Association of Paediatric Emergency Medicine

866 EPIDEMIOLOGY AND MAPPING OF ROAD TRAFFIC COLLISIONS WITH CHILD CASUALTIES IN WALES

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Background Road traffic collisions (RTCs) are one of the leading causes of childhood morbidity and mortality, representing a significant public health burden. Children, being smaller and less visible to traffic, are at greater risk of severe consequences of RTCs. Data from the electronic reporting system used by the police, known as STATS19, informs national road safety policies in Wales.

Objectives This project aimed to establish whether the number of children injured due to RTCs in Wales is under-represented in STATS19. We did this by comparing data from a Major Trauma Centre (MTC) in South Wales to STATS19. In addition, we characterised RTCs with child casualties and mapped the geographical distribution with the objective of identifying clusters and to ascertain if more injuries occurred in deprived areas using the Welsh Index of Multiple Deprivation.

Methods We analysed data from STATS19, the Emergency Medical Retrieval and Transfer Service (EMRTS) and a MTC from 2017–2019 for child pedestrians, cyclists and car occupants aged 0–16 years injured following RTCs. We studied age, gender, the time of RTC occurrence, the road type, speed limit and presence of crossing facilities. Population-based injury rates for each year were calculated for age group, gender and deprivation fifth. The geographical distribution of RTCs was mapped using QGIS 3.16.

Results We found that STATS19 under-reported paediatric trauma due to RTCs. From 2017–2019 STATS19 recorded 1,859 child casualties across all of Wales compared to 1,170 local child RTC attendances at one MTC. Given the distribution of the Welsh population and the availability of emergency departments throughout the country, it is unlikely that 62.9% of all paediatric trauma following RTCs came to one MTC. Males aged 11–16 years had the highest rates of injury at 92.2 per 100,000 population, compared with females aged 1–4 years which had the lowest rates of injury at 26.2 per 100,000 population. Injuries peaked at school journey times and were highest between 2pm-5pm (85.0%). The rate ratio of injury was 2.03 (95% confidence interval 1.72–2.38) significantly higher for the most deprived areas compared to the least deprived areas.

Conclusions Emergency departments play an important role in recording child casualties due to RTCs. Our findings reveal the large scale of data that the Welsh Government could be missing. Without this knowledge we are failing to see the whole picture and cannot accurately characterise risks to road users. Collaboration between services and improvements in data quality are needed to inform national public health policy in order to reduce the incidence of child casualties following RTCs. Road safety schemes should be prioritised in the most deprived areas where the burden of injury due to RTCs is highest, which will help to lessen the social inequality gap.

British Association of Perinatal Medicine and Neonatal Society

867 EMERGENCY UVC INSERTION… WHAT COULD POSSIBLY GO WRONG!

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Background Within Delivery Suites, emergency Umbilical Vein Catheter (UVC) insertion is a relatively infrequent procedure. There are various stages to insertion, and underperformance at any stage can have a detrimental impact on the patient in extremis, by delaying time to insertion and subsequent administration of emergency drugs and fluids.

Objectives The aim of this study was to quantitatively and qualitatively assess knowledge amongst Midwives and Neonatal Nurses of UVC equipment and perceptions of problems with current methods.

Methods In a United Kingdom tertiary NICU, a survey of 43 Midwives and Neonatal Nurses was undertaken and assessed the parameters of; training (formally/informally); knowledge of UVC equipment required; perceptions of equipment availability and delays in receiving treatment.

Results There were a total of 43 respondents (22 Neonatal Nurses and 21 Midwives), with only 26/43 receiving UVC training. From the cohort, 69.7% reported they were confident they could collect all the UVC equipment, but of the required equipment, they could only identify 23.3%. From 41 respondents, 32 (78%) had confidence in the emergency UVC trolley, but 15 of 33 respondents expected delays in collecting equipment.

Conclusions In conclusion, this survey highlights poor knowledge of essential resuscitative equipment, and over confidence in abilities, but self-awareness of likely delays. This indicates urgent changes are required to current emergency UVC insertion processes.

Children’s Cancer and Leukaemia Group

868 HAS THE LENGTH OF TIME FROM SYMPTOM ONSET TO CANCER DIAGNOSIS IN CHILDREN INCREASED DURING THE COVID-19 PANDEMIC?

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Background The COVID-19 pandemic has had unprecedented and far-reaching effects on global society throughout 2020, and especially so on healthcare systems. Delayed presentation
to hospital and, therefore, delayed diagnosis of many conditions has been well documented during the COVID-19 pandemic. However, there is a paucity of data on the effect of time to cancer diagnosis in children within the UK during this period.

Sustaining time critical services such as paediatric oncology during prolonged periods of extraordinary pressure on the NHS is of key importance in patient care. Through evaluating our secondary care service, we aimed to identify learning points from the pandemic and lockdown measures.

