In this issue:

Editorial: Introducing award winning junior doctor clinical audits

1st place 2011: An Apple a Day Keeps the VTE at Bay

3rd place 2011: A completed audit cycle of routine neonatal examinations

1st place 2012: Falling rates or falling flat? Can a multifactorial assessment and interventional programme decrease inpatient falls in an elderly care ward?

2nd place 2012: Audiology referrals to the ENT department: A new pathway for asymmetric sensorineural hearing loss

3rd place 2012: Neonatal cranial ultrasound: An audit of trainee opportunities and compliance

Signposting
Editorial: Introducing award winning junior doctor clinical audits

Stephen Ashmore,
CASC Director, Editor of Clinical Audit Today

Welcome to the first issue of the Clinical Audit Today journal for 2013. The journal is now in its 6th year and this offering represents the 11th issue. When we set the journal up in 2008 we had high hopes of publishing every quarter, but sadly the lack of time we have to commit to producing the resource means that from now on the journal will be available on a bi-annual basis.

This issue of the journal builds on the work that we have carried out over the last four years in an attempt to showcase the hard work of junior doctors. In 2010 we launched our Junior Doctor Clinical Audit of the Year competition and in 2011 we dedicated the July issue of this journal to the winning junior doctor audit projects from 2010. The competition has continued to prove popular and over 350 entries were received in the first three years. The quality of entries has also improved dramatically since 2010 and this issue of the journal features five award-winning audits from the 2011 and 2012 competitions. It is a great disappointment to us that we are not able to publish three further award-winning audits from 2011 and 2012, but this is simply due to the fact that authors have submitted their work to peer-reviewed academic journals thus underlining the quality of the projects carried out.

We would like to take this opportunity to thank all junior doctors who take time to submit their work for the competition, in particularly those juniors who have kindly written-up their audits for this publication. Of course not all junior doctors are clinical audit enthusiasts who value the opportunity to compare their care with best practice, but the quality of the winning audit projects from 2011/12 illustrates what motivated juniors can achieve with the support of peers and local clinical audit professionals.

The great news is that the CASC intend to work more closely with junior doctors to extend the range of clinical audit resources available. Plans for the 2013 competition are well underway and full entry details are available via the CASC website. We are delighted to announce that the Healthcare Quality Improvement Partnership are supporting the 2013 competition and in addition to the clinical audit awards, the competition has been expanded to include wider quality improvement projects carried out by juniors.

CASC have also updated the ‘Junior Doctor Audit’ section on the website and this now includes all winning posters from 2010-12 plus all audit posters that were presented at the Finals events in 2011 and 2012. CASC have also worked with a number of winning authors from 2011 to create three short films that provide further details of the clinical audit projects carried out by juniors and these will be shared widely in an attempt to encourage participation in audit and to showcase successful projects.

On a final note, it would be inappropriate not to briefly mention the Francis Report (published in February 2013). The implications of Francis for the clinical audit community are far-reaching and Francis paints a picture of a hospital that carried out many low-grade clinical audit projects few of which resulted in changes in practice, subsequent re-audits and improvements in patient care. Francis also noted a distinct lack of clinical and managerial interest in clinical audit and a lack of leadership for audit work carried out across the Trust. The work featured in this journal highlights what junior doctors can achieve through clinical audit but the wider challenge post-Francis is to provide better support, help and advice for junior doctors wishing to carry out effective audit and other QI initiatives. In many ways some Trusts appear to focus on quantity of clinical audit work rather than quality and in light of Francis this approach needs to change. Junior doctors (as tomorrow’s consultants and leaders) will play a key role in the future of clinical audit and we must find ways of making audit rapid, interesting, relevant, methodologically sound and beneficial for them.

If you wish to contact any of the junior doctors featured in this eJournal, please contact info@clinicalauditsupport.com.

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An Apple a Day Keeps the VTE at Bay

By Drs Maughan E, Eyre KS, Hanna L, Fawcett N, Reckless I
Department of Acute General Medicine, Oxford University Hospitals NHS Trust.

Summary:
- Compliance of doctors in completing online Venous Thromboembolism (VTE) forms was found to be 23% (Government quality target 90%).
- Implementation of changes to practice (educating doctors, changing paper documentation to include reminder messages, introducing pop-up reminder messages to online forms) increased compliance, but success rates still remained below Government targets.
- iPad tablet computers were introduced to Medical teams – this integrated online forms with bedside clinical decisions and increased compliance to 90%, fulfilling local and national targets.

