Emergency calls to ambulance services and conveyances to emergency medicine departments are rising long term in the UK [1, 2]. Evaluations of the success of ambulance service provider initiatives to safely reduce conveyances are relatively few. Recent systematic reviews on interventions to reduce use of unplanned medical care [3, 4] report no evaluations of a programme similar to the initiative described below.

We report on a General Practitioner (GP) Advice Line (phone) at the UK East of England Ambulance Service Trust (EEAST) Norwich dispatch centre. The GP Advice Line provides extra clinical support after ambulance arrival but before transport to an emergency department. If, upon arrival, there is no condition threatening to life, limb or sight (list of excluded conditions below), and if otherwise the next pathway step would normally be to transport the patient to the emergency department, then all ambulance crews must liaise with a GP at the dispatch centre to assess if another pathway might be more appropriate. The advice service operates from 4 to 11pm, coinciding with peak demand. The GP discusses with paramedics patient history, observations, assessment and clinical impression to determine if there is a more appropriate pathway other than transfer to an emergency department. Due to data confidentiality issues, the GP does not have access to the patient's full records but uses clinical knowledge and experience to find an appropriate disposition for the patient.

This programme expanded to most of eastern England from autumn 2015. Available evaluation data cover a fourteen-day pilot period in February 2015. During the pilot period, the Advice Line was available only to crews who had determined that conveyance to the Norfolk and Norwich University Hospital Accident and Emergency Department (NNUH A&E) was the next appropriate step on the clinical pathway. This restriction about destination was to obtain a clear impact assessment, and also to ensure the relevance of the GP's local knowledge of service provision.

All patients expected to be conveyed to the NNUH A&E were eligible, except for the following groups, who were transported immediately without referral to GP Advice:

- Time critical and severely systemically unwell patients
- Trauma positive patients (accessing NNUH as a Trauma Unit)
- Patients destined for primary percutaneous coronary intervention
- Acute Stroke pathway patients
- Specific patient pathways (eg Vascular)
- Eye Trauma
- Patients that had already been assessed by a GP/HCP
- Inter-hospital transfers (acute hospital to acute hospital)

In the ten days prior to the pilot study period, 65.6% (600) of 914 call-outs resulted in conveyance. During the pilot period, 85 (9.1%) of the 937 call-outs were referred for GP Advice, and 60.5% (567) of the total 937 call-outs subsequently led in conveyance. A Chi-square test of independence was calculated comparing the incidence of conveyance during the pre-pilot to pilot periods. A significant difference was found: $\chi^2 = 5.015$, $p = 0.025$.

Table 1 shows pilot study outcomes following 85 incidents of ambulance attendance with GP Advice (% of 85 calls with each outcome). Other outcomes available but not used were: palliative care support, home visits by community nurse or matron, recommendation to visit pharmacy, referral to social services or attendance by community first-aiders. During the pilot period, just 11.8% of patients in the Advice Line evaluation were transported to NNUH A&E. It is very likely that 100% of patients would have been transported to NNUH A&E had the GP Advice Line not been available. Net cost savings to the ambulance trust during the pilot period approached £17,000 [5]. No evidence of

undesirable outcomes for patients was found, and there was positive feedback from ambulance crews, EEAST managers and GPs staffing the Advice Line.

Table 1. Outcomes of 85 GP Advice Line calls in Feb –March 2015.

Transport for care at a medical facility	**Other (care at home or in community)**
11.8% Accident & Emergency 7% Acute Medical Unit 3.5% Emergency Assessment Unit 2.4% to community hospital	3.5% referred to own GP 37.7% of calls referred to out of hours GP surgery services 34.1% remained at home with advice

More rigorous analysis of the EEAST GP Advice Line and similar programmes is desirable but requires dedicated funding for this specific purpose. The data ordinarily available to EEAST cannot show if patients triaged by the GP Advice Line travelled to A&E soon afterwards, or had worse health outcomes or reduced satisfaction. Only a detailed study of individual patient records (from GP records or hospital visits) can show if medical care was merely delayed rather than prevented, or if individual patient outcomes were worse because of the Advice Line.

We know of at least six other UK Ambulance Trusts that run / have run services similar to the EEAST GP Advice Line since 2011. However, no formal evaluation reports for any of these schemes are available.

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Conflicts of interest

None.

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