Environmental Leadership and the ‘Green’ ED

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Aims, Objectives and Background The climate crisis is the biggest health threat facing humanity and healthcare accounts for approximately 5% of the UK’s carbon footprint. To address this, the NHS has set the ambitious target of achieving net-zero emissions by 2040. This raises the question as to how emergency departments – sites of resource-intensive clinical activity – can be engaged appropriately on environmental sustainability. Can a standardised approach be developed to hasten and consolidate efforts? To test this, we developed the GreenED framework. The aim was to trial a set of actionable criteria that could be implemented by any ED seeking to measure and reduce impacts, and increase staff engagement. It is designed to be easy to implement in the context of the emergency care crisis, and administered by RCEM. To our knowledge, this is the first framework in the world specifically designed for use in EDs.

Method and Design The framework is modelled on UCL’s successful LEAF programme for sustainable laboratories. Criteria were drafted based on a review of literature in healthcare sustainability relevant to emergency care, and structured into bronze, silver and gold levels based on anticipated feasibility. ED staff in 8 departments across England were then recruited to pilot bronze level. Following an induction session, participants were engaged via monthly meetings, providing updates on progress and sharing approaches and challenges. Verbal feedback and written submissions were collected.

Results and Conclusion Sites attempted as many actions as possible; most achieved at least 3 criteria. Identified obstacles were lack of senior support, guidance on how to implement changes, and time for sustainability work. Through both measurable impacts and qualitative feedback, this pilot has shown a clear demand for reducing environmental impacts, but significant challenges impeding progress. To continue leading in this we need to ensure senior buy-in and dedicate resources towards improving the sustainability of everyday departmental practices.

Anaphylaxis Case Note Review – A Retrospective Observational Study

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Aims, Objectives and Background Anaphylaxis is seen relatively frequently in the emergency department, and if not managed promptly and appropriately, is associated with significant morbidity and mortality. Often patients are admitted for extended periods of observation due to fears that they may develop a biphasic reaction. NICE has recently updated its guidelines on this but acknowledges the sparsity of research investigating the appropriate length of the observation period. The purpose of this study was to identify the frequency of biphasic reactions and what period of observation would be sufficient for patients following attendance with anaphylaxis.

Method and Design This was a retrospective observational study which looked at the presentation, treatment and outcomes of patients presenting to Royal Derby Hospital emergency department with anaphylaxis over the last 10 years. The patients were identified from clinical coding completed at the time of discharge and the information was attained from a combination of electronic and paper notes. We defined a biphasic reaction as a recurrence of anaphylaxis without re-exposure to an allergen following a complete resolution of symptoms and normalisation of observations.

Results and Conclusion A total of 377 patients were identified as presenting with anaphylaxis from the discharge coding. After case note review, 346 of these were concluded to have been true anaphylaxis (examples of those excluded were hereditary angioedema and ACE-inhibitor related angioedema). 321 (93%) were given intra-muscular adrenaline at some point and 244 (70%) were admitted to hospital for further treatment or observation. Of the 346 cases included in the study only 5 (1.4%) met the criteria for a biphasic reaction. Interestingly, 1 patient was responsible for 3 of those 5 attendances. The results of our study strongly suggest that the risk of a biphasic reaction is significantly less than previously thought and that admission for prolonged observation may be unnecessary in the majority of cases.

Patient-Reported Outcome Measure for Older People Living with Frailty Receiving Acute Care (PROM-OPAC): A Programme of Development and Field-Testing

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Aims, Objectives and Background Acute healthcare outcomes for older people living with frailty are not meaningfully...
measured using only service delivery metrics (time targets) or broad outcomes (mortality). This programme developed and field-tested a novel Patient Reported Outcome Measure (PROM).

**Method and Design** 1: To define important healthcare goals, interviews were conducted with older people living with frailty during acute care.

2: A systematic review searched for measures previously used for older people with frailty in acute settings. These measures were appraised for content validity with lay collaborators and patient participants.

3: Some areas identified in [1] had no existing measures, so novel questions were devised, improved, and reduced using co-creation and cognitive interviews with lay collaborators and patient participants.

4: The resulting questions were field-tested for feasibility and psychometric performance with a multi-site cohort of patients.

**Results and Conclusion** 1: Acute healthcare outcome goals were classified under Autonomy (information, security, control) and Function (physical, psychosocial, symptom relief).

2: Four existing sets of questions measuring Function were identified. EQ-5D provided the best compromise between reliability and burden.

3: There were no existing measures of Autonomy, so seven novel questions were developed and scaled.

4: When Function and Autonomy questions were tested in 128 patients, median completion time was 12 minutes and most participants required researcher assistance. Mean inter-item correlation for novel items was 0.28 with adequate response distribution. Exploratory factor analysis (Table 1) indicated a three-factor structure (RMSEA, 0.043) with good internal consistency (Cronbach’s alpha, 0.73). Range for subscales, 0.62–0.77). 35% returned a post-discharge retest.

**Summary** From patient interviews, the PROM-OPAC was developed to measure Autonomy (seven novel questions) and Function (EQ5D). In-hospital and follow-up collection appeared feasible, although users required support to overcome accessibility barriers. Validation in multi-site cohorts is ongoing. Potential future applications include system-level metrics, service-level quality improvement, and patient-level shared decision-making.

<table>
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<tr>
<th>Item</th>
<th>% missing (N=128)</th>
<th>ML1 load</th>
<th>ML2 load</th>
<th>ML3 load</th>
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<td>I know the results of my tests and investigations</td>
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