



## **The changing face of prehospital care in New Zealand: the role of extended care paramedics**

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Since 2001, changes in the delivery of health care have increased demand on emergency ambulance services. This was highlighted by the Ministry of Health submission to the Health Select Committee review on the provision of ambulance services.<sup>1</sup> Reductions in after-hours general practice cover coupled with fees for services have made many communities more reliant on ambulance care to attend to their acute medical needs, and this has increased the demand for ambulance transport to public hospitals.

In some parts of New Zealand, the problem is compounded by a shortage of general practitioners (GPs) and the inability of some patients to find one with whom they can register. Over the same period, District Health Boards have seen a steady increase in the number of patients presenting to Emergency Departments; a 20% overall increase since 2004-5 (23–25% in the Wellington region).<sup>2</sup> This increased workload has affected the ability of Emergency Departments (EDs) to cope with the volume of patients. The traditional model of ambulance service delivery contributes to the problem as an average of 75% of patients attended by Wellington Free Ambulance have been transported to an ED and in some parts of the country this figure can be as high as 90%.

In May 2009, Wellington Free Ambulance (WFA) initiated a new model of care, entitled *Urgent Community Care (UCC)*, in the Kapiti Coast District. This area of 48,900 inhabitants (June 2009) includes a high proportion of over-65s (twice the national average)<sup>3</sup> and is situated an hour by road from the nearest acute general hospital. The UCC initiative directs ambulance staff trained in additional clinical skills to patients with conditions amenable to treatment in their own homes or local communities. This has shifted the focus of the ambulance service towards taking healthcare to the patient and away from automatically transporting the majority of patients to hospital. The key features of this model are:

- The appointment of Extended Care Paramedics (ECPs) to assess and treat patients in their homes and local communities
- Improved patient experience, especially for the elderly and those with mobility problems
- Avoidance of unnecessary transfer to hospital<sup>4,5</sup> as well as a reduction in the numbers of patients with minor conditions having to wait longer for treatment in the ED
- More effective allocation of emergency ambulances and improved response times for potentially life-threatening conditions

To assist in achieving their goals, ECPs require ready access to appropriate local care pathways. They need to be able to refer patients to a range of primary healthcare professionals such as:

- General Practitioners
- District nurses
- Practice nurses
- Specialist nurses (wound care/diabetes etc)
- Mental health services
- Maori health
- Social care services

The operation of this initiative within a geographical limit helps to ensure familiarity and effective links with local community healthcare workers.

Following assessment by ECPs, patients may be:

- Treated and left at home
- Referred to the general practitioner or community health staff
- Transported directly to the ED or other appropriate medical facility

Urgent Community Care (UCC) schemes have been introduced with good effect in the UK over the past 5 years.<sup>6-8</sup> The NZ healthcare system is different and in some areas (such as the Kapiti Coast), there is a shortage of GPs which is not normally the case in the UK.

Initially, only the highest grade of paramedic was considered for entry to the ECP role and appointment was made after separate clinical and management interviews. A month's additional training commenced in April 2009 and was provided by staff experienced in establishing similar services in the UK, as well as the Medical Director for WFA. An ECP from the UK worked on shift with the new appointees during their first month in post. Since that time, a senior emergency nurse has joined the team and it is proposed that applications from experienced paramedics in the intermediate grades will now be considered.

The UCC pilot initiative was established in conjunction with Kapiti-EMS, a GP-led emergency response service. UCC has been operating 12 hours per day, 7 days a week, and is to become a 24-hour service in the near future. The duty ECP is based in a fast-response vehicle and is directed to 111 callers triaged by the ambulance communications centre as being potentially suitable for ECP assessment and treatment. Sometimes ECPs are called by front-line paramedics, or are asked to attend patients at the request of a GP or community healthcare professional (e.g. district nurse).

On arrival, ECPs make a comprehensive clinical assessment and determine the need for certain investigations or X-rays. They are equipped and trained to treat a range of conditions from minor injuries and wounds to asthma, uncomplicated infections, and painful non-serious conditions.

ECPs are authorised to use a range of medications appropriate for the acute phase, prior to clinical review by the appropriate local healthcare practitioner (e.g. a GP, nurse, or another ECP) the next working day. Referrals for local radiology have been accepted from ECPs, allowing fractures to be excluded in many patients.

The default position for ECPs is to arrange transfer to hospital if there is concern about the patient's clinical safety. They can activate emergency transfers to hospital by contacting their paramedic colleagues. Safety net principles are applied to ensure that decision making is appropriate and that patients are not exposed to any undue risk. These techniques include return visits to patients, liaison with the patient's GP or practice nurse, and telephone advice from the WFA Medical Director or ED consultants and registrars. ECPs may also refer selected patients directly to medical registrars. There is a strong focus on treatment guidelines, and regular training and education days combined with timely audit of all patient report forms by the Medical Director ensures that the ECPs receive regular feedback.

Relatively minor conditions are frequently encountered and treated. When the illness is more significant but amenable to treatment at home, the ECP arranges ongoing care with GP's, other community health professionals, or relatives. A revisit by the ECP often assists in avoiding unnecessary transfer to hospital.

Initial results have been encouraging. During the first 6 months of the pilot, only 38% of 583 patients attended by ECPs were transported to hospital as emergencies, compared with 63% in the three months preceding the initiative. Elderly patients predominated (49% were over 75 years old) and most suffered a primary medical rather than trauma episode (78% vs 22%). The system was activated via a 111 call in 74% of cases. ECPs currently handle 25-30% of the ambulance workload for the Kapiti District.

The New Zealand Ministry of Health has recognised the potential value of UCC and funded this pilot scheme but benefit has to be proven for both patients and funding authorities, so a research programme is currently underway. This is focused on determining the clinical outcome of patients treated, whether the skills profile of the ECPs is adequate, and whether there is scope for strengthening or reconfiguring community care links for the ECP-treated group.<sup>8</sup>

Early feedback from patients, Kapiti PHO, and community representatives is very positive but a patient satisfaction survey will be undertaken. No serious or sentinel events attributable to ECP care have occurred thus far.

Experience obtained from this and similar overseas initiatives suggests to us that the spectrum of care provided by ambulance staff in New Zealand is changing and that it will more closely match the needs of local communities in the future.

**Competing interests:** None known.

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