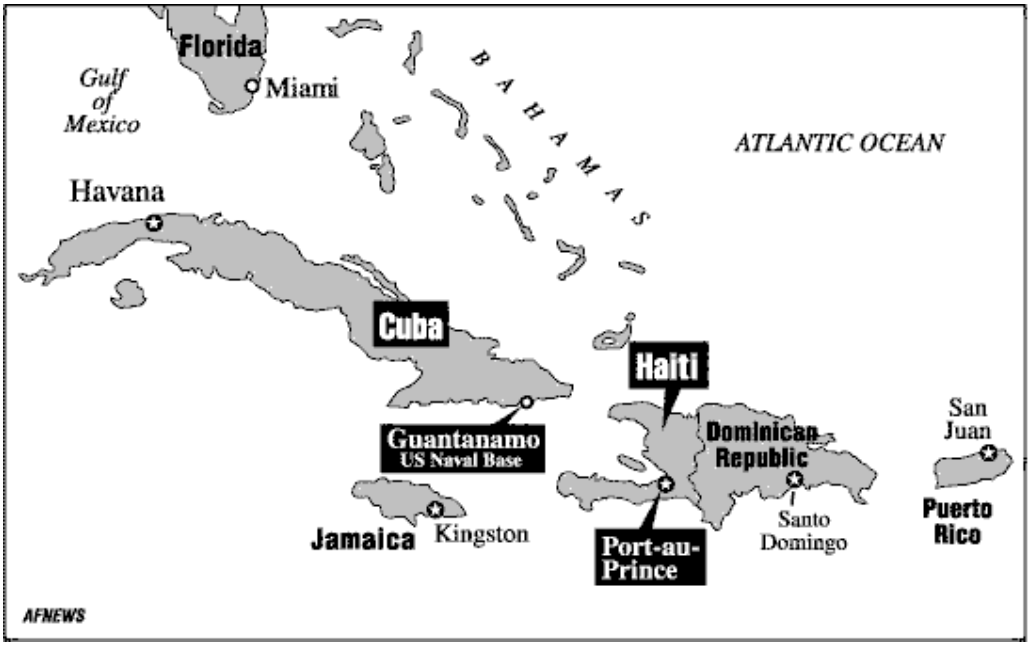
GOAL Medical Response to Haiti Earthquake Jan 2010

Dr Michael Sweeney

Background to the disaster



1: Map of Haiti and surrounding region

By most economic measures, Haiti is the poorest country in the Americas. In 2009 it had a GDP per capita of US$790, about $2 per person per day. Even before the earthquake struck, it was an impoverished country, one of the world's poorest and least developed. Comparative social and economic indicators show Haiti falling behind other low-income developing countries (particularly in the hemisphere) since the 1980s. Haiti ranks as 149th of the 182 countries in the United Nations Human Development Index (2006). About 80% of the population was estimated to be living in poverty in 2003.

Deficient sanitation systems, poor nutrition and inadequate health services have pushed Haiti to the bottom of the World Bank's rankings of health indicators. According to the United Nations World Food Programme, 80% of Haiti's population lives below the poverty line. Consequently, malnutrition is a significant problem. Half the population can be categorized as "food insecure" and half of all Haitian children are undersized as a result of malnutrition. Less than half the population has access to clean drinking water, a rate that compares poorly even with other less-developed nations. Haiti's healthy life expectancy at birth is only 44 years. The World Health Organization (WHO) estimates that only 43 percent of the target population receives the recommended immunizations.

The 2010 Haiti earthquake was a catastrophic magnitude 7.0 M_w earthquake. Its epicentre was near the town of Léogâne, approximately 25 km (16 miles) west of Port-au-Prince, Haiti's capital. The earthquake occurred at 16:53 local time on Tuesday 12th January 2010.

