allocation per call and a range of time measures for different call types for 1 year before and 7 months after implementation, and used time series regression models to compare changes between intervention and control sites adjusted for seasonality, call volumes and hours lost at hospital handover.
Results The proportion of emergency calls responded to within 8 min increased by 6.6% in the intervention group. The 95th percentile time from call connecting to EMS and a resource arriving on scene reduced by 9.45 and 166.6 s for life-threatening and emergency calls respectively. There was a statistically significant reduction in average resources allocated per incident of −0.1 for life-threatening calls, −0.06 for emergency and −0.12 for urgent in the intervention group – equivalent to an additional 10 243 whole resources available to respond per week in England. There was no change in service re-contact.
Conclusion Additional call triage time does not lead to a reduction in response time performance, improves efficiency of resource use and is safe for patients.
Conflict of interest None
Funding NHS England.

79 WHAT IS THE ECONOMIC IMPACT OF DIFFERENT TYPES OF EMS RESPONSE?

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Aim Modern EMS provides a range of response options including management by:

1. telephone,
2. management and discharge or
3. referral at scene or transport to hospital.

We used linked data of ambulance records, hospital records and national mortality statistics for all calls to one ambulance service in England in a 6 month period to assess the costs associated with each response option.
Method We calculated costs for each type of EMS response using the linked data and NHS Reference Costs. We then used two risk adjusted indicators measuring:

1. rates of telephone or at scene management attending ED or admitted to hospital within 3 days and
2. rates of patients taken to hospital and discharged from ED without treatment to identify matched cases of correct and incorrect response decisions to compare costs of each decision type.

Results 1 82 566 cases were included with 5.6% managed by telephone (mean cost £125), 28% discharged at scene (mean cost £415) and 66.4% transported to hospital (mean cost £1745). Mean cost of an incorrect transport decision was an additional £313 and an incorrect non-transport decision £237 per case.
Conclusion The main reason for differences in response types is inpatient costs for admitted patients. Improvement in decision making about whether or not to take people to hospital could potentially result in substantial savings in urgent care system costs.
Conflict of interest None
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80 DEVELOPMENT OF RISK ADJUSTED INDICATORS OF EMS PERFORMANCE AND QUALITY (PHOEBE PROGRAMME)

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Aim Measurement of EMS performance and quality has been confined to response times or a small number of acute conditions and do not account for patient or system factors that may affect outcome. We developed a small set of consensus derived risk adjusted indicators to potentially measure EMS performance reflect and assessed what risk factors need to be included.
Method We developed 5 indicators:

1. mean change in pain score,
2. % accuracy of identification of 16 emergency conditions,
3. % inappropriate decisions to leave patients at scene,
4. % patients transported to ED not needing hospital facilities,
5. % survival to admission and 7 days for 16 emergency conditions.

We also created a linked dataset of ambulance, hospital and mortality data. For each indicator we used a 3 step process to build multivariable statistical models using a range of variables including age, gender, condition, environment (deprivation), health area and treating hospital.
Results 1 87 387 cases were available. One indicator (mean change in pain score) did not require risk adjustment. For all other indicators age, condition (or call reason) and deprivation were included in the final model. Gender was also included in indicators 2, 3 and 4 and hospital had an effect in indicators 4 and 5.
Conclusion We have created a set of indicators to reflect care for a broad range of EMS callers and care provided. Overall, a range of factors influence outcome and risk adjusted indicators are needed to provide fair and accurate assessments of performance.
Conflict of interest None
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81 RECRUITING LAY-PERSONS TO OUT-OF-HOSPITAL CARDIAC ARRESTS THROUGH A SMARTPHONE APPLICATION BASED RESPONSE SYSTEM

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Aim Despite their lifesaving potential, automated external defibrillators (AEDs) are seldom used in out-of-hospital cardiac arrests (OHCAs). Activating lay-persons to transport AEDs to nearby OHCAs holds the potential to increase bystander defibrillation and improve OHCA survival. The 'HeartRunner'-system is a mobile-phone position system which activates lay volunteers through a smartphone application to attend in