London Ambulance Service NHS Trust

A re-audit examining the assessment of intoxicated patients by the London Ambulance Service

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Clinical Audit & Research Unit

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Executive Summary

Background

The London Ambulance Service NHS Trust (LAS) attended nearly 50,000 alcohol-related incidents in 2015/2016, making up nearly 5% of the annual LAS workload. The clinical manifestations of acute alcohol intoxication are mixed and vary in severity. Symptoms range from experiencing euphoria, to depression of the central nervous system which results in the patient's inability to maintain their own airway. Alcohol-intoxicated patients can be challenging to assess; however, this must be done accurately and comprehensively to offer the most suitable care.

The LAS first assessed the treatment and management of intoxicated patients in 2012. The clinical audit measured whether clinicians met four evidence-based standards of care outlined in UK Ambulance Services Clinical Practice Guidelines (2006). The majority of patients had a full primary survey undertaken and two full sets of observations recorded. However, not all patients with a reduced level of consciousness had their capillary blood glucose level measured and only a minority had a full history of the event recorded. This re-audit aimed to determine whether the introduction of personal issue blood glucose monitors and tympanic thermometers, plus station based pulse oximeters has led to improved patient assessment. The re-audit further examined whether there has been an increase in the number of patients for whom a full event history is recorded.

Methodology

The patient report forms for 188 patients attended by the LAS from the 1st to the 3rd September 2014 were assessed against JRCALC UK Ambulance Services Clinical Practice Guidelines.

Results

Some improvements were found since the original audit, with:

- A 7% increase in the number of patients who had a full set of observations recorded (78%, n=118). For 34 patients, at least one observation was missing. A full set of observations was not possible for the remaining 36 patients.

- A 15% increase in the number of patients with reduced level of consciousness who had their capillary blood glucose measured (100%, n=52).

- A 5% increase in the number of patients who had a complete alcohol history recorded (12%, n=15).

Whilst nearly all patients (95%) had a full primary survey documented, this was a reduction of 3% from the previous audit.

Recommendations and actions

1. CARU's Staff Engagement Facilitator will produce an infographic to congratulate staff on areas of good practice which will be sent to all ambulance stations and shared on the Service's Listening into Action (LiA) Facebook page to stimulate discussion amongst clinicians. The infographic will also highlight the importance of history taking.

2. CARU will write an article for the Clinical Update to ensure staff are aware of the importance of obtaining a full and accurate alcohol history as stated in UK Ambulance Service Clinical Practice Guidelines.

3. CARU will share the positive impact of personal issue equipment with the LAS Quality Governance Committee and at local Quality Governance Meetings.

4. CARU will re-audit whether there has been an improvement in the documentation of a full primary survey and history of the event once all actions have had sufficient time to take effect.

Background

Alcohol-related incidents comprise 5% of the annual workload of the London Ambulance Service NHS Trust (LAS), costing the Service an estimated £17 million each year (LAS, 2015_a). There were nearly nine thousand deaths across the UK in 2014 as a result of alcohol intoxication (Office for National Statistics, 2016) and alcohol is the most frequent reason for 999 calls across London within the 21-30 year age group (LAS, 2015_a, LAS 2015_b).

The clinical manifestation of alcohol varies. Initially it may provide desirable effects such as relaxation and outgoingness; however, it can also result in slurred speech, loss of co-ordination, aggression and inability to follow commands (Kumar & Clark, 2009). As a result, it can be challenging for clinicians to assess and manage intoxicated patients (LAS, 2009).

It is important to consider that alcohol can mimic and exacerbate other medical conditions, such as diabetes, where it may result in profound hypoglycaemia (Nicholas et al., 1998). Alcohol may also interact with other drugs, such as anti-depressants and opiates, worsening its effects. It is therefore crucial to perform a full and accurate clinical assessment on all intoxicated patients, which includes obtaining a history of the event.

