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Study finds Hout Bay community-based paramedics are effective and save lives

In case of an emergency, time is everything, as prolonged response times are thought to contribute to higher mortality rates. New research in the [African Journal of Emergency Medicine](#) found that Hout Bay Volunteer Emergency Medical Service (HBVEMS) managed to save lives by meeting a target of arriving on the scene within 15 minutes for life-threatening calls.

According to the study, faster response times might include tacit knowledge of the roads, especially in Imizamo Yethu and Hangberg, where roads and houses are not well addressed, as well as the existing relationships with the neighbourhood watch and local leaders.

HBVEMS typically responds from within Hout Bay, and this has led to a 42,3% faster response than Western Cape Government Health: Emergency Medical Service (WCGH: EMS), which usually responds from outside Hout Bay, having to navigate traffic and travel further. This finding has led the authors to conclude that volunteer emergency medical services can be sustainable, are necessary, and can work.

The study analysed data on the recorded incidents between 1 January 2015 to 31 December 2020. When actively in service, the study found that HBVEMS alleviated pressure on the WCGH: EMS by freeing up resources for the WCGH: EMS ambulances to respond to other incidents.

HBVEMS is thought to be the oldest volunteer ambulance service in Cape Town. It was started in 1994 by a group of residents that were concerned with the response times to medical emergencies within Hout Bay. Despite the relatively short distance to 24 hours emergency medical facilities and formal EMS bases, responses were and still are delayed due to the mountainous topography.

"It was argued that developing a community response system within Hout Bay would result in shorter response times and consequently improved patient outcomes," said Dr Charmaine Cunningham of the University of Cape Town's Division of Emergency Medicine and lead author of the study.

Cunningham said access and egress into Hout Bay are restricted to three two-lane roads via the mountains. This, she said, causes delays in medical emergency response times which is further hindered during times of high traffic flow.

Due to its voluntary nature, HBVEMS mostly operates after hours when the volunteers are free from their daily careers. Between 2015 and 2020, the study found that HBVEMS responded to approximately 12% of all Hout Bay area call-outs, equating to 2187.16 hours of operational time spent on calls. This excludes standby time.

"There was an expected noticeable difference between response times for ambulances based within Hout Bay, and those from outside Hout Bay. Despite a decline in average call-out rate during the 2020 Level 5 lockdown, the volunteers were able to do more shifts and thus more calls within the community," she said.

Cunningham and her colleagues said there is a growing need for emergency medical care, and volunteer ambulance services can have a meaningful impact on the continent. The findings support the benefit of developing community-based ambulance services, especially in areas that are remote due to distance or topography.

"The model can be expanded to other communities across the continent. A key factor for success is actively managing stakeholder relationships which include community-based relationships as well as governmental or formal emergency medical services relationships," she said.

The change in paramedic legislation in the past decade poses a threat to HBVEMS and other volunteer services that rely on short course EMS practitioners to join the service.

"Historically the short course training programmes regularly produced recruits for the service with potential volunteers being able to study for as little as five weeks before volunteering. The majority of the volunteers have full-time employment external to emergency care, and this relatively low barrier to entry allowed them to become involved. Paramedics that hold a degree are more likely to be in full-time employment within emergency care and the longer training courses (the minimum being one year's full-time study) present a significant barrier to gaining new volunteers," noted Cunningham.

Since the change in paramedic legislation, Cunningham said there have been fewer new paramedics joining the service. "The impact of the discontinuation of short courses on the sustainability of volunteer organisations should be considered by policy-makers to ensure the sustainability of volunteer organisations and the contributions made by such organisations. This could include strategies such as allowing students to work on volunteer services as part of clinical rotation, alternative and realistic training options, close integration with the full-time state EMS organisations, and arrangements that are mutually beneficial for both whilst staying patient-focused."

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