Objectives To evaluate the following key metrics in children who received a cancer diagnosis during the COVID-19 pandemic versus an equivalent time period pre-pandemic:

1. Time from first symptom(s) onset to cancer diagnosis.
2. Time from referral to tertiary paediatric oncology service to cancer diagnosis.
3. The number of healthcare encounters between first symptom(s) to final encounter leading to cancer diagnosis.
4. Identify learning points and service improvement opportunities, to avoid future cancer diagnosis delays.

Methods The medical records of all cancer diagnoses in patients under 16 years when they presented to our NHS Trust from the date of 1st UK lockdown, 23rd March, until 31st December 2020 (pandemic cohort) were evaluated and compared to a matched control cohort (pre-pandemic cohort). Evaluation included determining:

1. Date of symptom(s) onset relating to their malignancy.
2. The number of primary healthcare encounters relating to their cancer symptoms.
3. The number of secondary healthcare encounters relating to their cancer symptoms.
4. Date of referral to tertiary centre for diagnostic investigations.
5. A breakdown of type of patient-healthcare encounters (face-to-face or virtual).

One-tailed T-testing was used to evaluate any differences in the two cohorts.

Results Our analysis showed:

<table>
<thead>
<tr>
<th>Metric</th>
<th>Pre-pandemic cohort (N = 21)</th>
<th>Pandemic cohort (N = 21)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom(s) onset to diagnosis</td>
<td>32 days</td>
<td>118 days</td>
<td>0.03*</td>
</tr>
<tr>
<td>Tertiary centre referral to diagnosis</td>
<td>6 days</td>
<td>9 days</td>
<td>0.32</td>
</tr>
<tr>
<td>Average number of clinical encounters from symptom(s) onset to final diagnostic encounter</td>
<td>1.6</td>
<td>4.2</td>
<td>0.18</td>
</tr>
</tbody>
</table>

* = significant result.

We identified three cases with significant delays in cancer diagnosis during the pandemic (range = 216–599 days). Key learning points from these cases included inappropriate pathway referral, COVID-19 related cancelled appointments, and delayed referral from non-pediatric specialties.

Conclusions An increased time from symptoms onset to cancer diagnosis was observed during the COVID-19 pandemic. Additionally, a trend towards an increased number of clinical encounters before cancer diagnosis was observed during the COVID-19 pandemic. This likely represents patient and carer hesitancy in accessing healthcare services during the pandemic, as well as the possibility of diminished clinical assessment or hesitancy in onward referral at various clinical encounters. Somewhat reassuringly, the time from tertiary centre referral to diagnosis appeared unaffected during the pandemic reflecting maintenance of a consistent service during the pandemic. Overall, these findings represent important learning points to avoid delays in cancer diagnosis during any prolonged period of extraordinary pressure on healthcare systems and can inform healthcare service development and contingency planning going forward.

Quality Improvement and Patient Safety

869 POSTNATAL WARD, THE SHADED AREA: QUALITY IMPROVEMENT PROJECT EXPLORED THE NEONATAL JUNIOR MEDICAL TEAM SATISFACTION

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Background The postnatal ward (PNW) is a vital part of neonatal service, where well infants remained with their mothers. Neonatal PNW services in our Hospital provided mainly by Junior staff with the support of registrars and neonatal consultants. The shift involves coverage of four wards in different storeys, and a wide variety of cases with subtle presentation among presumed well babies. It also requires immediate attendance to high-risk deliveries for neonatal resuscitation. The project is shedding light on obstacles and barriers facing the PNW team in order to overcome them and increase overall work efficiency.

Objectives • To investigate the main difficulties that meet the medical team during their shift coverage in PNW and collect the proposed suggestion and recommendation on possible solutions.
• To uncover the area for improvement and provide possible titles for further QI projects.
• To estimate overall team satisfaction.

Methods We conducted a survey questionnaire for data collection distributed among staff by email. Google forum used as a builder tool. The study targeted a total workforce of the PNW team, 32 staff. A total of 28 feedback over three weeks were obtained and analyzed. Seven scopes of work have been investigated thoroughly including Handover, Sepsis screening of neonate at risk, Communication & consultation, Admission procedure, Guidelines, Staff wellbeing (break time), Recommendation and future QI project suggestion.

Results The response rate was 87.5% over three weeks period. Only 43% found the handover place is convenient for them. Sepsis screening was rated the most time-consuming task by 75%; it takes up to an hour by 50%. The majority of the PNW staff found that neonatal trolleys are usually poorly stocked. Participants supported ready to screen bag to communicate among our team, however, more support is required from the registrars and seniors’ staff. On the other hand, communication with other paediatrics subspeciality was rated as the second most time-consuming task by 57%.