Abstract G86 Table 1

	Ana-pen	EpiPen	Jext	Chi	Chi	All partici-pants (n = 120)
Scoring 6/6 for identical procedures	16 (40%)	13 (33%)	16 (40%)	ns	ns	45 (38%)
Scoring 4/4 for device specific procedures	36 (90%)	18 (45%)	22 (55%)	ns	0.0001	76 (63%)
Performing all procedures correctly 10/10	16 (40%)	8 (20%)	10 (25%)	ns	ns	34 (28%)
Successfully firing auto-injector trainer pens	39 (98%)	28 (70%)	39 (98%)	0.0024	0.0024	106 (88%)

Conclusions Only 28% of participants were able to perform the individual device's 10 steps correctly. Overall the trainer devices fired in 88%, with a failure rate of 2 to 30%; a clinically and statistically significant result. The Epipen's swing and hit delivery method may affect its successful delivery compared to the Jext and Anapen's methods.

G87 HOW MUCH DO JUNIOR DOCTORS KNOW ABOUT ANAPHYLAXIS?

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Anaphylaxis is a severe, life-threatening hypersensitivity reaction. NICE issued guidance in December 2011 regarding management of suspected anaphylaxis, the authors of which attribute suboptimal management to inadequate understanding by health care professionals.

Aim We aim to evaluate how suspected anaphylaxis was managed in a large NHS trust and to assess knowledge of trainees and final year medical students.

Method A retrospective case note analysis of patients under 17 years old coded with anaphylaxis between January 2007 and September 2012 comparing management to NICE guidance, was performed. This was supplemented by a survey (based on Advanced Paediatric Life Support guidelines) of junior doctors and medical students. Participants assigned twenty clinical features to 'allergy', 'suspected anaphylaxis' or' neither' and selected suitable management options.

Results Table 1 illustrates initial management of anaphylaxis in 71 analysed cases.

NICE provides guidance regarding discharge, compliance with which is highlighted in **table 2**. 66% of children had a known allergy; 72% of which were admitted with a reaction to their known allergen. 55% of children known to carry an adrenaline autoinjector used it correctly on this occasion.

The results of the survey are shown in **table 3**. Anaphylaxis recognition was poorer amongst Emergency Medicine trainees compared with General Practice and Paediatric trainees. Regarding management, lower scores were seen in the more senior paediatric trainees and general practise trainees.

Conclusions Our results identify aspects of good practise but also areas for improvement, especially regarding discharge information. The proportion of children being admitted with anaphylaxis to a

Abstract G87 Table 1

Initial Management	Percentage of children who received intervention (%)
Adrenaline IM (pre-hospital + in hospital)	66 (33; 33)
Antihistamines	89
Steroids	87
Oxygen	37
Fluids	17
Nebulised salbutamol	76

Abstract G87 Table 2

On discharge	Percentage of children (%)
Allergy clinic follow up planned	92
Issued with adrenaline autoinjector	69
Documented training in autoinjector use if given	73
Patients receiving discharge information about anaphylaxis	73
Patients receiving discharge information fulfilling the criteria stated by NICE	0

Abstract G87 Table 3

	Trainees	Final Year Medical Students
Number of respondents	94	184
Mean clinical features score (maximum 20)	11.9	11.2
Mean anaphylaxis features score (maximum 8)	7.0	6.5
Mean management score (maximum 6)	5.1	4.4
Percentage identifying need for admission under paediatrics	85%	86%
Percentage identifying need for allergy clinic follow up	88%	n/a
Percentage who felt competent to teach autoinjector technique	63%	n/a
Percentage who felt confident at recognising anaphylaxis independently	n/a	56%

known allergen and incorrect use of their autoinjector suggests a need to improve education. This project demonstrates that lack of trainee knowledge translates into clinical reality. We believe that improving trainee knowledge is vital in improving the management of anaphylaxis and as well as enabling doctors to educate patients and relatives.

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G88 MONITORING OF HEALTHCARE-ASSOCIATED INFECTION OUTBREAKS IN NEONATAL UNITS IN ENGLAND

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Aims Outbreaks of healthcare-associated infection (HCAI) in neonatal units (NNUs) have a significant burden of morbidity and mortality and cause substantial disruption and cost to neonatal networks. The number of NNU HCAI clusters in 2011 in England, their size and causative organisms, were estimated using currently available surveillance tools.

