Conclusion This pilot study may suggest the presence of sufficient pertussis seroimmunity rates in the studied mothers-neonates pair. Still, there were some failures in immune acquisition probably due to waning of immunity with age. Transplacental passage of pertussis antibodies may not confer similar seroimmunity to pertussis in neonates as in mothers. Wider scale studies would allow better insight into the pertussis immune status of the females in the child bearing period in our country and hence the need for booster immunization during pregnancy.

G610(P) RETROSPECTIVE ANALYSIS OF NEONATAL DEATHS SECONDARY TO INFECTIONS IN ENGLAND AND WALES, 2013–2015

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Purpose To estimate the overall and infection related neonatal mortality rate and the pathogens responsible using electronic death registrations.

What is already known on this topic

- The UK has one of the highest neonatal mortality rates among industrialised countries.
- Infections are associated with significant morbidity and mortality in neonates.
- Neonatal mortality rates have declined with advancements in neonatal care.

Results Total number of deaths secondary to infection per gestation. Early onset (<7 days), Late onset >7 days.¹

The most common pathogens responsible for neonatal mortality in each category. Gram positive: GBS (~10%), gram negative: E.Coli (~6%), viruses: HSV- 3%, Fungi: candida 1%.¹

- Design: retrospective analysis of national electronic death registrations data
- Setting : England and Wales
- Patients: Neonates aged <28 days
- Main outcome measures: Overall and infection related mortality rate per 1,000 live births in term, preterm (28 36 weeks) and extremely preterm (<28 weeks) neonates the contribution of infections and specific pathogens; comparison with mortality rates in 2003 05.

Conclusion Overall and infection related neonatal mortality rates have declined, but the contribution of infection and of specific pathogens has not changed.

What this study adds

- Both the overall and infection related neonatal mortality rates have declined over the past decade.
- The contribution of infections and of specific pathogens to neonatal deaths has not changed.
- Group B Streptococcus remains the single most important pathogen associated with neonatal deaths.

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G611(P) SUBSIDIZED MALARIA PROPHYLAXIS FOR CHILDREN: IS IT USEFUL?

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Aim To evaluate whether a borough-wide policy change to remove subsidisation of antimalarials affected paediatric malaria rates.

Background Children are more susceptible to acquiring severe malaria and often have a delayed diagnosis in the UK. Following trends in international travel, rates of imported malaria are not diminishing in the UK, despite the existence of effective malaria prophylaxis medications. Malaria commonly affects those who are travelling to visit friends and relations (VFR); for whom multifaceted barriers to effective prophylaxis have been identified. In 2005 a nationwide policy was introduced to stop subsidization of malaria prophylaxis drugs. Some boroughs did not implement this due to large populations of VFRs. In October 2017 one borough updated their policy to remove subsidies, in concordance with national policy (and the adjacent 'control' borough).

Method This retrospective analysis reviewed all paediatric patients (<16 years) diagnosed with malaria in the 12 months prior and post local policy change. A comparison was made with the control hospital over the same time-period. Malaria cases were diagnosed using thick and thin smear microscopy. Medical records were reviewed to assess prophylaxis use and adherence.

Results In the hospital with a recent change in policy there was no increase in patients with malaria after the subsidy was removed; in year 1, 7 patients tested positive out of 61 screens (16% positive test rate), compared to 6 positive cases in year 2 (8% positive test rate). In the control hospital there were 10 positive cases in year 1 (12% positive test rate), and 3 cases in year 2 (3% positive test rate). 14/29 positive patients had prophylaxis prescribed. Poor adherence to prophylaxis was reported in 13/14 of these cases.

Conclusion These findings demonstrate cases of paediatric malaria fell over the study period in both hospitals. It seems prophylaxis subsidization is unlikely to account for this. This study supports prophylaxis is often not taken as prescribed amongst positive malaria cases. However, it did not add weight to the argument that subsidies prevent malaria. Rather strategic interventions encompassing the spectrum of barriers to effective prophylaxis are required to improve children's access to prophylaxis and prevent children becoming ill with malaria.

G612(P) ENTEROVIRUS D68 REAL-TIME 2-STEP PCR: A USEFUL DIAGNOSTIC TOOL IN LOWER RESPIRATORY TRACT INFECTIONS IN CHILDREN?

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Introduction EV-D68 is likely under-reported because an enterovirus PCR is usually not run for patients with respiratory symptoms; moreover 73% of rhinovirus (HRV) assays detect EV-D68, misleading clinicians as to the causative virus.

