

# Humanitarian aeromedical evacuation support to Timor Leste: a country in transition

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FROM SEPTEMBER 1999 through to early 2002, Australia provided aeromedical evacuation (AME) support to military personnel and United Nations civilians as part of the International Force for East Timor (INTERFET) and the subsequent United Nations Transitional Administration in East Timor (UNTAET) mission. In addition, humanitarian AME was provided for the people of East Timor, whose access to even the most basic health care had been critically affected by the abrupt withdrawal of Indonesian government services following the intervention of INTERFET.

On 20 May 2002, the new nation of the Democratic Republic of Timor Leste was born, and governmental power was transferred from UNTAET to the newly elected government of Timor Leste. Although the UN remained in Timor Leste as the UN Mission of Support in East Timor (UNMISSET), many services previously provided by the UN were withdrawn. One service to be withdrawn was humanitarian AME, but, because of ethical concerns, a plan for humanitarian AME based on risk mitigation was adopted, rather than abruptly ceasing all humanitarian AME.

## Geography and demography

The Democratic Republic of Timor Leste is a country of approximately 739 000 people (2002 figures),<sup>1</sup> and is situated on the eastern part of the island of Timor, one of the most easterly islands in the Indonesian archipelago. The western half of the island belongs to the Republic of Indonesia. The country is divided into 13 districts,<sup>2</sup> 12 of which are located in the eastern part of the island. The district of Oecussi is an enclave situated in West Timor. Atauro Island and Jaco Island also belong to Timor Leste.



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## Abstract

- ◆ From September 1999 until early 2002, Australia provided humanitarian aeromedical evacuation (AME) in East Timor in addition to AME for military and United Nations personnel.
- ◆ With the transfer of power to the new government on 20 May 2002, it was intended that humanitarian AME be discontinued, as it was not included in the new UN mandate, and the Timor Leste government had no plans to establish an AME service.
- ◆ Because of ethical concerns of health care workers, as many East Timorese would have no alternative access to health care, a new plan was proposed, involving strict criteria for humanitarian AME, with cases decided individually.
- ◆ This transitional service saved lives in the short term and allowed time for the new nation to develop its health care services, without long-term dependence on the UN.

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Timor Leste is extremely mountainous. Two main road networks serve the north coast and south coast of the island; however, in 1995, only 428 km of the 3800 km road network was paved,<sup>3</sup> and these were poorly maintained even before the events of 1999. Many of the roads are gravel and severely potholed, and most are narrow and wind through hilly terrain, making travel difficult, particularly in the rainy season. Oecussi and Atauro Island are not connected to the rest of the country directly by road.

Timor Leste is one of the least developed and poorest countries in the region, with 40% of the population living below the international poverty line of US\$1 per day as of May 2003. In 2003, it ranked as the fourth-poorest country in Asia, behind only Laos, Cambodia and Papua New Guinea,<sup>4</sup> and it is one of the 10 poorest in the world, with a per capita gross domestic product (GDP) of US\$478.<sup>2</sup> Although most of the population now live in the capital, Dili, many people still live in primitive conditions in isolated areas. About half of the population does not have access to clean water.<sup>4</sup>

Health statistics reflect the poor standard of living. Although somewhat improved since 1993, infant, under-5, and maternal mortality rates are all among the highest in Asia (Box 1),<sup>4,6</sup> and life expectancy is only 57 years.<sup>5</sup>

### I: Child and maternal mortality rates in Timor Leste compared with East Asia and the Pacific

	East Timor	East Asia, Pacific
Infant mortality rate (per 1000 live births)	88 <sup>5</sup>	35 <sup>4</sup>
Under 5 mortality rate (per 1000 live births)	80 <sup>5</sup> –125 <sup>4</sup>	43 <sup>4</sup>
Maternal mortality rate (per 100 000 live births)	830 <sup>6</sup>	not shown

### Health care in East Timor before 2002

Because of East Timor's geography and scattered population, health care delivery has always been problematic. The Portuguese, who colonised East Timor from the early 16th century until 1975, developed little infrastructure within the country and the few health care facilities that existed were concentrated in urban communities. As a result, many traditional healing methods continued in popular use, particularly in rural communities.<sup>7</sup>

### 2: United Nations mandates for East Timor missions

#### UNTAET<sup>9</sup>

- To provide security and maintain law and order throughout the territory of East Timor.
- To establish an effective administration.
- To assist in the development of civil and social services.
- To ensure the coordination and delivery of humanitarian assistance, rehabilitation and development assistance.
- To support capacity-building for self-government.
- To assist in the establishment of conditions for sustainable development.