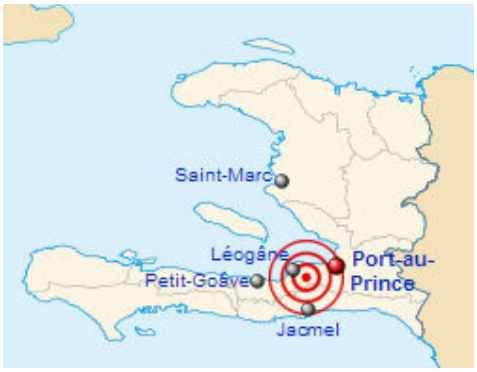
As of 12th February 2010, an estimated three million people were affected by the quake; the Haitian Government reports that between 217,000 and 230,000 people had been identified as dead, an estimated 300,000 injured and an estimated 1,000,000 homeless. The death toll is expected to rise. They also estimated that 250,000 residences and 30,000 commercial buildings had collapsed or were severely damaged.

2: Hillside suburb of Port-au-Prince

The earthquake caused major damage to Port-au-Prince, Jacmel and other settlements in the region. Amongst the widespread devastation and damage throughout Port-au-Prince and elsewhere, vital infrastructure necessary to respond to the disaster was severely damaged or destroyed. This included all hospitals in the capital; air, sea and land transport facilities; communication systems etc.

The quake affected the three Médecins Sans Frontières (*Doctors without Borders*) medical facilities around Port-au-Prince, causing one to collapse completely. A hospital in Pétionville, a wealthy suburb of Port-au-Prince, also collapsed, as did the St. Michel District Hospital in the southern town of Jacmel, which was the largest referral hospital in south-east Haiti.

Slow distribution of resources in the days after the earthquake resulted in sporadic violence, with looting widely reported in the Western media. However, Dr Evan Lyon of Partners in Health, working at the General Hospital in Port-Au-Prince, claimed that misinformation and overblown reports of violence had hampered the delivery of aid and medical services. Lt. Gen. P.K. Keen, deputy commander of U.S. Southern Command announced that despite the stories of looting and violence, there was less violent crime in Port-au-Prince after the earthquake than before.



3: Epicentre of Earthquake

How I became involved

On Friday 15th January, a group email was sent from GOAL to IAEM members asking urgently for doctors to assist in the emergency response. On Monday 18th, I contacted GOAL who asked for a copy of my CV. Within 20 minutes they called me back to ask if I would fly out as soon as possible. Having secured the green light from my family, my Consultant colleagues and the General Manager, I agreed to fly out the following Saturday for a period of three weeks. I met with GOAL the day before, undergoing a medical and receiving necessary vaccinations. They also gave me a briefing on the mission.

At that stage, details about what my role would be and what facilities would be available were still very sketchy. The organization on the ground was still chaotic and communications with the team already in Port-au-Prince were difficult. Even information about accommodation, food supplies, access to water etc. was difficult to come by. I flew out to Santo Domingo (Dominican Republic) on 24th January. The following day, I was driven across the border to Haiti and on to Port-au-Prince, arriving 12 days after the earthquake.

First impressions

On arrival in Haiti, the stark difference in level of poverty was immediately obvious. The roads were terrible, people looked less healthy and housing was poor.

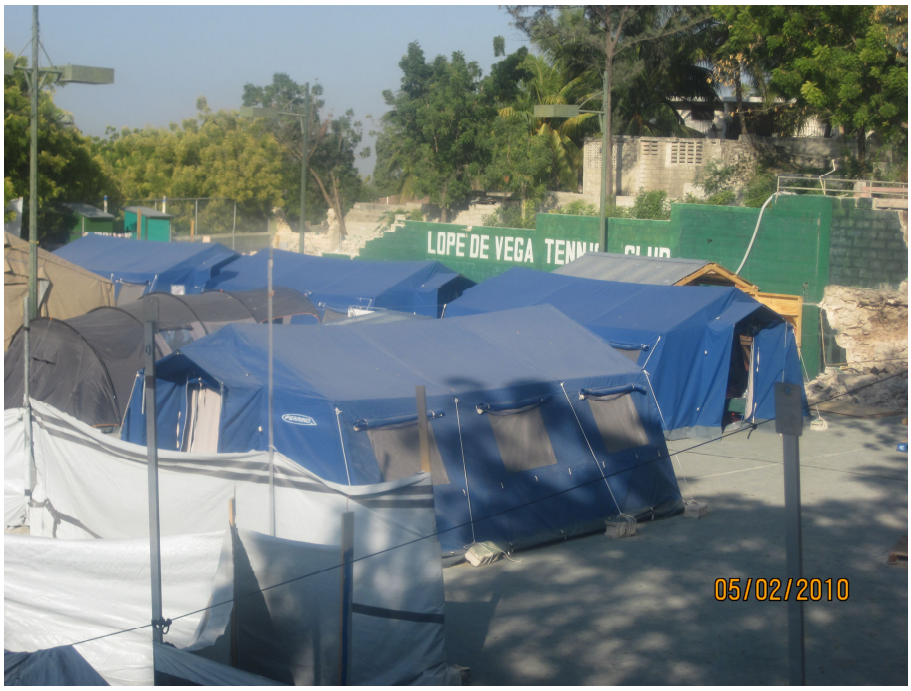
Port-au-Prince was chaotic. Consumed in clouds of thick dust, there was rubble and debris everywhere. Piles of rubbish filled all the drains and river beds with pigs, chickens, dogs and goats rummaging through it. Any building that was still standing looked like it might collapse at any moment. Any available space that was not built on (parks, roundabouts, sports grounds, school playgrounds, building sites, town squares, gardens, and footpaths) was covered in newly formed temporary accommodation.