Due to the large number of alcohol-related calls attended by the LAS, a clinical audit to assess the treatment and management of these patients was undertaken in 2012 (LAS, 2012). This clinical audit measured whether clinicians met four evidence-based standards, regarded as the gold-standard of care in UK Ambulance Services Clinical Practice Guidelines (2013). Results showed that the majority of patients had a full primary survey undertaken and nearly three-quarters had two full sets of observations recorded. However, not all patients with a reduced level of consciousness had their capillary blood glucose level measured due to equipment unavailability, and a minority had a full history of the event recorded (which includes onset of symptoms, plus the type and quantity of alcohol consumed).

As a result of the clinical audit findings combined with other service evaluations, each member of staff now has a personal issue blood glucose monitor, personal issue tympanic thermometer and all stations are stocked with pulse oximeters. The importance of obtaining a full event history was also reiterated to staff. This clinical audit therefore aimed to assess whether the actions implemented since the original audit have led to improved assessment of intoxicated patients.

Aims & Objectives

This clinical audit aimed to:

- identify whether the introduction of personal issue blood glucose monitors and tympanic thermometers, plus station based pulse oximeters, has resulted in intoxicated patients receiving a more thorough assessment
- assess whether there has been an improvement in the number of patients for whom a full and accurate alcohol history is recorded

Methodology

Design

The first 247 patient report forms (PRF) for patients attended by the LAS from the 1st to the 3rd September 2014 whose PRF was coded with illness code 62 (alcohol related) were reviewed. Patients were excluded if they were suffering from alcohol withdrawal or whose alcohol related symptoms were not the primary complaint (n=59), resulting in a final sample of 188 patients.

Clinical Audit Standards

Adherence to the following standards of care derived from the Clinical Practice Guidelines for use in UK Ambulance Services was measured.

Aspect of care	Target	Exceptions*	Definitions
Full primary survey: • Airway • Breathing • Circulation	100%	None	AACE Clinical Practice Guidelines 2013 – Overdose and Poisoning (Adults), page 161-169
Two complete sets of observations: • A, V, P, U, • Respiratory rate and depth • SpO_2 • Pulse rate and character • Blood pressure • Colour • Pupil size and reaction • Glasgow Coma Score	100%	Patient refusal	AACE Clinical Practice Guidelines 2013 – Overdose and Poisoning (Adults), page 161-169 Clinical Performance Indicator (CPI) Guidance Notes (LAS, 2016)
Capillary blood glucose measured for patients with reduced level of consciousness (GCS ≤14, AVPU ≤V)	100%	Patient refusal, no reduced level of consciousness	AACE Clinical Practice Guidelines 2013 – Overdose and Poisoning (Adults), page 161-169
Full event history recorded: • Onset of event • Type of alcohol consumed • Quantity of alcohol consumed • Inquiry into co-ingested substances	100%	Patient refusal, reduced GCS/AVPU, unable to communicate due to other medical problem	AACE Clinical Practice Guidelines 2013 – Overdose and Poisoning (Adults), page 161-169

*Concern for crew safety is also an exception for delivering every aspect of care.
Table 1: Clinical audit standards

Data Analysis

Data gathered from PRFs were entered into Microsoft Excel and analysed using descriptive statistics.

Demographics

The majority of patients were male 72% (n=136/188). Where age was recorded on the patient's PRF (n=178), the median age was 43 years (ranging from 15 to 74 years), as shown below in Figure 1.

