OUT-OF-HOURS COMPUTED TOMOGRAPHY (CT) REQUESTS—HOW APPROPRIATE ARE THEY?

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Purpose
In order to establish whether OOH services are being used appropriately, the purpose of the audit were to investigate the following:

- How many non-contrast CT head requests meet the National Institute for Health and Care Excellence (NICE) criteria?
- How much are we spending on outsourcing scans for reporting?
- Establish methods to improve the quality of requests.

Background
- A current crisis in the field of Radiology is the workforce/workload mismatch. Every year, the burden placed on imaging departments across the country increases without an equally expanding workforce to meet the demand.
- In order to cope with the increased demand, out of hours (OOH) reporting services have been set up to offer a 24/7 service and to help prevent a further backlog of images that need reporting.
- However, every service has its own expenditures, with OOH reporting being no exception.
- During the year 2014-2015, the UK spent £88 million on outsourcing/insourcing, an increase from £58 million in the year 2013-2014.
- If services were to be streamlined efficiently, leading to only necessary scans being requested, the specialty as a whole will benefit in two ways: decreased and reduced expenditure on OOH services.

Methods
- Sample: Adult non-contrast CT head performed out of hours between July 1–30 September 2017.
- Out of hours (OOH) was classified as 8 pm–9 am weekdays and weekends (excluding 9 am–12 pm) as this is the time period between which CT is outsourced in our Trust.
- Each CT request was analysed to see if the information met NICE criteria² to perform a CT out of hours.
- The number of scans showing acute pathology was recorded.
- The overall cost of out-sourcing this work was calculated.

Results
- 725 scans were analysed - 606 met NICE criteria for non-contrast CT head OOH and 70 of those had acute pathology (9.7%).
- Of the 119 scans that did not meet NICE criteria – 0 scans showed intracranial abnormality (0%); 16 (13.4%) had extracranial pathology (e.g. facial bone fractures).
- £64,220 spent in over the audit period on OOH CT scans, which equates to approximately £250,000 a year.
- Approx £10,000 pounds spent on non-NICE CT head scans in those three months (£40,000 in a year). 50% of those patients were admitted to hospital anyway, and therefore could have been scanned in working hours saving around £20,000/year.

Conclusions
- Those that do not meet NICE criteria for CT scan, if needing admission, to be discussed with local radiology team in the morning for the scan rather than it being done OOH to save costs.
- Open up CT slots in the morning for overnight patients for possible CT scans to be performed if deemed necessary.
- Re-audit the above to ensure improvement.

Incidental Finding
- Approximately 50% of scans that were done as ?SAH were sent home from Accident and Emergency WITHOUT having a lumbar puncture (LP).
- One third of those scans had no discussion with any relevant specialty before discharge regarding admission or need for LP.
- This needs addressing and will be part of the interventions in our second cycle of the audit.
- The aim would be for 100% of ?SAH cases to at least be discussed with relevant specialties regarding admission or need for LP. This would ensure patient safety.

References:
1. Clinical Radiologist UK workforce census 2016 report page 7
2. NICE Guidelines Imaging Algorithm [https://www.nice.org.uk/guidance/cg176/resources/imaging-algorithm-498950893]