#### UNMISSET<sup>10</sup>

- To provide assistance to core administrative structures critical to the viability and political stability of East Timor.
- To provide interim law enforcement and public security and to assist in the development of a new law enforcement agency in East Timor (the East Timor Police Service).
- To contribute to the maintenance of the external and internal security of East Timor.

UNTAET = United Nations Transitional Administration in East Timor.  
UNMISSET = United Nations Mission of Support in East Timor.

From 1976 to 1999, East Timor was occupied by Indonesia, which introduced a more modern, multi-tiered health care system, ranging from village health posts to surgical and advanced medical capabilities in Dili. Eleven hospitals were established in district capitals, with 60 smaller health centres throughout the country, staffed by 398 doctors and 1877 Timorese registered nurses.<sup>7</sup>

During the violence that followed the referendum in 1999, about three-quarters of the health care facilities were damaged and most health care professionals, who were Indonesian nationals, fled the country.<sup>8</sup> As a result, humanitarian aid agencies, including United Nations agencies, non-government organisations (NGOs) and church-based charities, entered the country to provide emergency health care. In addition, much humanitarian assistance was provided by INTERFET and UNTAET Peacekeeping Force (PKF) military medical teams, including those from Australia. A significant component of this support was UN AME services, which provided necessary lifesaving health care to areas where access to quality health care was otherwise limited or non-existent.

### The UN AME system

AME services in East Timor have been provided from the earliest days of INTERFET in support of military operations and other UN agencies. Although other organisations provided some AME capability, particularly during INTERFET, most AME services were provided by Australian Defence Force health personnel, using both ADF and UN civilian contracted aircraft.

By early 2002, UN AME services were primarily provided by two Royal Australian Air Force teams based in Dili, using UN contract aircraft and aircrew. Each team consisted of a medical officer, a nursing officer and a medical assistant. These teams conducted both tactical in-country AME (mostly rotary wing) and strategic AME (fixed wing) back to Australia. Two other in-country AME capabilities existed in East Timor at this time. The ADF had a four-person team (medical officer, nursing officer and two medical assistants) located with the Australian battalion at Moleana, using Blackhawk helicopters, and the New Zealand Defence Force medical assistant at Suai provided forward AME capability in UH-1H helicopters, often augmented by the collocated Australian Army medical assistant. Coordination of both tactical and strategic AME was provided by two Aeromedical Evacuation Operations Officers (AEOO), one ADF and one Egyptian Army, who were located in the Health Cell of PKF Headquarters.

During UNTAET, the primary PKF AME mission was to provide support to the PKF and other UN agencies.



*East Timor is extremely mountainous, and many people live in isolated areas with limited access to health care.*

However, the UN mandate included provision for humanitarian assistance (Box 2).<sup>9</sup> Hence, a secondary mission was to provide emergency AME support to the civilian community using spare capacity.

This secondary mission constituted most of the workload for ADF AME teams. From May 2000 to January 2002, 56% of AME patients moved by the Dili-based teams were local nationals, and these individuals were on average more seriously ill (based on priority level) than UN patients.<sup>11</sup> A higher rate (77%) was recorded between June and September 2000 (Flight Lieutenant R Mulcahy, unpublished report, Nov 2000). Trauma and obstetric problems were the two most common reasons for AME during this period.<sup>11</sup> Overall, it was estimated that as much as 68% of the in-country AME workload during the UNTAET mission was humanitarian (presentation to UNTAET PKF commander, 18 May 2002). UN AME was an essential component of the interim health care system in East Timor between 1999 and 2002.

## **A health care system for an independent East Timor**

By September 2001, most NGOs had left East Timor at the request of the fledgling Timorese Ministry of Health, and the country began rebuilding its health care system. Health was given a high priority in the National Development Plan, second only to education and representing 10% of government spending.<sup>4</sup> The foremost health priority was promotion and prevention, with programs including vaccination and basic public health measures. This was to be closely followed by primary curative care, and the

development of a comprehensive health care system, including basic hospital care, that would be affordable and accessible to all.<sup>12</sup> The plan was to develop a tiered health care system based on the Indonesian model. As well as further developing the main referral hospital in Dili, it was planned to redevelop regional hospitals with surgical capabilities in other districts.

