

WhatsApp use by Argentina ambulances associated with faster heart attack treatment

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WhatsApp use by ambulance doctors in Argentina was associated with faster treatment of heart attack and lower mortality in an observational study presented today at the Argentine Congress of Cardiology (SAC 2017). The free messaging application was used to send diagnostic electrocardiograms (ECGs) directly to hospital catheterisation (cath) laboratories, enabling patients to bypass the emergency department.

The annual congress of the Argentine Society of Cardiology is being held in Buenos Aires from 19 to 21 October. Experts from the European Society of Cardiology (ESC) will present a special programme.

"More than 42 000 heart attacks occur in Argentina every year," said first author Dr Nicolás Lalor, cardiologist, Cardiovascular Institute of Buenos Aires - Sanatorio Anchorena, Argentina. "The mortality rate from ST-segment elevation myocardial infarction (STEMI) has declined in recent years but is still 8-12%."

"Patients have the best chance of survival when they receive primary angioplasty to restore blood flow to blocked arteries within 90 minutes of contacting the health service," he continued. "Numerous delays can occur before and after patients reach the [hospital](#) which lead to this [treatment](#) target being missed."

This study assessed whether the delay between first medical contact and primary angioplasty could be reduced by ambulance staff using WhatsApp to notify hospital staff that a patient was coming for

treatment.

The observational study prospectively enrolled 896 patients with STEMI between 2012 and 2016 who were treated at Instituto Cardiovascular de Buenos Aires and Sanatorio Anchorena in Buenos Aires. Hospital admission occurred by three routes: 1) patients arrived at the [emergency department](#) by their own means (211 patients); 2) ambulance delivered patients to the emergency department (325 patients); 3) ambulance delivered patients to the cath lab (emergency room bypassed) (360 patients).

In group 3, an ambulance doctor conducted an ECG on arrival at the patient's home or public place. If STEMI was the diagnosis, the ECG was transmitted using WhatsApp on a smartphone to a cardiologist at the hospital to confirm the diagnosis and prepare the cath lab. On arrival at the hospital by ambulance, patients were taken directly to the cath lab and did not stop in the emergency department.

Treatment times and outcomes were compared between patients who received an ECG diagnosis of STEMI in the emergency room (groups 1 and 2) and those who received an ECG diagnosis by ambulance staff and were directly transferred to the cath lab (group 3).

The primary objective was to determine if direct transfer to the cath lab led to quicker treatment. Secondary objectives were to evaluate the impact of direct transfer on improvement of left ventricular ejection fraction during hospitalisation, length of hospital stay, and mortality.

The researchers found that the time between symptom onset and treatment was significantly lower in group 3 (150 minutes) compared to groups 1 and 2 (200 minutes) (p

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