Society for Acute Medicine Benchmarking Audit

SAMBA18 Report

A National Audit of Acute Medical Care in the UK



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Welcome to SAMBA18

The 7th Society for Acute Medicine Benchmarking Audit (SAMBA18) provides a snapshot of the care provided for acutely unwell medical patients in the United Kingdom (UK) over a 24-hour period on Thursday 28th June 2018.

The report is written for the benefit of everyone involved in acute medical care, including healthcare professionals, commissioners of healthcare, all UK governments and, most importantly, patients and the public.

The report has been sponsored by the Society for Acute Medicine (SAM). Everyone involved in conducting the audit and writing the report have provided their time voluntarily. Collecting data and running SAMBA in participating hospitals is a huge undertaking and therefore both the Society and the SAMBA team extend a huge thank you to everyone who participated.

The only reason to undertake all this hard work is to improve the care we provide for acute medical patients. We hope we have gone some way to achieving our goal, although we know there is more work to do.

Executive Summary

SAMBA18 took place on Thursday 28th June 2018 with follow up data at 7 days.

Acute medical teams from 127 Acute Medical Units (AMUs) across the UK collected data relating to operational performance, clinical quality indicators and standards from NHS Improvement.

Data was collected from 6114 patients.

Key Findings

Structure and staffing of AMUs

- AMUs had a median of 39 beds, with 8.9% of AMUs having level 2 HDU beds
- 24.2% of hospitals have a separate admission process for older patients with frailty and complexity
- 60% of AMUs do not have social workers and 45% do not have advanced nurse practitioners
- 21.8% of AMUs have physician associates.

Patients

- 6% of patients were living in care homes
- 28.5% of patients were aged 80 years or older
- 20.4% of patients were in hospital within the previous 30 days.

Flow of patients through Acute Medicine

- 60.3% of patients were referred by the Emergency Department (ED) and 31.7% by a General Practitioner
- 20.1% of patients were initially seen in Ambulatory Emergency Care (AEC)
- AEC units sent home 79.5% of the patients they assessed.

Performance against Clinical Quality indicators

- CQI 1: 84.1% of patients had their first NEWS measured within 30 minutes of arrival in hospital
- CQI 2: 91.4 % of patients were seen by a competent clinical decision maker within four hours of arrival in hospital.
- CQ 3: 62.7% of patients were seen by a consultant within 12 hours of arrival in hospital

Outcomes at 7 days

- 2% of patients died
- 23.2% of patients were still in hospital
- 72.2% of patients were discharged back to their place of residence.

The future of SAMBA

SAMBA needs to move beyond a 24-hour time period to generate longitudinal data that can deliver a more precise estimate of performance of acute medical teams. These teams are increasingly multidisciplinary and work across acute care environments such as ED, AMU and AEC.

In addition, SAMBA needs to provide data from acute care delivery at times of intense and sustained pressure during winter months. This will require a change in the data collection mechanism and increasing use of electronic health records. This will provide accurate time data and minimise the impact on teams on the ground during periods of very high activity.

1 Setting the Scene

Acute Medicine

Acute Medicine is defined as that *'part of general internal medicine (GIM) concerned with the immediate and early specialist management of adult patients suffering from a wide range of medical conditions who present to, or from within, hospitals, requiring urgent or emergency care'*.[1] Acute Medicine differs from other medical specialties as it is not based on a body system, disease or patient characteristic, such as age. A rich description of the specialty can be found in the Royal College of Physicians of London (RCP) web resource Medical Care.[2]

In very simple terms, Acute Medicine is the care process for unwell adults (usually age 16 years and above) who attend hospital with a medical (non-surgical) condition.

The term Acute Internal Medicine (AIM) was first used to describe the specialist training programme for Acute Physicians. This training pathway has been available since 2009. The term AIM is used synonymously with Acute Medicine.

Patients presenting to Acute Medicine show wide variation in terms of age and social background, as well as the type and severity of their illness. The challenge for Acute Medicine is to provide a range of high-quality services to such a varied group of patients. Acute medical care must be timely, organised, well-led and delivered by the right staff. The core processes are:

- Initial assessment by a competent clinician
- Early review by a senior clinician (consultant)
- Diagnosis, with early access to diagnostic tests
- Assess illness severity/physiological instability
- Stabilise unwell patients/resuscitation
- Care delivery by a multidisciplinary team (MDT) in a dedicated AMU.