Background:
VTE remains a major cause of hospital in-patient morbidity and mortality. The Department of Health (DH) and Oxford Radcliffe PCT require that at least 90% of all in-patients have a decision regarding their VTE prophylaxis documented, which, in the John Radcliffe Hospital (JRH), is via an electronic form on the ‘CASENOTES’ computer reporting system.

Aims:
We aimed to increase the JRH Acute General Medicine (AGM) teams completion of online VTE assessments from 23% to the required 90% target, thereby establishing sustainable strategies for addressing this important aspect of patient safety, and saving the trust from its monetary penalty (£188,000 per quarter).

Methods:
4 one-week audit cycles were performed over five months. All take sheets (lists of patients admitted to each medical team whilst on take in the Emergency Assessment Unit (EAU)) were collected, with a representative spread across all consultant-led teams in the Department. CASENOTES was reviewed to determine whether each patient had a completed VTE form by the end of the post-take ward round. A spot audit was performed (April 2011) in which

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Date</th>
<th>Results</th>
<th>Barrier to compliance addressed</th>
<th>Changes implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>March 2011</td>
<td>287 patients admitted, 67 (23%) forms completed</td>
<td>‘Online VTE forms are not clinically relevant.’</td>
<td>Spot audit in April 2011 Education of medical teams and VTE tick-box on EAU take sheets.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large variation between teams, some variation between day/night takes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>April 2011</td>
<td>265 patients admitted, 117 (44%) forms completed</td>
<td>‘We never remember to fill the forms in.’</td>
<td>Casenotes Computer Pop-up box The CASENOTES computer software was changed to include a pop-up link appears directing the user to the VTE form on accessing patients’ records. The pop-up can be ‘snoozed’ but will continue to return until the form is completed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continued large variation between teams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>June 2011</td>
<td>297 patients admitted, 211 (71%) forms completed</td>
<td>‘There’s never a computer around when you need it.’</td>
<td>iPads Each AGM team was given an iPad securely linked to the closed hospital computer network (via Wi-Fi), to enable CASENOTES to be accessed by the bedside.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Huge improvement in compliance but still under government targets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>July 2011</td>
<td>231 patients admitted, 207 (90%) forms completed</td>
<td>Achievement of Government targets!</td>
<td></td>
</tr>
</tbody>
</table>
CASENOTES, patient paper notes and drug charts were assessed for correlation of documented clinical cases where the online form was completed, but often no clinical VTE assessment was documented at all (and therefore no legally documented assessment of a patient’s risk).

A questionnaire was composed (with thanks to Dr Nichola Fawcett, ST3 Acute General Medicine), and completed by medical staff to identify the perceived barriers to form completion. We then addressed these barriers sequentially with progressive audit cycles.

Results:
The 4 cycles of audit demonstrated an increase in compliance across General Medical firms in completing VTE forms from 23% to the required 90% (see table on page 3).

Conclusions:
Mobile technology is set to become more integral into medical practice in the near future and we feel that the use of tablet computers on ward rounds is an innovative and successful way to use current technology to link bedside clinical discussions with online data and documentation. The iPad also facilitates assessments and makes it a very sustainable intervention. We feel that, along with the partial success generated by reminding doctors and modifying the CASENOTES system itself with the pop-up, this demonstrates how crucial it is to make documentation as convenient for clinicians to complete as possible, especially in an increasingly protocol-driven clinical environment.

The audit has developed several strategies that, if implemented across more departments in the JRH trust, could result in the trust reaching the 90% DH target. Continuous and on-going education of doctors, with re-audit, is clearly still required for maximal compliance of documentation.

References:
1 Department of Health (2009b). Using the Commissioning for Quality and Innovation (CQUIN) payment framework (with addendum for 2010/11).


3rd place, 2011
A completed audit cycle of routine neonatal examinations

By Drs Gee AL and Gough G - Great Western Hospital NHS Trust, Swindon.

Background:
Routine examination of the newborn forms part of a national screening programme and is frequently performed by junior members of the paediatric team. The proforma in use during our paediatric rotation failed to consider all aspects of the examination, as detailed by the UK National Screening Committee (NSC) and referenced by NICE guideline CG37, and we considered parts of it to be ambiguous. With a high turn-over of junior doctors completing the examinations we felt a new proforma could act as a prompt to ensure greater adherence to guidelines, in addition to standardising documentation.

Aims:
1. To audit deficiencies in current neonatal examinations and their documentation, against the NSC guidelines
2. To redesign the neonatal examination proforma to act as a prompt and increase compliance with guidelines
3. To implement the new form and re-audit.

Identifying best practice:
The UK National Screening Committee (NSC) provides guidelines for neonatal examinations. These are reference in NICE clinical guidelines (CG37) and were our gold standard.

