



Collaboration with

Health workers from Cuba are assisting in emergency situations around the world

Cuba's post-revolution focus on delivering free, accessible health care by providing widespread, subsidised medical training has resulted not only in dramatic improvements in all national health indices, but also the world's highest ratio of doctors to population, according to the Cuban Ambassador to Australia, Mr Pedro Monzon.

Mr Monzon said that with 11.8 per cent of GDP assigned to health, Cuba now had first world health standards that included an infant mortality rate of 4.5 per 1000 live births, an average life expectancy of 79 years and the eradication of common tropical diseases with free vaccination programs.

He said that Cuba now had around 79,000 doctors for a population of 11.3 million – a ratio of one doctor per 143 inhabitants – working in 267 hospitals and more than 400 neighbourhood clinics across the country.

Australia, in contrast, has an approximate ratio of one practicing physician per 330 people.

Mr Monzon was a guest speaker at the International Medical Development Symposium held in September last year at the College Headquarters in Melbourne.

He was invited to speak by Symposium organiser and the Chair of the College's International Committee Professor David Watters who felt it important that Fellows understood the Cuban health and international aid systems, given how often Australasian and Cuban surgical teams now meet in Pacific Island countries and Timor Leste.

Addressing the theme of the Global Burden of Surgical Disease, Mr Monzon explained to the conference the central focus placed on international medical aid by Cuba that now sees Cuban surgeons and medical teams working in areas of need around the world.

He said Cuban International Collaboration programs were based on the delivery of Cuban doctors to improve health outcomes where needed along with the provision of free medical scholarships in Cuba.

Cuban oral-maxillo-facial surgeon Dr Ivan removing an arrow embedded in the parotid gland. Assisted by Australian surgeon and Timorese scrub-nurse.



“Since 1963, Cuba has conducted collaborative programs in 108 countries involving more than 120,000 Cuban health workers within ‘medical brigades’.”



“This is implemented through an international mission of two years for every Cuban doctor and the design of a financial system in which Cuba shares the most important burden,” he told the conference.

“Since 1963, Cuba has conducted collaborative programs in 108 countries involving more than 120,000 Cuban health workers within ‘medical brigades’ that rotate every two years.

“At present, Cuban brigades are working in 66 countries, involving around 39,000 health workers, 17,000 of whom are specialists, many of them working in very difficult environments in (complex) places in Latin America, the Caribbean, Africa, North Africa, the Middle East, Asia and the Pacific.

“We have also begun cooperation with Kiribati, Tuvalu, Vanuatu, Nauru, Solomon Islands, Fiji, Palau and Tonga.”

Mr Monzon said Cuba was particularly pleased to have provided medical aid and education to Timor Leste following its Independence.

He said the co-operation began in 2004 and involved approximately 350 Cuban doctors working in-country.

“Cuban doctors now represented 80 per cent of the workforce at the National Hospital, 100 per cent of the workforce at the five district hospitals and 100 per cent of the workforce at the remote clinics,” he told the Symposium.

“Also 1000 scholarships have been given to study medicine in Cuba, and in 2013 the country will have around 1000 graduated doctors, a few of whom finished their studies in Timor Leste in a school founded by Cuba.”

Mr Monzon said the medical education component of Cuba's international aid programs was supported by the Latin American Medical School (ELAM) which provides six years of free educational scholarships to students from developing countries.

How it began

He said ELAM was founded in 1999 with the entry of 1,933 students from 18 countries, but that it now hosted 18,891 students from 90 countries.

“ELAM offers a Bachelor program consisting in an introductory year of Spanish language training for foreign students followed by first and second years of pre-clinical training, third to fifth years of studies in different medical universities and the sixth year as an internship to train in hospitals and neighbourhood clinics under specialist supervision,” he said.

“Almost all doctors then go on to complete an 18-month specialisation in Integrated General Medicine or ‘family doctor’ training.

“This is completed at hospitals and neighbourhood clinics (in a system that) could be considered the largest medical school in the world with 32 campuses across Cuba.

“In conclusion we could safely say that by far Cuba has the biggest health cooperation program in the world and that Cuba, with its relatively small population, territory and GNP has saved more lives in the developing countries than all the G-8 countries together.

“And all these efforts have been done despite 54 years of economic, commercial and financial blockade that includes everything from food to medicine.”



“In conclusion we could safely say that by far Cuba has the biggest health cooperation program in the world...”



Cuban doctors in a field hospital performing surgery on a victim of the earthquake which killed 90,000 people

Last year's International Medical Development Symposium was the third held by the College, but the first to be jointly convened and badged with the Australian Society of Anaesthetists, the Alliance for Surgery and Anaesthesia Presence, the Harvard-based Humanitarian Surgery Initiative and the International Society of Surgery.

Specialists and leaders in global surgery and anaesthesia attended from North America, Europe, Asia and the Pacific who delivered addresses on topics such as the measuring of unmet surgical need, the safety of surgery in low and middle income countries, essential surgical care and the role of organisations in training, support, advocacy and research.

Professor Watters said the address by the Cuban Ambassador was particularly helpful in allowing Australasian surgeons to understand the role and training of Cuban surgeons working across the Pacific and within Timor Leste

“Asking the Ambassador to speak at the Symposium was about increasing cooperation, collaboration and respect between Australasian and Cuban surgeons,” he said.