Since the first units were created in the 1990s the specialty has expanded significantly, with around 225 AMUs across the UK. Acute Medicine has now spread outside the UK, most notably to the Republic of Ireland, the Netherlands, Australia, Singapore and Malaysia.

The Society for Acute Medicine

Currently SAM has 1278 members, including 544 consultants, 521 trainees and 213 colleagues from the multidisciplinary team or non-trainee doctors.

SAM has many roles:

- Promote education
- Encourage and support the MDT
- Facilitate and co-ordinate the collection of data relevant to acute medical assessments and admissions, including SAMBA
- Facilitate collaborative research
- Promote the creation of appropriate environments for acute medical care
- Share good practice
- Work collaboratively with other organisations
- Promote acute care models that exist to improve the care of patients
- Organise twice yearly fully accredited CPD.

2 SAMBA

The Society for Acute Medicine Benchmarking Audit (SAMBA) provides a comprehensive snapshot of the delivery of care in Acute Medicine. The audit is conducted over a 24 hour period in June each year. SAMBA is recognised within the UK as providing a global assessment of the care provided for adult patients who present to hospital

Founding Aims and Objectives

1. To provide a national audit of care delivered on AMUs against standards set out by the Society for Acute Medicine in 2011, known as Clinical Quality Indictors for AMUs (CQIs) (Figure 2.1)[3]
2. To enable individual AMUs to benchmark their performance against other contributors, identify areas of good practice, which might be shared, or where improvement is required.

Progress in the First Six Years

This year was the largest SAMBA ever (Figure 2.2). The depth of data collected in the audit affords us insight into other aspects of Acute Medical care to interpret performance on the CQIs, including:

- A detailed understanding of the route into and out of AMU
- Information to capture the diversity of units
- Staffing levels
- The influence of ambulatory emergency care
- The contribution of consultant Acute Physicians to the medical take.

Disseminating SAMBA Data

Results are used to inform contributors of their individual unit's performance against the CQIs. Unit Reports have evolved to compare outcomes against anonymised results from other participating units, thus providing direct benchmarking. In addition, the national picture is analysed. In previous years there have been several publications in peer reviewed journals, presentations at SAM conferences and National SAMBA Reports (see Bibliography).

Your Hospital

Joining this audit is voluntary for Acute Medical Units (AMUs). You can see if your hospital has taken part from the list of participants in the Appendices. If they did participate, they will be given a bespoke report later this year.

SAMBA Organisation & Methods

SAMBA is planned and run by the SAMBA Academy. Membership of the Academy is open to all SAM members. For SAMBA18, the Academy met in November 2017 and February 2018 (Appendix 3).

How?

SAMBA18 was promoted via e-mail to all SAM members, the Society newsletter and at our spring conference in Amsterdam (May 2018).

Units were asked to register via an online portal. To assist units in running SAMBA18, there was a dedicated e-mail and supporting documents:

1 Study protocol
2 How to guide
3 Caldicott approval
4 Unit data
5 Patient Masterlist
6 Unified data collection tool
7 Frequently asked questions

Who and When?

Recruitment to SAMBA18 was open to all hospitals in the UK receiving acutely unwell medical patients. Non-acute and community hospitals were excluded from participating. The AMUs in participating hospitals were asked to register with their local audit office and Caldicott Guardian. The audit took place on Thursday June 28th 2018 between 00:00 to 23:59 hours.

Data Collection

Patient data was anonymised on entry to an online portal. Units were advised to:

1. Collect raw data on paper for future reference, before uploading to the online portal.
2. To securely store anonymised raw data and a Masterlist of study codes, the later stored securely and independently from the raw data.

There were two questionnaires:

1. Data regarding the staffing and structure of participating units
2. Patient related data

As well as the CQIs, acuity of illness was assessed using the National Early Warning Score (NEWS)[4]