Methods:
Completed newborn check proformas were audited against the standards set in the NSC guidelines. A new proforma was drafted and feedback sought from team members. After passing through several committees, the new proforma was accepted for use at Great Western Hospital (GWH). Re-audit analysed examinations documented on the new forms.
Results:
The initial audit across eleven criteria showed a variation in adherence with the NSC guidelines from 100% in five criteria to 0% in one criterion. Re-audit showed an increase in documentation in five criteria, with 95% compliance achieved in nine of the eleven (see table below).

Conclusions:
Results of the re-audit indicate that we have made a real improvement to neonatal examinations, in terms of consistency of documentation and compliance with NICE guidelines, which is vital in ensuring patient safety.

Teaching on the guidelines has been introduced to the Paediatric departmental induction for junior doctors, and feedback from current users has been applied to further optimise the form.

References:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit 1  Re-audit</td>
<td></td>
</tr>
<tr>
<td>Documentation of 1st degree relative with CDH</td>
<td>100%  88%  98%</td>
</tr>
<tr>
<td>Documentation of presentation (Breech after 32 weeks gestation)</td>
<td>100%  0%  100%</td>
</tr>
<tr>
<td>Documented hip examination (Ortolani and Barlows)</td>
<td>100%  100%  100%</td>
</tr>
<tr>
<td>Red reflex documented as present or absent</td>
<td>100%  100%  100%</td>
</tr>
<tr>
<td>Documentation of Risk factors for CHD (FHx, Antenatal diagnosis, syndromic features)</td>
<td>100%  3%  95%</td>
</tr>
<tr>
<td>Documentation of cardiac examination (Ausciltation, B/L femoral pulses detected)</td>
<td>100%  100%  100%</td>
</tr>
<tr>
<td>Documentation that testes examined-males</td>
<td>100%  100%  100%</td>
</tr>
<tr>
<td>Documentation of parental concerns</td>
<td>100%  56%  76%</td>
</tr>
<tr>
<td>Documentation of feeding</td>
<td>100%  94%  83%</td>
</tr>
<tr>
<td>Documentation of meconium and urine passed</td>
<td>100%  79%  98%</td>
</tr>
<tr>
<td>General examination</td>
<td>100%  100%  100%</td>
</tr>
</tbody>
</table>

Table above: Results from initial audit and re-audit stating percentage compliance with NSC guidelines, across eleven criteria, 95% compliance shown in green, <95% in red.
Background:
Annually, approximately 282,000 inpatient falls are reported to the National Patient Safety Agency (NPSA). A significant number result in death, or moderate to severe injury.1

Research shows falls may be reduced by 18 – 31% through multifactorial assessments and interventions.2 However, national audits have found low levels and/or poor implementation of relevant evidence-based assessments and interventions throughout the UK. 3

Not all falls can be prevented without unacceptable restrictions to patients’ independence or dignity, 3 and if a fall cannot be prevented, a prompt and effective response should ensue to achieve the best possible recovery and avoidance of further falls.

Aims:
Our aims were to reduce the inpatient falls rate in an elderly care ward by 20%, and to improve the quality of post-fall care.

Identifying best practice:
In 2010 the NPSA recommended NHS organisations minimise the risk of inpatient falls, through use of falls prevention teams, local targets for reducing harm due to falls, focused efforts on time or places of falls, provision of falls prevention training for staff and detailed prevention plans for vulnerable patients.4

The FallSafe project, a quality improvement initiative focusing on prevention and management of falls, identified that successful studies used ward based leaders rather than visiting specialists, engaged a multidisciplinary team, and addressed five to fifteen risk factors for falls in their interventions.5 (see table below)

Methods:
A baseline audit was performed by reviewing incident report forms to establish the number of falls / 1000 bed days.

We established a multi-disciplinary team with Clinical Lead and used a sequence of ‘plan – do – study – act’ learning cycles to introduce each intervention. Feedback sessions and re-audit were organised subsequent to each change.

The initial intervention was a multi-factorial assessment and care plan used successfully in other studies.5 Completed by nursing staff, the form determines at-risk patients and identifies areas of increased risk, enabling adaption of care to prevent falls.

A ‘walking-stick’ poster was introduced to aid and encourage nursing staff; completed on a daily basis, this highlights if a fall occurred and allows annotation regarding number, location, or reason for the fall/s.

A one-year re-audit was conducted to assess impact.

Trust guidelines were published during the project; including a post-fall assessment poster to aid management, focusing on head, neck and pelvic/hip injuries.