Methods Data derived from voluntary laboratory reporting (LabBase 2), national reference laboratories and a Health Protection Agency outbreak reporting tool (HPZone) were searched to identify potential NNU HCAI clusters. The analysis was limited to the most likely causative organisms (*S. aureus*, *Enterobacter* spp., *E. coli*, *Acinetobacter* spp., *Klebsiella* spp., *Pseudomonas* spp., *Serratia* spp.). Clusters were defined as: (i) any neonatal cluster or outbreak reported in HPZone; (ii) laboratory reports of at least 2 isolates originating from the same hospital and sharing the same VNTR or strain type, with at least one case below the age of 28 days, and with a maximum of 14 days between two cases, and (iii) 2 or more reports of the same infection in neonates in the same hospital in a 14 day period in LabBase. Cross linkage of the 3 data sources was then attempted.

Results 116 neonatal clusters including both colonisation and invasive disease were identified, involving at least 666 neonates. 43.4% of the clusters were MRSA, followed by MSSA (26%), *E.coli* (13%), *Enterobacter* (12%), and *Pseudomonas* (10%). There were on average 9.2 neonatal clusters per month (range 0–14). The median number of babies per cluster was 3 (range 2–80). When only bacteraemia samples were considered, *E.coli* was the most common organism accounting for 57% of clusters. The study likely underestimates the number of clusters due to a lack of standardised reporting. It was not always possible to fully characterise the clusters as formal outbreaks due to data limitations.

Conclusion This analysis identified a high number of HCAI clusters in English NNUs. A standardised approach to the definition, reporting, management and surveillance of NNU HCAI outbreaks is required to enable reliable outbreak detection and appropriate action.

G89 VERY LOW RATES OF SERIOUS INVASIVE BACTERIAL INFECTIONS IDENTIFIED IN A PROSPECTIVE THREE-YEAR SOUTH WEST LONDON AND SURREY POPULATION-BASED SURVEILLANCE PROGRAMME

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Aims Following the introduction of conjugate childhood vaccines and declining trends in meningococcal disease over the past decade, community-acquired serious invasive bacterial infections in children have become less common but hospital admissions continue to rise. The objective of this study was to estimate the incidence of serious culture-confirmed invasive bacterial infections in children within a geographically-defined population over a three-year period.

Methods Blood and cerebrospinal fluid culture (CSF) results for all children aged 1 month to 16 years admitted to five South-West London (SWL) and Surrey hospitals during 2009–11 were obtained at regular intervals from each hospital microbiology department and a web-based questionnaire completed for all children with a positive culture. Hospital-acquired infection was defined as a significant pathogen isolated from a blood/CSF culture taken >48 hours after hospital admission.

Results During 2009–11, 44,118 children had 46,039 admissions to one of the five Hospitals, equivalent to 25.8 admissions per 1,000 children resident in SWL and Surrey. Blood/CSF cultures were obtained during 44.7% (n = 20,578) of admissions and 7.4% (n = 1,530) had a positive culture. Of these, only 571 were defined as a clinically significant serious bacterial infection (SBI), equivalent to 37.3% of positive blood/CSF cultures, 2.8% of all blood/CSF cultures taken and 1.2% of all hospital admissions. The population incidence of SBI in SWL and Surrey was, therefore, 31.9/100,000, with the highest incidence among 1–11 month-olds (172/100,000), followed by 1–4 year-olds (34.3/100,000) and 5–15 year-olds (16.4/100,000). A third of the SBI (208/571, 36.4%), however, were hospital-acquired and, of the community-acquired infections, more than two-thirds (252/363, 69.4%) occurred in children with co-morbidities. The incidence of community-acquired SBI in previously healthy children in SWL and Surrey was, therefore, only 6.2/100,000, with the highest incidence among 1–11 month-olds (33.9/100,000), followed by 1–4 year-olds (6.5/100,000) and 5–15 year-olds (3.2/100,000).

Conclusions Although a SBI was suspected in almost half of all childhood hospital admissions in SWL and Surrey, a significant pathogen was identified in only 3%, mainly among children with pre-existing co-morbidities. Improved targeting of children at very low risk of a SBI at presentation will facilitate increased management of unw.

G90 RANITIDINE TREATMENT IN PRETERM INFANTS AND THE PREVALENCE OF ATOPY AT TWO YEARS OF AGE

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Background Acid suppression treatment has been linked to an increased incidence of allergy in adults. We evaluate how ranitidine, widely used off-label to treat gastro-esophageal reflux symptoms in neonates, may impair peptic digestion, increasing the risk of sensitization to digestion-labile food antigens and thus increasing the prevalence of atopy.

Methods We carried out a retrospective review of preterm infants of between 26 and 37 weeks gestation admitted over a two-year period between April 2008 and March 2010. Those preterm infants treated with the H_2-receptor antagonist ranitidine for more than seven days were identified. A control group of preterm infants who did not receive treatment was selected by matching gestation, birth weight and disease severity using a validated scoring method. We analysed both maternal data (mode of delivery, use of intrapartum antibiotics, prolonged rupture of the membranes, sepsis) and neonatal data (birth weight, gestation, interventions,