Most of the hospitals in the city had collapsed, with losses of large number of patients, medical and nursing staff.

4: What had been a 5-storey Maternity Hospital near the City Centre.

The Goal Medical Team

The Medical Team which Goal had recruited for the initial response consisted of 2 Consultants in Emergency Medicine (myself and Dr Sinead O'Gorman from Letterkenny), an Anaesthetist (Dr John Keogh from Cork), a GP (Dr Ross Ardill from Dublin), an Ophthalmic Surgeon (Dr Mick Browne from Dublin) and 2 Nurses (Llanos Ortiz from Spain and Rob Burke – from the ED in Galway). John Moore, a qualified nurse, acted as Health Co-ordinator for Goal. The Medical Team were seconded to work with Merlin, a UK-based NGO specialising in acute medical response to humanitarian catastrophes. Merlin had established a temporary field hospital at a tennis club in the Delmas-33 district of Port-au-Prince. This consisted of 2 operating theatres in a tent with a plastic surgeon, an orthopaedic surgeon and an anaesthetist. They required staff to look after post-operative care and to triage patients at the 'front-of-house'. They also required another anaesthetist in order to run both theatres at once.



5: The Merlin Hospital at Delmas-33

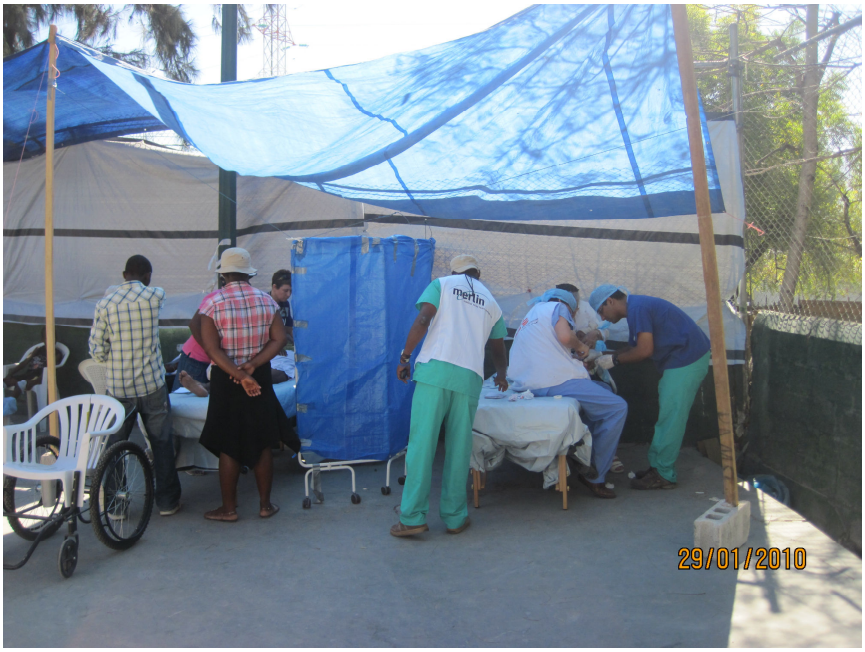
The Merlin Hospital

The hospital was open during daylight hours to new patients. About 90-100 patients presented each day. The vast majority of patients self-presented to the front door. Others were transferred from other field hospitals in the city for plastics, orthopaedics or ophthalmology consults. The 'Emergency Department' consisted of 2 areas covered in tarpaulin sheets.