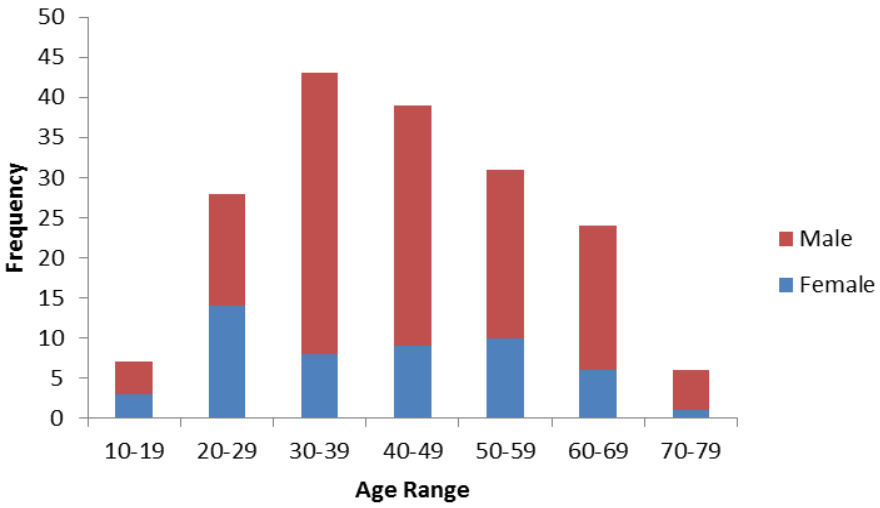

Figure 1: Patient demographics

Results

Standard	Exceptions n	Sample n	Compliant n (%)	Not compliant n (%)	% change since 2012
Full primary survey	0	188	178 (95%)	10 (5%)	-3%
Two complete sets of observations	36	152	118 (78%)	34 (22%)	+7%
Capillary blood glucose measured for patients with reduced level of consciousness	136	52	52 (100%)	0 (0%)	+15%
Full event history documented	59	129	15 (12%)	114 (88%)	+5%

T*able 2: Compliance with clinical audit standards*
Key: Red: 0-74% Amber: 75-94% Green: 95-100%

Full primary survey

A full primary survey (assessing the patient's airway, breathing and circulation) was documented for 178 patients (95%), a 3% reduction compared with the previous audit.

For ten patients, a full primary survey was not recorded (5%). A partial primary survey was documented for seven patients: one did not have their breathing assessed and six did not have their circulation recorded. All elements were missing for the remaining three patients.

Two complete sets of observations

Thirty-four patients refused to have their observations taken and for one patient the pulse oximeter was not working. One further patient was registered blind, preventing the assessment of their pupillary response. Of the remaining 152 patients, two full sets of observations were recorded for 78% (n=118). This was an improvement of 7% from the original clinical audit.

All patients had two AVPU, respiratory rates and pulse rates documented. However, temperature, pupil size and reactivity were recorded less frequently, as shown in Figure 2.