Two principal concepts underpinned the plan for a comprehensive health care system. The first was that primary health care should be available within 4–8 km<sup>2</sup>, or a 2-hour walk,<sup>12</sup> from every home in the country. The second concept was to build an early referral service and efficient evacuation to higher echelons of care.<sup>2</sup> AME was not part of this plan, as it was perceived to be too expensive and impractical for such a poor country.

By May 2002, the Ministry of Health had reached the second phase of its rehabilitation and development program. Health care was being provided to all 13 districts, with surgical capability available at two locations. About 80% of the population had access to some form of health care, with the average walking time to a health centre being 70 minutes.<sup>2</sup> However, the country was still well short of its goal of a network of 63 community health centres, 85 health posts and 116 mobile clinics.<sup>8</sup>

One major reason for the delay was that so few Timorese health care professionals were left in the country. Post-INTERFET, only 12 Timorese doctors remained. The Ministry of Health estimated that 25 district medical officers and 27 medical specialists were required to deliver adequate health care, with the deficit to be made up with staff recruited internationally.<sup>2</sup> However, recruitment was slow and had not been completed by May 2002.

The lack of staff and facilities exacerbated the inadequate referral system. The unpredictable nature and



*Health care in Timor Leste, although improving, is well below Western standards (note the dog keeping this patient company).*

### 3: UNMISSET criteria for humanitarian aeromedical evacuation

Criteria	Comment
Priority 1 only (life threatening)	To be confirmed by a medical officer on the ground (where possible).
No alternatives	All alternatives for evacuation and treatment explored, and none available.
Avoid adverse conditions	Bad weather, night, unapproved landing zones.
No dedicated Priority 2 and 3 AME.	May use scheduled UN service. Possible exceptions Oecussi, Atauro.
Determine case by case at AEOO's discretion.	Oecussi and Atauro – special cases
Create an ongoing auditing process.	Feedback to UN administrative staff.

AEOO = Aeromedical Evacuation Operations Officer. AME = aeromedical evacuation. UNMISSET = United Nations Mission of Support in East Timor.

relatively high cost of health care delivery had led to lack of faith in the system. Patients tended to rely on traditional practices and only presented to Western-style health care facilities very late in the course of illness, if at all. With the difficulties in accessing many areas by road, especially in the rainy season, air transport was often the only way to deliver these patients to the care they needed with the appropriate expediency. The situation in Oecussi and Atauro Island was especially critical, as there was no surgical or obstetric capability in these areas and no road access to the rest of the country. The United Nations AME system linked outlying areas to definitive care in Dili while this health care system was developed.

### The transition to self-government

On 20 May 2002, the new nation of Timor Leste was born; this marked the transition of governmental power from UNTAET to the newly elected government of Timor Leste. Even though the UN was to remain in Timor Leste as UNMISSET, many services previously provided by the UN were withdrawn. This was supported by the new government, as it allowed the nation a degree of autonomy. The reason for this was political — many Timorese had become somewhat frustrated with the UNTAET administration and the slow progress toward independence.<sup>7</sup> Therefore, it was important that the new government appear to be self-sufficient and not a puppet of the UN. It

was also important that any sense of dependence that the Timorese people had on the UN be minimised as quickly as possible in the interests of the long-term future of the country.

In April 2002, the UNTAET Director of Administration instructed that humanitarian AME was one of the services to cease. There were several reasons behind this decision. From the government's perspective, the decision was consistent with its overall policies of standing alone, reducing its dependence on external agencies and encouraging the local population to use their own services. As local AME services were not planned for the East Timor health care system, withdrawal of these services at some time was inevitable.

From the UN's perspective, there were also several reasons for ceasing AME services. The cost was a potential consideration, although, as the assets were already in place and contracts signed, this was unlikely to be a significant concern. Of more concern was that UNMISSET was a mission of support rather than a Transitional Authority, and, unlike UNTAET, the UNMISSET mandate did not include humanitarian assistance (Box 2).<sup>10</sup>

This led, in turn, to liability concerns. With the aircraft, aircrew and AME crew either employed under contract or from peacekeeping nations, the UN was sensitive about the implications if an accident occurred when operating outside the UN mandate, even while undertaking a life-saving mission. This was a reasonable concern, as flying conditions were often dangerous, with poor weather, difficult-to-find landing zones, poor communication with the medical facility concerned and limited night-flying capability.



An East Timorese patient is ventilated en route to Dili. As much as 68% of the in-country aeromedical evacuation workload during UNTAET was humanitarian. Photo by Squadron Leader Kath Stein.