Dr Ross Ardill and I saw walk-in patients with acute or chronic medical complaints in one section. The most common complaints were infections, such as malaria and gastroenteritis (particularly in infants and children). There were also many patients with chronic complaints such as Diabetes, who had lost all their medications when their home was destroyed.

6: Assessing Patients in the Emergency Department

Dr Sinead O'Gorman manned the other area, which had a couple of beds. Patients with injuries requiring suturing, dressings, plastering etc were seen in this area. Patients who required IV treatment were also managed in this area. Post-op patients returning for review were also seen here.



7: The Emergency Department 'Majors'

Nursing assistance to both areas was supplied by IFM, an American Christian NGO. The nurses from the GOAL Team worked in theatre and on the post-op wards. IFM also supplied limited lab facilities (blood sugar, urine dipstick, hCG and had a microscope for blood films)

Medical Supplies

GOAL, IFM and an Israeli NGO supplied most of the medical supplies required. GOAL had supplied 'Primary Care Packs', which included a large supply of dressing materials, plastering materials, antibiotics, simple analgesics, antimalarials, antihelminthics, IV Fluids, Ketamine, etc.

Supplies were generally adequate for most patients. There were some items we could have had more of especially tetanus vaccines, paediatric Flucloxacillin suspension, treatment packs for STDs. More problematic were patients with chronic problems. For example, we had no insulin. One young man presented with DKA + sepsis from malaria. He was treated with IV fluids, oral metformin, antimalarials and a sandwich. He was sent 'home' with follow-up the next day. Even with current constraints in the HSE, he would have won himself an ICU admission in most hospitals here!

Merlin had brought an image intensifier so we were able to x-ray fractures. They also had a portable ultrasound machine.

Figure 8: Medical supplies

Basic Facilities in the Hospital

Privacy for patients was almost impossible. The post-op wards (tents fitting 8 to 10 patients) were cramped. Initially, there were no beds, so that patients were on the floor. Eventually they were supplied with beds and mosquito nets. There were no toilets initially. Eventually 2 latrines were built. Even these were best avoided.

Hand-washing facilities were limited. Supplying enough drinking water for the staff alone was a major problem. The average midday temperatures were about 35°C with no breeze; very uncomfortable conditions to work in. The theatres had air-conditioning, but the rest of the tents did not.

Overall Health Response

One of the difficulties was the coordination of response around the city. It was difficult to ascertain what specialties were available around the city. The 'Health Cluster' of the UN was in charge of coordinating the different field hospitals but trying to organize a bed in another facility was extremely difficult. I had one patient with a complex, tripod fracture of his facial bones with entrapment of his inferior rectus muscle. It took 3 days to arrange a maxillofacial surgeon. (He was eventually admitted to the US naval hospital, USS Comfort). Elderly patients who were already debilitated and were now dehydrated, with multiple co-morbidities, were even more difficult to sort out. Most of the hospitals were full to capacity with trauma cases.

Feedback to GOAL re non-medical needs

One of the advantages of having a medical team on the ground, meeting patients one-on-one, was our ability to feed back to GOAL about some of the non-medical needs of the population. For example, GOAL was one of the major distributors of food for the World Food Programme. Because the programme was prioritising women with children, we identified that many of our patients were fathers with young children where the mother had been killed, who were missing out on the food distribution. We were able to feed this back to the Food Distribution Teams so that they could re-prioritize.

We also identified that patients being discharged from hospital with skin grafts or external fixators had, like everyone else, nowhere to live. GOAL then supplied every discharged patient with a 'discharge pack' of 'non-food items' including a mattress, blankets, mosquito nets, cooking implements, water container, water purification tabs and soap.