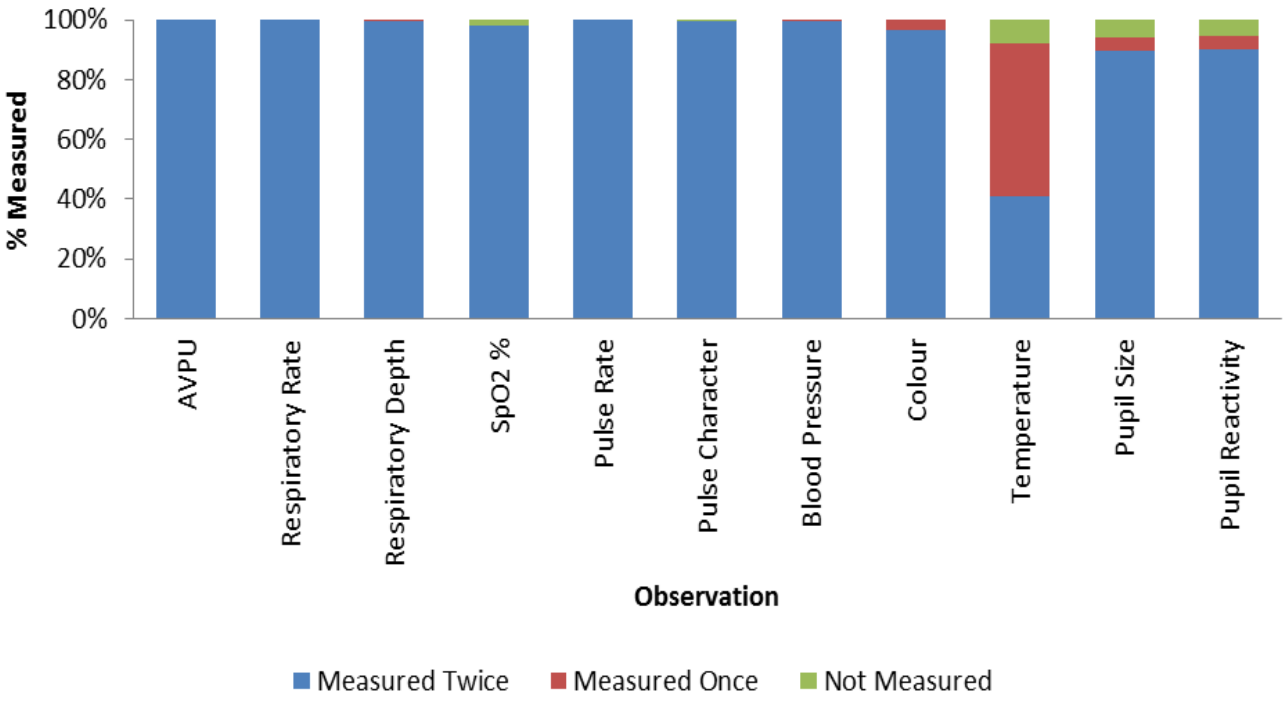

Figure 2: Observations measured

<u>Capillary blood glucose measured for patients with reduced level of consciousness</u>
One hundred and twenty-six patients did not have a reduced level of consciousness and it was therefore not necessary to measure their blood glucose level. In addition, ten patients declined to have their blood glucose measured. Where patients had a reduced level of consciousness (n=52), all had their capillary blood glucose measured (100%). This is an improvement of 15% from the previous audit.

<u>Full event history documented</u>
On 59 occasions (31%), clinicians documented why they were unable to obtain a full history: 27 patients had a reduced level of consciousness; 26 refused, and six were aggressive.

Only 12% of the remaining patients had a full history recorded (n=15). This is a small improvement of 5% from the previous audit.

Where patients did not have a full history recorded, ten (9%) had a language barrier recorded, but crews did not document why they did not utilise translation services. The remaining 103 patients (91%) had an incomplete history documented with no reason recorded for not having obtained all elements. Figure 3 shows the extent to which each aspect of the history was documented.

Additionally, of the two patients aged under eighteen, only one had safeguarding concerns considered on their PRF.