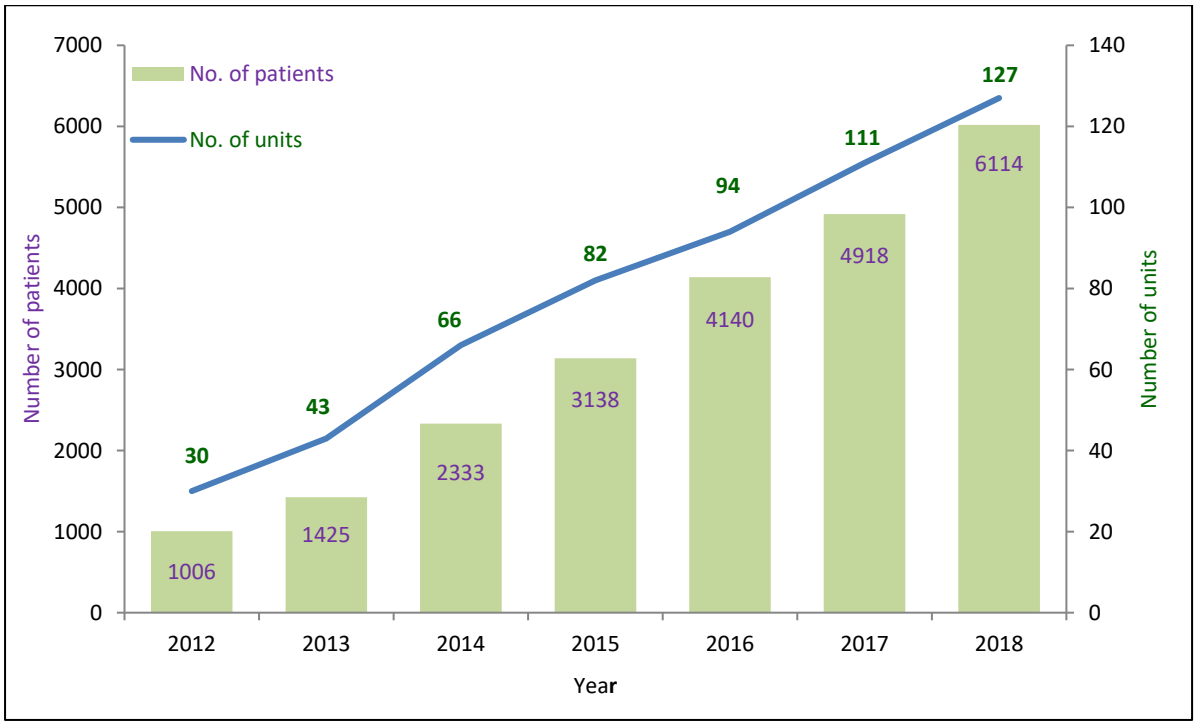
Table 1 Performance Indicators for Acute Medical Units[3]

1. All patients admitted to AMU should have an early warning score measured upon arrival
2. All patients should be seen by a competent clinical decision maker within 4 hours* of arrival on AMU who will perform a full assessment and instigate an appropriate management plan
3. All patients should be reviewed by the admitting consultant physician or an appropriate specialty consultant physician within 14 hours of arrival on AMU**
4. All AMUs should collect the following data:
    - Hospital mortality rates for all patients admitted via AMU
    - Proportion of admitted patients who are discharged directly from AMU
    - Proportion of patients discharged from AMU and readmitted within 7 days of discharge

**In most cases, clinical assessment and initiation of a management plan should be undertaken in much less time, and prioritised in accordance with clinical need.*

**Please see section 4 for further discussion of review times across all clinical settings and variation in recommendations from different national bodies

Figure 1 Number of Patients and Participating Units



For SAMBA18 time zero was taken as the time of arrival to hospital (ED, AMU or other ports of entry, Figures 2.3 and 2.4). The original CQIs were created with the expectation that the majority of acute medical referrals would be admitted directly to AMU. However, several years of SAMBA data have shown that the majority of medical admissions start their patient journey in ED. Furthermore, many medical patients will not reach the AMU, they may be discharged from ED or redirected to AEC. SAMBA18 measures performance from the moment a patient arrives at hospital. This is a more robust measurement of the quality of care a hospital provides for its patients. The CQIs measured in SAMBA18 are shown in Table 2. For consultant review, please see sections below describing how this was undertaken.

Table 2 CQIs Reported in SAMBA18

Clinical Quality Indicator 1 **Compliance defined as a full set of physiological observations within 30 minutes of arrival in hospital**
Clinical Quality Indicator 2 **Compliance defined as time of less than 4 hours to see a competent clinical decision maker measured from the time of arrival at hospital to the time of the first contact (in the ED or AMU)** The competent clinical decision maker is synonymous with the person performing the first medical assessment (clerking). For SAMBA18 we took this as an ACP (Advanced Care Practitioner), PA (Physician Associate) or any grade of doctor from Foundation Year 1 to Consultant.
Clinical Quality Indicator 3 **Compliance was defined as time of less than 12 hours to see a consultant physician measured from the time of arrival at hospital to the time of the first contact (in the ED or AMU). This indicator is different from the version collected in 2012 - 17** The 12 hour standard has been used by NHS Improvement as an appropriate standard for consultant review of acute admissions across specialties (see further justification in 'Time to Consultant Review' in Section 4). Units can make comparisons across units within SAMBA18, but comparisons with previous years' SAMBA results will be more difficult.

