Background Despite advances in clinical management, congenital diaphragmatic hernia (CDH) is still associated with high rates of mortality and morbidity in the UK. Population-based studies examining the epidemiology of CDH in the UK are needed to understand which factors are associated with the condition and to inform preventative interventions. A major determinant of outcomes among infants with CDH is the presence of associated anomalies. Although maternal age is a known proxy of sociodemographic, behavioural and biological risk factors for adverse pregnancy outcomes, its relationship with CDH in the UK and how this might vary among those with additional anomalies is not known.

Objectives To examine the relationship between maternal age and CDH, including in the absence and presence of additional anomalies which may suggest syndromic conditions.

Methods We analysed all live-born singletons delivered in NHS England hospitals between 2002 and 2018. De-identified hospital admission and mortality data were searched up until the first birthday to identify infants with a CDH diagnosis, related repair or related death. CDH was further classified as isolated (no additional malformations) or complex (additional malformations beyond the digestive or respiratory systems). The association between maternal age (categorized as <20, 20–24, 25–29, 30–34 and ≥40 years) and any CDH, isolated CDH and complex CDH was estimated using logistic regression that also included birth period, ethnicity, deprivation, and region of maternal residence at delivery.

Results We identified 2,289 infants with CDH among 7.7 million live-births (3.0/10,000 live-births; 95% CI, 2.8–3.1); 49% were complex cases. Maternal ages of 35–39 and ≥40 years were associated with a 17% and 36% increased risk of any CDH, respectively, compared to the reference age of 25–29 years. There was weak evidence of increased risk for mothers <20 years. Isolated CDH was not associated with any age group. The estimated risk of complex CDH was increased for mothers aged <20, 35–39 and ≥40 years, by 33%, 26% and 63%, respectively, compared to the reference age of 25–29 years.

Conclusions Early and advanced maternal age were associated with complex CDH even after adjustment for other

demographic factors, but these associations were not replicated for isolated CDH. While further work is needed to understand the underlying mechanisms, this study suggests that maternal age could be a useful indicator of increased risk of complex CDH.

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1697 FIVE YEARS OF THINKING KIDNEYS: REVIEWING PAEDIATRIC AKI SERVICES

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Background It has been five years since the 'Think Kidney's' campaign to improve recognition and management of acute kidney injury (AKI). Whilst there have been rapid advances in AKI services in adult medicine, the progress in paediatric has been much slower and there continue to be shortcomings despite pre-existing electronic AKI alerts. Population disease burden from paediatric AKI is difficult to quantify but patients do experience morbidity from nephrological and cardiological disease.

Objectives We reviewed paediatric AKI practice in a tertiary hospital catchment area and surveyed trainee awareness of AKI.

Methods We surveyed paediatric trainees in a large tertiary centre to assess awareness of the AKI guidance and practices. We also undertook a retrospective review of all patients admitted to paediatric intensive care unit (PICU) with AKI between February 2019 and February 2020. A further AKI survey was sent to nephrology-link paediatricians (NLP's) at district general hospitals (DGH's) in our region.

Results 29 paediatric trainees from eleven subspecialties were surveyed. 35% were unaware of the hospital AKI guideline. 83% reported that a care bundle for AKI management is not used in their department. 66% reported that AKI was discussed at ward round and huddle's and 93% reported that AKI was highlighted on discharge summaries. 39% reported that patients experiencing AKI 3 are not routinely discussed with nephrology and 62% reported that patients with AKI are not routinely referred to nephrology for follow-up. 93% of trainees were unsure if patients with proteinuria or persistently reduced renal function 3 months after AKI were referred to nephrology for follow-up.

LCH PICU data revealed 96 patient episodes of AKI over the year. The majority of AKI followed cardiac surgery and sepsis. 46% had AKI stage 3 and 31% received peritoneal dialysis or haemofiltration. 10% were discussed with nephrology and 3% were referred to nephrology for follow-up at discharge.

8 DGH's responded to our survey. 87.5% do not have a local guideline for the management of paediatric AKI and 75% do not specifically highlight AKI at ward round or hand-over. All centres discuss patients with AKI stage 2 and 3 with NLP's or tertiary nephrologists, and 50% of centres refer patients for follow-up upon discharge. 65% of centres record AKI on the patient discharge summary.

Conclusions Our findings have demonstrated deficiencies in awareness and delivery of AKI services across the catchment area of a large tertiary hospital in England. Children with

Abstract 1696 Table 1 Risk of CDH by maternal age after adjustment for other demographic factors

Maternal Age (Years)	Any (N=2,289)		Isolated (N=1,173)		Complex (N=1,116)	
	n	Risk ratio (95% CI)	n	Risk ratio (95% CI)	n	Risk ratio (95% CI)
<20	137	1.20 (0.99–1.45)	68	1.09 (0.84–1.43)	69	1.33 (1.02–1.73)
20–24	410	1.04 (0.92–1.18)	209	1.01 (0.85–1.20)	201	1.08 (0.90–1.29)
25–29	599	1.00 (Ref.)	312	1.00 (Ref.)	287	1.00 (Ref.)
30–34	650	1.05 (0.94–1.18)	342	1.04 (0.89–1.21)	308	1.06 (0.90–1.25)
35–39	391	1.17 (1.03–1.34)	197	1.10 (0.92–1.31)	194	1.26 (1.05–1.51)
≥40	102	1.36 (1.10–1.68)	45	1.12 (0.82–1.53)	57	1.63 (1.23–2.17)

AKI 3 did not receive specialist nephrology care. A training need was identified in paediatric junior doctors. We suspect these issues are not limited to our region. This highlights the need for a more robust follow-up pathway for AKI in paediatrics. The lack of trainee knowledge emphasises the need to deliver an AKI educational programme, possibly at the level of the Royal College or included in the trainee curriculum. We hope that we will be able to roll out, in addition to existing digital alerts, a STOP AKI Care Bundle that will trigger a response to the AKI alert and improve follow-up.