Results:
Audit cycle 1: The baseline falls rate was 14.70 falls / 1000 bed days, November 2010 - October 2011.

Audit cycle 2: Following introduction of the care plan, a 3 month re-audit showed a 13.4% reduction in the falls rate (12.73 falls / 1000 patient bed days, November 2011 - January 2012). Monthly monitoring regarding completion of the care plans achieved a compliance rate of 89% and highlighted up to 81% of inpatients were high risk. Feedback from staff was positive, as the care plans helped identify at-risk patients and enabled adaptation of care to suit individuals’ needs.

Audit cycle 3: A 6 month re-audit assessing both interventions showed a 10.6% reduction in the falls rate (13.14 falls / 1000 patient bed days, November 2011 – April 2012). Nursing staff felt the ‘Walking-Stick’ poster was a good visual reminder of progress and provided incentive to continue.

Audit cycle 4: A one year re-audit demonstrated a 15.4% reduction in the falls rate (12.44 falls / 1000 patient bed days for November 2011 – October 2012).

There was positive feedback regarding the post-fall assessments in subjectively improving quality of care after a fall.
Results were disseminated via ward feedback sessions, departmental educational meetings, and wider to medical specialties through the hospital audit programme and trust-wide Safety, Quality and Effectiveness programme.

Conclusions:
This study demonstrated good compliance with a multifactorial assessment and care plan and incentive poster, as well as positive feedback from staff regarding usage. The inpatient falls rate decreased by 15.4% over one year: still to obtain our initial goal of 20%, we continue implementing and re-auditing as required.

We will extend the work to the other Elderly Care wards in the department and hand ownership to a clinical nurse lead, to maintain and improve inpatient falls rates.

References:
1 NPSA. Slips trips and falls in hospital data update. NPSA 2010.
4 NPSA. New data prompts falls prevention reminder to NHS organisations. NPSA 2010.
Audiology referrals to the ENT department: A new pathway for asymmetric sensorineural hearing loss

By Drs Mawby T and Gupta D
Great Western Hospitals NHS Trust, Swindon

Background:
There is increasing demand to reduce the burden on outpatient departments. It is important to ensure that services are used appropriately and as efficiently as possible. ENT departments receive new referrals from the general practitioner (GP) or via the audiology department. It is common practice for GPs to be able to refer directly to audiology who can manage a range of conditions but if not can refer to a doctor in ENT.

The British Society of Audiology (BSA) guidelines are the gold standard for audiology to ENT department referrals. The guidelines are designed to detect red flag symptoms requiring full assessment in ENT outpatient clinics. Asymmetric Sensorineural Hearing Loss (ASHL) is a common cause of audiology to ENT referral. ASHL needs urgent investigation due of the risk of underlying vestibular schwannoma. A vestibular schwannoma is a benign tumour of the eighth cranial nerve and may present with ASHL. A MRI of the internal auditory meatus is the standard diagnostic test.

Aims:
This project aimed to evaluate referrals from audiology to ENT to check if they were meeting the gold standard guidelines or could be further streamlined.

Identifying best practice:
A literature review was carried out to enable an evidence based protocol to be developed to streamline management of patients with ASHL (see figure 1).

Methods:
A prospective audit was carried out over a five-week period. Appropriateness and type of referral were compared with BSA gold standards. A new evidence based pathway was introduced for referral of patients with ASHL (see below). A re-audit was performed to close the loop. Patients entering the new audiology pathway were also audited for appropriateness of referral and final outcome over a twelve-month period.

Results:
Following introduction of the new pathway a 50% reduction in referrals to ENT was observed. Over 12 months, 96 patients entered the new pathway. 88 met the criteria for entry, 7 were referred for an MRI because of a unilateral tinnitus and one because of syndromic risk factors. 91 patients (95%) were discharged after consultant MRI review with letter alone, and without the need for a clinic appointment. At the standard NHS ENT outpatient tariff of £114 this equates to a saving of £10,374. Two new vestibular schwannomas were detected and referred for ENT clinic appointment.

Conclusion:
Introduction of a new ASHL pathway has dramatically reduced audiology to ENT referrals and enabled the majority of patients on the pathway to be discharged without a formal ENT appointment and within the 18-week limit. This will free up approximately 8 new patient outpatient appointments per month and reduce the time from referral to diagnosis and discharge.

References:
1 Guidelines for referral to audiology of adults with hearing difficulty. British Academy of Audiology 2009.
Background:
- Neonatal cranial ultrasound scanning (CrUS) is an important tool on the neonatal unit for assessment of intracranial pathology
- Scans should be performed based on corrected gestational age and clinical need.

