doctors and other health professionals who are going on proselyting missions. But the Missionary Medical Advisory Committee has asked physicians going on missions to make sure their medical training is noted when submitting mission papers.

"We realize," said Dr. Harris, "that if we could get medical people in each area of the third-world countries, we'd have a tremendous asset. There is such a great need."

The stories of success are many. For example, Sister Marian Durtschi, a physician's assistant, went to Cochabamba, Bolivia. During her mission she saw about 100 missionaries every month. While there she met members of the MMAC and quickly picked up on the resources, using the developed flow charts and treatments to perfection. "When she left, the mission president felt like he was losing his right arm," said Dr. Harris.

Other health professionals have been or are now serving in third-world countries—for example, Dr. Richard Hardy in Chile; Dr. Taylor Cottle in Bolivia; Dr. Virgil Parker, first as mission president in Belgium and then as a proselyting missionary in Nigeria.

Another example is Dr. George Hilton from San Francisco. He performed surgery in Tahiti at the hospital every Wednesday morning and trained the local physicians to use the equipment.

Those physicians who are going should contact the Collegium office. "That way we can know where you are and have you help us," said Bruce Woolley.

"Although those with foreign language capability are very useful," said Dr. Harris, "those who only speak English pick up enough of the language to get along." Some major languages that would be most beneficial include Spanish, Portuguese, and French.

And with all the rapid changes in Eastern Europe, Dr. Harris feels many will be needed who have studied slavic and other languages from those areas.

SUCCESS AND THE WORK

The remarkable success of the committee during the last year and a half has had a significant impact on the missionary work. Due in part to the substantially increased health of the missionaries, convert baptisms have gone up more than 30 percent in those areas the committee has visited.

"It's also gratifying," said Dr. Harris, "to hear that many of Latin American missionaries never realized they could feel so good."

To ensure that progress continues, the Missionary Medical Advisory Committee now meets with all new mission presidents before they go to and while they're at the June MTC seminar. Committee members attended five mission president seminars, where they reinforced prior training. So far, 74 mission presidents in third-world countries have had follow-up training.

Programs are also being developed to further instruct the missionaries, both at the missionary training centers and during zone conferences. And MMAC visits to the missions are continuing.

IMPROVING THE HEALTH OF THE CHURCH

"Though our major efforts have been with the missionaries," said Dr. Harris, "President Hinckley has also expressed concern about the health of the Church members in these areas." And so committee members have frequently found themselves instructing local Church leaders.

"I spent a half hour instructing 62 stake presidents in Lima, Peru, on the whys and wherefores of washing their hands and cooking food properly," said Dr. Harris. "We also taught them how to ensure sanitary conditions in the chapels and for the sacrament."

By improving the health and conditions of all Church members, committee members expect that the well-being of our missionaries will improve also.

The Missionary Medical Advisory Committee is a first major step toward improving the health of the Church in third-world countries. As an ever-increasing number of LDS health professionals give unselfishly of their time and talents, they will find great satisfaction serving with an invaluable team that is destined to further two of the three main missions of the Church—to preach the gospel and perfect the Saints.