Children's Ethics and Law Special Interest Group

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A DESCRIPTIVE ANALYSIS OF CORONIAL PREVENTION OF FUTURE DEATH REPORTS RELATING TO NEONATAL PATIENTS IN ENGLAND & WALES (2015–2020)

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Background Prevention of future death (PFD) reports are issued where a Coronial investigation gives rise to concern that future deaths may occur unless actions are taken to reduce the risk of this occurring.¹ They are issued following an inquest and are directed to the person that the Coroner believes has the power to take such action. Their intent is to ensure learning from deaths and to improve public health, welfare and safety.

Objectives A descriptive analysis of neonatal PFDs to understand Coronial reasons for issuing PFDs and learning themes.

Methods Publically available data regarding all neonatal PFDs (0–28 days) issued in England and Wales were reviewed for the period between January 2015 and December 2020 (<https://www.judiciary.uk/subject/child-death-accessed-08/03/2021>). The following details were collected: Age, sex, Coroner's area, circumstances around death, coroner's concern and recommendation, cause of death and the organisations to whom it was directed. Thematic content analysis was used to analyse qualitative data.²

Results A total of 52 PFDs relating to neonatal deaths were issued during the 6 year evaluation period from 21/88 (24%) of UK Coroner areas. 67% of PFDs related to male neonatal deaths and 9% related to babies who were thought stillborn (even though at the time of writing, stillbirths do not fall under the jurisdiction of HM Coroner). Perinatal asphyxia (56%), sepsis (15%) and prematurity (11%) accounted for over 80% of the causes of death. The majority of PFDs (69%) were directed toward an NHS Hospital Trust. Thematic content analysis revealed the following themes: (i) Communication (intra-agency and inter-agency) (ii) Standard of medical record keeping (iii) Staff and resource gaps, (iv) Education and training gaps (v) Non-compliance with guidelines (vi) Errors in perinatal decision making (vii) Incomplete or inaccurate review of neonatal death.

Conclusions Our data indicate that the majority of neonatal PFDs relate to male infants with perinatal asphyxia and that learning relates to a number of predominantly obstetric themes. However, and of relevance to neonatal and paediatric

clinicians is the observation that the conclusions from local neonatal death reviews were thought inaccurate in 15% of cases. Strategies for wider dissemination of the learning recommendations from PFDs directed to NHS organisations and methods to increase the transparency and rigour of local NHS Trust neonatal death review processes recommended to optimise the utility of Coronial PFDs.

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THE DIAGNOSTIC UTILITY OF IMAGING IN SUSPECTED PAEDIATRIC COVID-19 INFECTION: A DIAGNOSTIC CROSS-SECTIONAL STUDY

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Background Evidence on chest X-ray findings, indications and diagnostic utility in paediatric corona virus diseases (COVID-19) remains sparse.

Objectives Evaluate chest X ray findings in laboratory confirmed COVID-19 in children admitted to a children's hospital.

Methods A retrospective cross-sectional diagnostic test accuracy study, in patients with suspected COVID-19 presenting to a tertiary paediatric hospital. Study participants Data was retrospectively collected from 402 consecutive patients at our centre who underwent testing for clinically suspected COVID-19 for infection between the dates of 15–03-2020 and 24–04-2020. Up to 2 chest radiographs were collected for all included patients from 7 days before the COVID-19 sample up to 30 days post-sample. All imaging studies were reported by a consultant paediatric radiologist. Blinding of the reporting radiologist to COVID-19 status was not possible due to the clinical nature of the reports. A researcher reviewed each chest radiograph report, recording the presence of consolidation, collapse, bronchial thickening, hyperexpansion and effusion. The diagnostic odds ratio (OD) and its 95% confidence interval was calculated. Odds ratios were also calculated for the other points on the grading scheme, and in order to assess the overall utility in diagnosing COVID-19, a receiver operator characteristic (ROC) analysis was performed with comparison between curves using DeLong's test.

Results Data was collected from 402 patients. In total 408 COVID-19 tests were performed (6 patients were tested twice). Overall 11.27% of all tests performed were positive. 52.4% of included patients were male. Included patients ranged between 0 days old and 17.1 years at the time of the COVID test. 220 patients had at least one chest radiograph available (53.92% of all patients), with 82 (20.1%) having two available, and the distribution of chest radiograph availability did not differ significantly between COVID-19 test result groups (Chi-Squared test, $p = 0.6$). The absolute mean time in days from the COVID-19 test to the chest radiograph was 1.2 days for the initial chest radiograph (range -7 to 21 days) and 6.1 days for the second radiograph (range 0 to 29