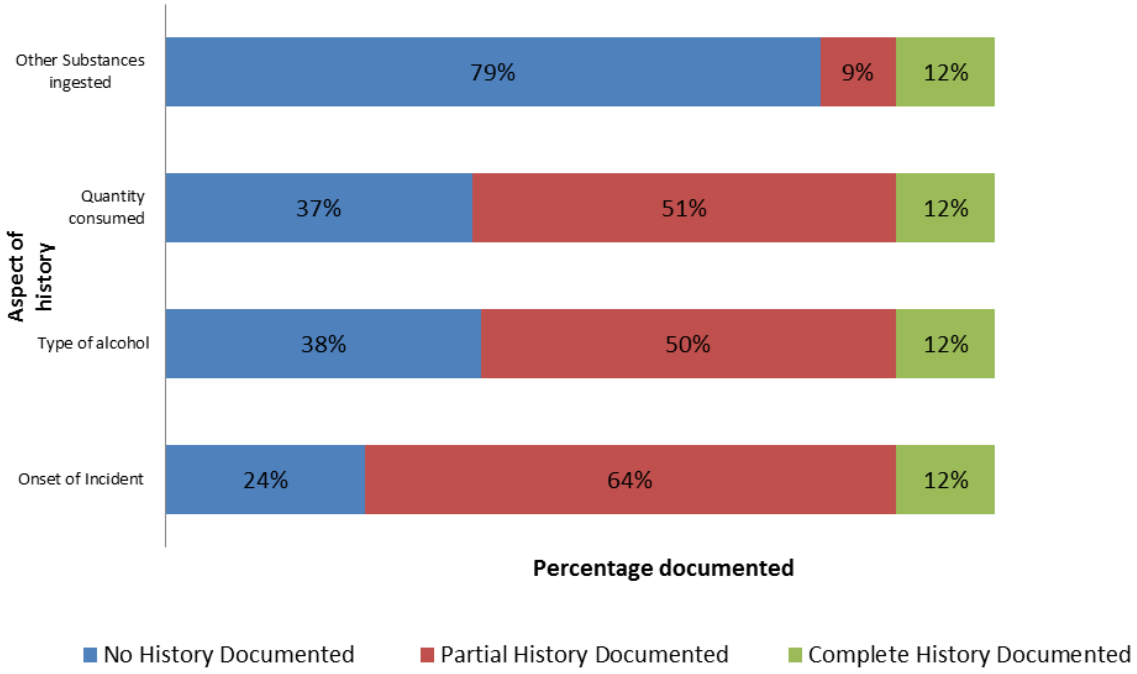

Figure 3: The proportion by which each element of history taking was documented

Discussion

This clinical re-audit demonstrates that, on the whole, improvements have been made in the assessment of intoxicated patients since the original clinical audit. Whilst the proportion of patients receiving a full primary survey remains high, there was a slight decrease compared with the original audit. Once again, only a small number of patients had a full alcohol history recorded.

Assessing intoxicated patients can prove to be very challenging, with patients refusing to co-operate or being aggressive towards the crew. Despite such difficulties, crews are adequately assessing the clinical needs of intoxicated patients, or documenting why this cannot be done. An infographic[i] to congratulate staff on areas of good practice will be sent to all ambulance stations and shared on the Service's Listening into Action (LiA) Facebook page to stimulate discussion amongst clinicians. The infographic will also highlight the importance of history taking.

Missing equipment was often cited as a reason for not obtaining a particular assessment in the previous clinical audit. However, this clinical audit shows that the introduction of personal issue blood glucose monitors and tympanic thermometers, plus station based pulse oximeters has improved the completion of two full sets of observations. CARU will share these findings with the LAS Quality Governance Committee and at local Quality Governance Meetings to demonstrate the positive impact of personal issue equipment.

[i] A visual representation of information or data

While seeing a small improvement, recording a full history of the event was still only documented for a minority of patients. Recording a full history, including onset of the event, the amount of alcohol consumed, and whether any other substances have been ingested, will inform the clinician's management plan and ensure patients receive the most appropriate treatment. CARU will write a Clinical Update article outlining the assessment and management intoxicated patients should receive, and highlighting the importance of recording a full event history.

Of particular note, ten patients had a language barrier documented for absence of full history. This is not a valid exception as there are tools available to overcome this difficulty, such as Language Line, a communication booklet, or asking friends and family to translate. A reminder of these resources will also be included in the Clinical Update article.

It is positive that, for the most part, the assessment of intoxicated patients has improved. However, CARU will re-audit whether there has been an increase in the number of patients for whom a full primary survey and history of the event are documented, once all actions have had sufficient time to take effect.

Recommendations and Actions

	Recommendation	Action	Responsible Officer	Director	Deadline
1	Congratulate staff on the improvement in the assessment and management of patients presenting with acute alcohol intoxication, whilst reminding staff to obtain a full event history	An infographic will be produced and shared on the Service's LiA Facebook page	CARU Staff Engagement Facilitator	Medical Director	January 2017
		The infographic will be distributed to all ambulance stations as a poster	Clinical Audit Assistant	Medical Director	January 2017
2	The improvements in care and impact of personal issue equipment will be shared with the Quality Governance Committee and at local Quality Governance meetings	Share findings with the Quality Governance Committee and at local Quality Governance meetings	Interim Clinical Audit Manager	Medical Director	January 2017
3	Ensure staff are aware of the importance of obtaining a full alcohol history as stated in UK Ambulance Service Clinical Practice Guidelines and the availability of tools to overcome language barriers	CARU will write an article for the Clinical Update	Clinical Audit Facilitator	Medical Director	February 2017
4	Determine whether implemented actions have led to improvements in the documentation of a full primary survey and history of the event	CARU will re-audit these two aspects of care once all actions have had sufficient time to take effect	Clinical Audit Manager	Medical Director	March 2019

Table 3: Recommendations and actions

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Cost Analysis

Cost analysis is reported to provide the Service with an understanding of the resources involved in conducting this clinical audit project.

Description of staff activity	**Approximate Cost**
Project design	£54.28
Quality assurance	£62.23
Clinical review/advice	£12.37
Report write up	£197.92
Feedback on report	£148.88
Total	**£475.68**

Table 4: Cost analysis for this clinical audit project