## To support or not to support?

Although the decision to cease AME services was logical from a UN perspective, it created some major ethical concerns for PKF health staff, as, with the East Timorese health care system still far from mature, AME remained necessary to save lives, particularly in Oecussi and Atauro Island. In addition, this policy had the potential to cause dilemmas for PKF health care personnel in the field, who would be asked to offer humanitarian assistance when no other was available, but would then be unable to offer access to more definitive care in Dili via AME. Ceasing humanitarian AME would also reduce the experience value for ADF AME teams in transporting critically ill patients. On the other hand, providing these services could prolong Timor Leste's dependence on the UN and undermine the urgency to develop alternatives to AME in accordance with the Ministry of Health plan.

As a result of these concerns, PKF health care personnel developed a new humanitarian AME plan based on risk mitigation. Instead of ceasing AME support completely, a phase-down approach was suggested. A new policy was proposed which focused on the avoidance of adverse flying conditions and stricter criteria for emergency humanitarian AME. The criteria included provision of dedicated AME for Priority 1 patients only, on the condition that all other options had been pursued and discounted (Box 3). These criteria would be strictly enforced for AME to most parts of the country, but Oecussi and Atauro Island would be considered special cases because of their unique geography and lack of access to surgical care by other means. Responsibility for making the ultimate decision about individual AMEs remained with the AEOO, who would undertake an appropriate risk assessment on a case-by-case basis. The final part of the proposal was that a more comprehensive audit process would be implemented and regular feedback provided to the Director of Administration.

This system would reduce the overall number of AMEs, which would, in turn, reduce the risk to UN workers. This

new policy meant that life-saving humanitarian AME could continue, while providing an exit strategy to gradually reduce dependence on UN AME. It also allowed PKF health care personnel the opportunity to work with Timorese health care representatives at the district level to develop alternative evacuation and referral plans, with AME as a fallback. Most importantly, it provided a buffer to allow the East Timorese health care system to develop without unnecessary deaths. The UN Director of Administration accepted this compromise.

## The outcome

Humanitarian AME provided by ADF health care personnel has continued in Timor Leste, and many lives have been saved as a result. Its continuation was a short-term solution, but ADF AME crews remain in place there and, with the extension of the UN mission,<sup>13</sup> will do so until at least May 2005. Humanitarian AME remains a significant proportion of the workload of ADF crews based in Dili. From January 2003 to the end of February 2004, humanitarian AME accounted for 73% of the rotary wing AME and 52% of the total AME performed by Dili-based ADF crews (Wing Commander Heidi Yeats, Deputy Director — Health, Headquarters Air Command, personal communication, 30 June 2004). Humanitarian AME continues despite a helicopter accident, which injured both ADF personnel and UN contractors.<sup>14</sup>

There are still no plans for the government of Timor Leste to replace AME services once the UN departs. In fact, it was reported in June 2004 that the Ministry of Health was unable even to afford the spare parts and maintenance costs for four road ambulances donated by Australia in 2000.<sup>15</sup>

The Timorese health care system has undoubtedly matured somewhat since these decisions were made, reducing the need for humanitarian AME. For instance, media reports indicate that health care services have improved and that more births are now attended by trained



*Hope for the future? Through provision of humanitarian aeromedical evacuation, ADF health personnel have been able to buy the people of Timor Leste time to develop their own health care system.*

health care workers.<sup>16</sup> However, infant and maternal mortality rates remain the highest in the region,<sup>17</sup> and the prognosis for those becoming unwell in remote areas of the country is still poor. This is well illustrated by the case of a 12-year-old girl who collapsed and was administered traditional medicine by her family, in the belief that she had succumbed to black magic. When the girl died a few days later, she was found to have asphyxiated because of a worm infestation, a readily treatable disease.<sup>18</sup> People will continue to die in Timor Leste who would not do so in Western countries. However, there is hope for the future, as demonstrated by the strength and determination of the Timorese to become a self-sufficient nation.

## Conclusions

As discussed elsewhere,<sup>19,20</sup> military health care professionals on peacekeeping operations often find themselves caught between the humanitarian impulse to provide care to all and the long-term good of the country in which they serve. Often, in the absence of formal guidance, they must themselves become political decision-makers, striking a delicate balance between providing high-technology, Western-style health care services to save lives in the short term, while avoiding dependency and assisting the country in the long-term development of a sustainable health care system. In this case, it appears that an equitable balance was reached. By providing services in this transitional period, ADF health care personnel have been able to buy the people of Timor Leste time to develop their own health care system and ultimately care for themselves.

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## Competing interests

None identified.

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