Aims:
- Part 1 – to enhance trainee opportunities in performing and interpreting scans under expert supervision and confident independent practice
- Part 2 – to produce departmental guidelines citing clinical indications regarding the frequency and appropriateness of CrUS; to improve documentation and planning of scans.

Identifying best practice:
Part 1:
- Paediatric trainees to attend formal practical cranial ultrasound teaching with a consultant radiologist. Exceptions: Already attained high level of independent practice
- All babies in the unit to receive an assessment for cranial ultrasound based on gestation and clinical indication. Exceptions: If performing the scan would delay transfer out to a specialist unit/worsen the clinical condition.

Part 2:
- Cycle 1 – CrUS guidelines as approved by audit opinion leader
- Cycle 2 – new departmental guidelines.

Methods:
Part 1:
- A questionnaire was given to Paediatric Speciality Trainees (>ST4) to frame the context of the audit and assess confidence in P&I of CrUS.

Part 2:
- Cycle 1 – daily data collection over a 12-day consecutive period against approved standards. The data was analysed, changes were identified and put into practice
- Cycle 2 – daily data collection over 12-day consecutive period against the new guidelines, six months after Cycle 1, assessing the impact of the changes.

Results:
Part 1:
- 57% (n=8) of Paediatric ST responded
- ST4-5 (n=7) had performed <25 scans stating ‘little confidence’ with P&I
- ST6-8 (n=1) had performed 25-75 scans stating ‘confident’ with P&I
- All stated scans performed independently or supervision with paediatric consultant; no radiology supervision.

Part 2: see Figures 1 and 2.

Discussion:
Part 1:
- All trainees identified major abnormalities on picture questionnaire with appropriate answers regarding management; limited information regarding prognosis
- These senior Paediatric trainees in hospital out of hours highlight the need for high level of scanning proficiency
- Trainee opportunity and exposure to P&I needs to be increased to improve knowledge base and confidence.
Action taken:
Weekly teaching sessions with a consultant radiologist experienced in cranial ultrasound
- Up-to-date CrUS atlas on neonatal unit for reference
- New ultrasound scanner on unit able to store images on system, working plan to connect and upload to PACS facilitating discussion at departmental and radiology meetings.

Part 2
Cycle 1:
- Poor compliance; loose scans placed in notes with no date, time, reference to scan result, corrected gestational age (CGA), indication, further action etc, not documented
- Scanning usually done pre-discharge rather than based on clinical timetable
- No Standardised Electronic Neonatal Database (SEND) CrUS form completed
- Unsafe practice, potential for litigation.

Action taken:
- Separate proforma for every baby admitted to the unit prompting an assessment for CrUS, easily integrated into admission paperwork, with comprehensive guidelines based on CGA and clinical indications on the reverse
- Reminder posters next to scanner and computers to encourage electronic documentation on SEND
- Support from neonatal unit manager and nursing staff to perform CrUS at mutually convenient times.

Part 2
Cycle 2:
- Improved compliance rate
- Over half of babies had a proforma ensuring that an assessment for CrUS was undertaken
- Significantly improved documentation on dedicated proforma including name, signature, level of supervision, plan for follow up scan and work planning
- No SEND CrUS form completed, however, shortened time completing discharge summaries as scan information copied directly onto SEND.

Action taken:
- Departmental presentation; praise for excellent progress, encouraged to continue to improve upon routine assessments for CrUS and electronic documentation at time of scan.

Conclusion:
- Teaching sessions in addition to reviewing images with seniors, improves trainee confidence in P&I and parental discussions regarding prognosis
- Dedicated guidelines and proformas improve assessment for scanning, compliance, documentation and work planning, ultimately enhancing service provision and patient care.

References:
Signposting

Clinical Audit Today would like to draw your attention to the following events. If you wish to publicise local, regional or national events relating to clinical audit in future issues of the journal, please contact us.

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**Background:** the audience for the journal is intended to be clinical audit and governance staff and practitioners. Clinical Audit Today is not intended to be a high brow, academic publication and we request that your article is written in plain English and focuses on everyday practice.

**Length:** 500-1000 words.

**Illustrations:** where appropriate please illustrate your work using charts, tables, photos, etc.

**References:** where appropriate, references should be included – Vancouver numerical format. Please also include links to relevant websites and resources.

**Submitting your article:** on the first page include the article title and names of all the authors. Please provide the details of which organisation is submitting the article and an email address of the principal author. Start the article with no more than five key bullet points summarising the article. Submission must be in Arial font 11 and text should be justified throughout. Any heading or sub-headings should appear in bold type.

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