

Has the proportion of patients diagnosed with myocardial infarction that receives a 12 ECG in the prehospital setting in the UK changed over time?

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Background: Two thirds of patients with Acute Myocardial Infarction (AMI) arrive at hospital in the UK by ambulance, usually staffed by paramedics who routinely carry out 12 lead ECGs for patients with suspected heart attack. However, recent research found that prehospital ECGs were missing for 40% of these patients, with better survival prospects in those who had received one.

Purpose: We are investigating reasons for non-administration of 12 lead ECG for patients diagnosed with AMI, in order to develop an intervention to improve practice. Firstly we explored whether the proportion of patients with AMI that receive a prehospital ECG has changed over time.

Methods: Interrogation of national UK national heart attack register (MINAP) database, extraction of data related to patients brought by ambulance by year.

Results: The cohort of patients diagnosed with AMI and taken to hospital by ambulance ranged from 32410 in 2005 to 60265 in 2017; the proportion with a prehospital ECG increased steadily across this period, from 51% to 78%, an average increase of 1.9% per annum.

Conclusions: Evidence based guidelines supporting the use of 12 lead ECG by ambulance paramedics may have contributed to improvements in care. However, 1 in 5 patients brought to hospital by ambulance still does not receive an ECG prior to arrival, which we know compromises their survival prospects. In order to optimise care we need to establish whether non-administration is a question of misdiagnosis, patient refusal or lack of availability of trained crews/equipment.

UK prehospital ECG delivery over time

Year	Conveyed to hospital by ambulance	Prehospital ECG recorded (%)
2005	32410	16465 (51)
2006	44568	26545 (60)
2007	49806	30303 (61)
2008	51812	33431 (65)
2009	60478	38503 (64)
2010	717*	490 (68)
2011	41394	28530 (69)
2012	57955	40940 (71)
2013	57006	41121 (72)
2014	57932	42532 (73)
2015	57684	43270 (75)
2016	57696	44080 (76)
2017	60265	46804 (78)

*High level of missing data in MINAP database related to conveyance, unknown reason.