Aims

- Technical validation of an EV-D68 PCR.
- Determine whether a one-step PCR is sufficient or whether a two-step PCR is required for detection of the virus in respiratory tract samples.
- Determine whether any samples that tested HRV positive in our hospital between July 2018- January 2019 were in fact EV-D68 positive.

Methods and Results

- Primers and probes selected according to those already validated in Poelmana et al and tested in 1 step PCR with negative and positive control: successful.
- Sensitivity tested against NGS sequenced EV-D68 positive samples from our own laboratory, 5 from another teaching hospital and 2 QCMD samples: 1 and 2 step PCR sensitive, including 2-step PCR with internal control.
- Specificity successfully tested against many non- EV-68 samples positive for other viruses and bacteria.
- Comparison of Cq values of 1 step PCR versus 2 step PCR with internal control. Cq values 2-step PCR < Cq values 1-step PCR in all dilutions from 1:4- 1:4000. 1-step did not detect virus >1:400 dilution.
- Epidemiological study retrospectively testing all 104 HRV positive respiratory samples and DNA isolates from last week July 2018 to second week January 2019 with 2-step PCR. There were 8 positive cases, clustered in November and December.

Week 2018–2019	EVD-68 Cq value	HRV Cq value	Sample type
45	25.59	25.4	Nasal aspirate
45	34.7	26.2	Sputum
46	22.5	27.3	Nasal aspirate
47	23.2	25.7	Nasal aspirate
48	29.07	32.4	Nasal aspirate
48	27.08	33.1	Nasopharyngeal swab
49	35.24	35.3	Nasal aspirate
1	25.53	29.5	Nasal aspirate

In only one of the 8 cases was EV-D68 detected in an adult patient, who was immunocompromised and not seriously ill.

In the remaining cases, all children, none of the patients experienced concomitant central nervous system symptoms. Five cases required PICU admission, one had underlying asthma.

Conclusion A 2-step EV-D68 RT PCR should be available as an add on diagnostic test for children with acute respiratory symptoms, in particular for paediatric ICU patients.

British society for paediatric dermatology

G613

SCIN: SURVEILLANCE OF CONGENITAL ICHTHYOSIS IN NEONATES IN UK AND IRELAND: A BPSU INTERIM REPORT

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Ichthyosis is a group of incurable genetic skin conditions. Severe types usually present at birth as collodion membrane (CM) or harlequin ichthyosis (HI): the latter has a neonatal mortality rate of up to 44%.¹ There is no proven correct treatment so the neonatal management of these babies varies. We aim to establish the incidence, neonatal management and mortality of CM and HI in UK and Ireland.

Paediatricians and neonatologists report cases using the British Paediatric Surveillance Unit (BPSU) orange card scheme. <https://www.rcpch.ac.uk/bpsu-study-.congenital-ichthyosis>. The study commenced on 01/11/2018 and will run for 2 years. We collect data from reporting clinicians at 1 and 12 months.

In the first 10 months we recorded 16 babies with CM (9 male, 7 female) and none with HI. Ten were white Caucasian, 4 were Irish, Indian or Caribbean and 2 were of mixed ethnicity, with no parental consanguinity. Four had a family history of ichthyosis. Median gestation was 37+1 (range 32+3 to 40+3). Median birthweight was 2.9 kg (range 2.24 to 3.67 kg). Both values are below the national average of 37 weeks and 3.25 kg respectively.² APGAR at 10 minutes was 9 or 10 in all patients.

Two babies died: one on day 8 with presumed autosomal recessive ichthyosis and one with trichothiodystrophy on day 97. Those surviving were discharged at a median of 14 days (range 2–30).

In terms of neonatal management, 3 babies were intubated and 8 had central venous access. All were treated with emollients, 9 with antibiotic and none with acitretin. All but 2 patients were handled by the parents at the time of the questionnaire being returned. All patients were seen by dermatologists, at a median of 1 day from birth, and by ophthalmologists at median 3 days from birth.

Our data shows wide variation in neonatal management and significant mortality. This data will support an application to NHS England for funding for a highly specialised service for severe ichthyosis. We urge colleagues to notify us of all new cases to ensure an accurate national picture.

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G614(P)

SKIN DISORDERS AND ITS EFFECT ON THE QUALITY OF LIFE OF ADOLESCENTS IN SECONDARY SCHOOLS

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Aims In many low resource settings, ill health is prioritized based on its tendency to be fatal or non-fatal. Most often, skin disorders take a back seat because they are thought to be commonly non-fatal. However, evidence regarding the negative impact of skin disease on quality of life, body image and self-esteem abounds. It is necessary to bring these set of disorders to the fore, especially in adolescents, a