“Australasian surgical teams often work very closely with Cuban surgeons across the spectrum of our international aid program and the more we understand each other the better that cooperation can be.

“The Cuban international medical aid program is very large and there are some very fine surgeons doing very fine work which must be acknowledged.

“At the same time, however, there is always the challenge for doctors returning from Cuba who have been trained in a different medical language and different medical system who may need time to adjust and in some cases more training in order to provide the best possible care in their home environments.”

Wide recognition

The Project Director of the College's Australia-Timor Leste Program of Assistance for Secondary Services (ATLASS II), Mr Glenn Guest, applauded Cuba's medical aid program to Timor Leste both in the provision of surgeons and medical training for local students.

“This year will see the return of 600 medical graduates coming back to Timor Leste from training in Cuba and these numbers will result in a dramatic increase in the local medical workforce that will shape the country well into the future,” Mr Guest said.

“The challenge now is to integrate those newly graduated doctors who have been trained in a different language, different medical system and different culture back into the Timor Leste health system.

“Now, Cuba and the College in collaboration with the Ministry of Health are all working to select the best and brightest of those graduates to receive specialist training so as to provide the best possible secondary and tertiary health care to the people of Timor Leste.”

With Karen Murphy



Hidden benefits

Missing an essential element?

One of my favourite patients attended the other day – a normally convivial, middle-aged surgeon, *Ms Ng Magna*, with the usual health issues of many busy professionals at the same stage of life.

Embracing a slight tendency to be overweight, hypertension, hyperlipidaemia, and approaching type 2 diabetes, my patient could have been in better shape, but was at least making time for exercise and taking some holidays. She was tired, not sleeping well, and not quite the usual bouncy self.

The consultation was timed to discuss the latest results. I had done all the usual annual review tests, but also had included magnesium and red cell magnesium levels, something I've been checking more and more in recent years.

Though the serum magnesium was in the lower range of normal (0.72mmol/l), the red cell magnesium was low at 1.5mmol/l (normal range 1.70-2.90mmol/l). As only 1 per cent of the body's magnesium is in the blood, with 40 per cent in the cells, it is a better reflection of magnesium status to work on the red cell magnesium.

Many diets are deficient in magnesium, particularly where ready-made meals, refined and junk food or snacks comprise a significant part of the diet. There's less magnesium in today's food, particularly as, unless organic, it is normally grown in magnesium deficient soil.

Magnesium advocates also warn of an association between fluorination of water and deficiency, which is the result of insoluble magnesium fluoride deposits in bone and cartilage.

I advised *Ms Ng Magna* to try magnesium supplements promising her no ill effects other than the tendency of some magnesium salts to cause diarrhoea.

Ms Ng Magna was not sleeping well because she was suffering from night cramps. She blamed too busy a practice combined with the demands of and worries about teenage children causing too many topics of disturbance. But I can tell you once her night cramps were relieved by magnesium supplements, she started to sleep better and her hypertension improved.

The results

The improvement in her hypertension was the result of magnesium being a natural calcium channel blocker. Both minerals are important in smooth muscle function and must be in balance.

Each is a co-enzyme of many of the body's reactions (think back to your days of biochemistry), some important for glucose homeostasis. A number of patients respond to magnesium alone in regard to their tendency to be hypertensive.

In the medical mind, magnesium has not gained the clinical limelight that its brother mineral calcium has, despite

both being essential for neurological and muscular function. Magnesium [sulphate] is now recognised to reduce the likelihood of cardiac arrhythmias, pregnancy induced convulsions, and probably reduces the likelihood of cerebral vasculature to spasm.

However, given how dim and distant our biochemistry, we overlook that it is an essential co-enzyme for efficient glucose handling, and together with B vitamins helps activate enzymes for digestion, absorption and the utilisation of proteins, fat and carbohydrate. Magnesium may not be a wonder drug, but it is a missing element that plays a role in many common conditions.

The bibliography of peer reviewed evidence in high impact journals is impressive. There is a link between magnesium deficiency, hyperinsulinaemia and the laying down of body fat, particularly abdominal adipose tissue. My comment at the start about 'approaching type 2 diabetes' alluded to the years of hyperinsulinaemia during middle-age, the generation of adipose deposits, visible to many of us each morning as our struggle with weight gain despite reasonable discipline in diet, and worry about the eventual onset of diabetes in later life.

Magnesium is critical to cholesterol balance, dampening down the HMG-CoA reductase involved in its synthesis. It is used in reactions by enzymes that lower LDL (bad), raise HDL (good) and convert Omega 3's and 6's to prostaglandins. The magnesium deficiency could be contributing to *Ms Ng Magna's* hyperlipidaemia. The evidence suggests LDL is lowered 10-18 per cent and HDL raised by 4-11 per cent.

Magnesium may be all *Ms Ng Magna* will need. Time will tell. But it's safe and without terrible side-effects. She started on 150mg elemental magnesium (there are various salts and preparations) and, once certain she was not suffering from its laxative effect, increased in stages to 400mg.

When I next saw her she was smiling, she was sleeping well, her night cramps had gone, her blood pressure had dropped, mood bright and she felt generally better. Her teenagers hadn't stopped worrying her but then when does that happen? Maybe they should take magnesium too? But that's another story.

Dr BB G-Loved