were adapted specific to location (health centre/hospital). Surveys were undertaken across 45 health centres and 1 hospital. Although knowledge rates were acceptable, attitudes continuously fell into indifferent or negative ranges in certain domains.

A multiple tiered neonatal training programme was developed, depending on staff type (midwife, nurse or doctor) comprising of a classroom-based residential component, shadowing at a tertiary neonatal facility and an extensive mentorship period. Teaching materials, assessments and logbooks were prepared, tailored to conditions commonly encountered and resources available locally, written in English and translated into Khmer. Where resources were deficient, plans to supply equipment were initiated. Development of a neonatal care unit was commenced.

Conclusions An assessment tool called a ‘KAPES survey’ was created to comprehensively assess neonatal services in rural Cambodia. A comprehensive multiple-tier neonatal training programme was developed and adapted to specific needs. Initial data guided implementation of the strategy to decrease the NMR. Repeating the survey will evaluate progress of the intervention. Ultimately, this tool and programme could be replicated across the country and may be useful in other middle to low-income countries.

### Abstract P439 Table 1

<table>
<thead>
<tr>
<th>Cardiac Anomaly</th>
<th>Number of Babies</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVSD</td>
<td>9</td>
</tr>
<tr>
<td>ASD</td>
<td>7</td>
</tr>
<tr>
<td>Pulmonary hypertension</td>
<td>7</td>
</tr>
<tr>
<td>VSD</td>
<td>6</td>
</tr>
<tr>
<td>PDA</td>
<td>6</td>
</tr>
<tr>
<td>Normal Echo</td>
<td>5</td>
</tr>
</tbody>
</table>

Results 37/42 babies diagnosed with T21 were included in the study. 54% of these babies needed admission to the baby unit. Mean age at birth was 35±6 weeks, birth weight 2.9 kg. 12 babies were antenatally diagnosed. Cardiac findings at the 20-week scan led to 67% of antenatal diagnoses. Of the four babies antenatally diagnosed with no cardiac findings at 20-week scan; 1 had a small ASD on postnatal echo and the second had no cardiac findings. All babies, regardless of cardiac findings on clinical examination, received a postnatal echo. 36 received an echo while still an inpatient. 87% had at least one cardiac anomaly and 24% of the babies had an AVSD confirmed on echo. The table 1 below shows the top 7 (of 20) cardiac diagnoses from postnatal echo.

### References
one patient with CCHB one year after pace maker implanting.

Conclusions CCHB is the most serious manifestation of the NLE associated with significant morbidity and mortality. Early diagnosis can lead to early treatment avoiding in some cases the onset of CCHB.

P441 YIELD OF URINE FOR CMV SCREENING TEST FOR ASYMPTOMATIC MICRO-CEPHALIC INFANTS
Haroon Usman*, Prof Martin White. Neonatology Department, Coombe Women and Infants University Hospital, Dublin, Ireland
10.1136/archdischild-2019-epa.777

Background Congenital CMV infection is the leading cause of nonhereditary SNHL and other long-term neurodevelopmental disabilities. Its prevalence is 0.6% in developed countries. Approximately 10% infants have symptoms at birth. Among apparently asymptomatic infants, approximately 10 to 15% experience SNHL.

Objective To determine the utility and cost-effectiveness of urine CMV PCR testing among infants with OFC <9th centile. To evaluate the frequency of alternative aetiologies of microcephaly in tested infants.

Methods A retrospective review was conducted on all infants with a diagnosis of microcephaly for whom urine for CMV or TORCH screen was sent during July 2017-July 2018 in Coombe Women and Infants University Hospital1, Dublin, Ireland. Data was collected for various characteristics such as gestational age, ethnicity, parity, mother's serology, mother's lifestyle, reason of screening, anthropometric measurement/ Centile and cranial ultrasound result.

Results Between July 2017-July 2018, out of 8200 infants born in CWIUH, 72 (0.87%) infants were screened. Of these, 56 infants had urine for CMV performed, and 16 infants had both TORCH titer and Urine for CMV testing performed. There were only 3 positive CMV cases (4.16%). Male infants were 32 (44.4%) and female infants were 40 (55.5%). 25 infants were first born baby in their family. Mothers of 33 infants were drinking, smoking or using drugs during pregnancy. 29 infants underwent cranial ultrasound, of which 9 had abnormal results.

Conclusions By plotting on actual GA rather than on term line for term babies, we could avoid screening of 12.5% babies. Ethnicity factor is irrelevant. Considering the low incidence of congenital CMV infection (0.8%), current local guidelines for congenital CMV infection screening is cost effective (yield 4.16%). This study serves as a reminder to periodically examine testing practices and patient population to maximize cost-effectiveness.

P442 ECHOCARDIOGRAPHY IN THE TERTIARY SURGICAL NEONATAL INTENSIVE CARE UNIT – A SERVICE EVALUATION PROJECT
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10.1136/archdischild-2019-epa.778

Introduction The use of echocardiography in neonatal care is currently the subject of significant and growing interest. It is well-recognised that there is wide variation in the approach to neonatal circulatory management, and that many of the commonly-assessed clinical parameters are of limited value in assessing adequacy of circulation. Much of the recent research interest has focussed on the potential uses of echocardiography in haemodynamic assessment of the preterm infant. However, the diverse group of newborn infants with surgical problems are also prone to cardiovascular compromise, particularly in the perioperative period. Additionally they may have structural cardiac defects, commonly as part of a syndrome or association. The echocardiographic needs of this cohort may therefore be different from those of the typical preterm population.

Aim The purpose of this study was to evaluate the use of echocardiography in a tertiary surgical neonatal intensive care unit to better understand current practice and the needs of the population, and to inform future service planning.

Methods We retrospectively reviewed all echocardiograms performed on our 17-cot unit over a 12-month period from November 2018 to October 2018. Demographic and clinical data were collected for all patients.

Results Over the study period 182 echocardiograms were performed on 122 infants. Echocardiograms were performed primarily by technicians, with 82% being performed within one day of the request being submitted. 43% of studies were carried out in term infants, with 52% taking place within the first three days of life. The most common indications were evaluation of a murmur in a preterm infant (22%), known congenital or genetic anomalies (20%) and functional cardiac assessment (13%). A PDA was identified in 39% of initial scans. Structural anomalies identified included ASD (27%), VSD (17%), AVSD (0.8%), Tetralogy of Fallot (2.5%) and coarctation of the aorta (0.8%). Abnormal findings related to function or haemodynamics were reported in 19%.

Conclusions Echocardiography is a commonly-performed investigation in a tertiary surgical neonatal intensive care unit. Both structural and functional assessments are important in the care of infants with surgical problems. This study provides baseline data on current practice and suggests a need for surgical neonatal services to consider adequate provision for echocardiography in any future service planning.

P443 HEREDITARY THROMBOPHILIA IN NEWBORN
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10.1136/archdischild-2019-epa.779

Background Hereditary Thrombophilia refers to the propensity to develop thrombosis. A homozygous abnormality or combination of two heterozygous abnormal factors can lead to clinically apparent thrombotic disorders at an early age. The aim of our study was to analyse the epidemiology, clinical presentation, causes, and management of hereditary thrombophilia in newborn.

Methods It’s a retrospective study of all cases of hereditary thrombophilia registered in the neonatal intensive care unit of Sfax between 2014 and 2017.

Results Seven full term newborns were included. They were 5 female and 2 male. Common clinical features were seizures, acute ischemic limb, mesenteric ischemia and skin necrosis.