Personal safety and security

The supposed security dangers appeared to have been greatly exaggerated by some of the media. We never witnessed trouble of any sort and never felt under threat. That said, GOAL's security policies were strict. We were kept under curfew so that we could not leave the house after dark. We had a driver who brought us to the Hospital each day and got us home before nightfall. We did not leave the grounds of the hospital during the day. It was our impression that the Haitian Police posed more of a threat than any 'looters'. We were supplied with competent drivers. Driving in Port-au-Prince is definitely not for the faint-hearted. The best policy was to sit in the back seat, keep your eyes closed and pretend it wasn't happening.

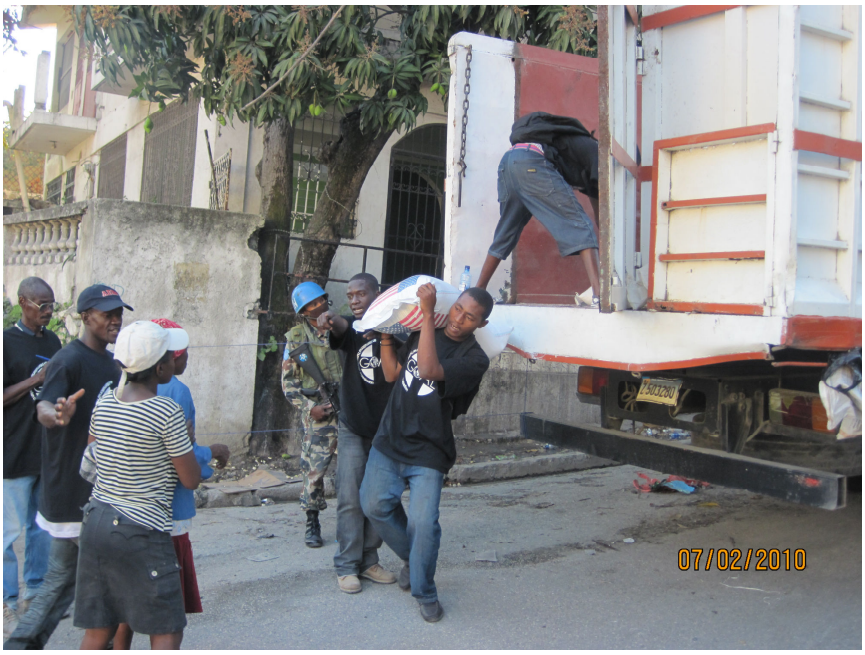
There were aftershocks in the days after the event. I slept through them all, but it was something in the back of your mind all the time.

Personally, I felt the greatest danger was malaria. At least 40% of the patients I saw had malaria. One of the Merlin medical staff was medically evacuated home with malaria. We were taking prophylaxis but the place was riddled with mosquitoes.

End of Mission

After three weeks, all of the GOAL medical team returned home. It was agreed with Merlin that as it was their facility, they would replace us with their own staff. GOAL would continue to help supply them with medical equipment and the 'discharge packs'. Dr Paul Kelly, Consultant in Emergency

Medicine from Wexford, working with Merlin, arrived to replace me. GOAL continues in Haiti concentrating on Water & Sanitation projects, structural engineering, waste clearing and continuing food and shelter distribution.



9: GOAL food distribution point

Summary

Having completed 3 weeks in Port-au-Prince, I feel our small medical team achieved a great deal. We provided a neighbourhood devastated by an apocalyptic event with high quality medical care in the short-term, allowing Merlin time to develop a more long-term definitive plan for the area. Having highly-trained consultant staff on the ground without doubt improved our ability to provide a high level quality of care. It was immensely satisfying work personally and the horrific personal stories from each patient will stay with me for ever.

The experience also allows our group to give invaluable feedback to GOAL on requirements in an Emergency Medical Response in the future. We know intimately what worked well, what didn't and what could be improved in the future. We would all be willing to share our experiences with any Irish agency planning to set up an Emergency Medical Response Team.

GOAL's organizational and logistical skills were hugely impressive. One cannot even begin to describe the difficulties in organizing anything in somewhere like Port-au-Prince. The work they are doing in Haiti is nothing short of superb.

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Sligo.

2nd March 2010