3 Structure & Staffing of Acute Medical Units

In SAMBA18, 127 units submitted data describing their hospitals and acute trusts, structure, staffing and patient level data.

In Chapters 3 & 4 data is quoted for complete data sets and hence denominators may vary.

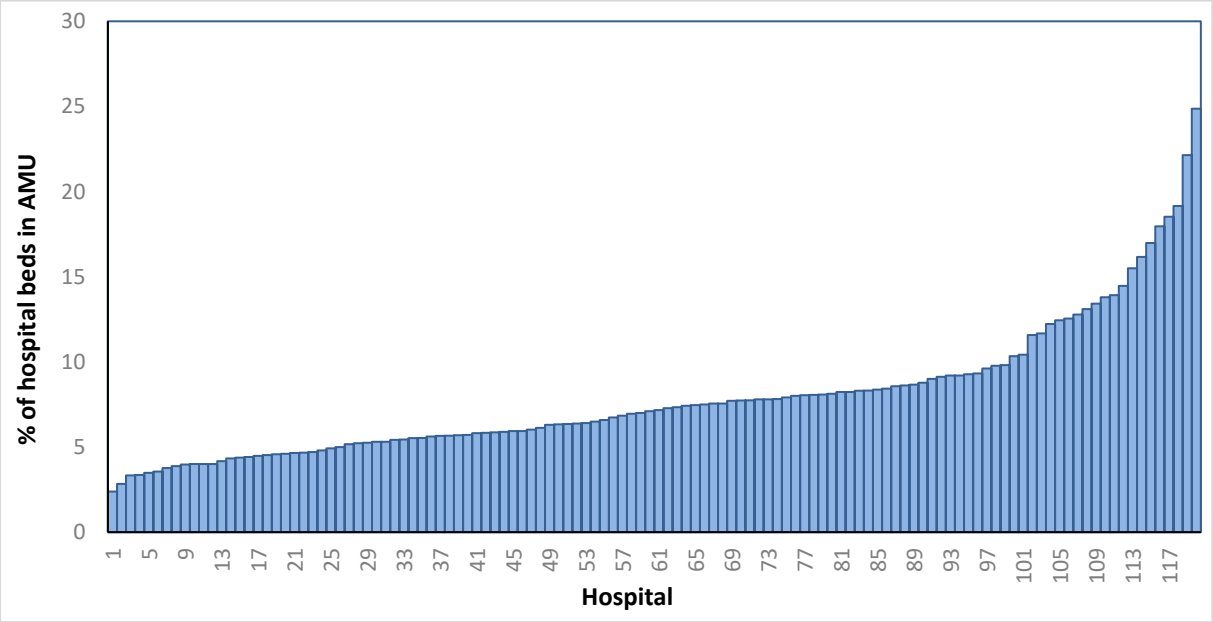
SAMBA17 results are shown in light grey

AMU Structure

- All hospitals had an AMU
- There was wide variation in AMUs across the UK, both in terms of size and structure
- The median number of total hospital beds was 546, range 94-1700 SAMBA17: 529 beds
- The median number of AMU beds was 39, range 10-93 SAMBA17: 36 beds
- The median number of patients assessed in the 24 hour period per AMU bed was 1.15 (range 0.19 to 4.5)
- 40.3% of hospitals had a separate Short-Stay Ward with median 24 beds, range 6-70
  SAMBA17: 45.5% hospitals, median 23 beds
- 48.3% of hospitals had an Acute Frailty Unit
  SAMBA17: 43.2% hospitals
  - 71.7% were separate from AMU
    SAMBA17: 57.9%
  - 28.3% were co-located within AMU
    SAMBA17: 42.1%
- 79.8% of hospitals had a Surgical Assessment Unit SAMBA17: 84.0%
  - 85.9% were separate from AMU
    SAMBA17: 86.7%
  - 14.1% were co-located with AMU
    SAMBA17: 13.3%

- 24.2% of hospitals had a separate admission process (take) for older patients (Geriatric Medicine) SAMBA17: 25.8%
  - 43.3% on age-based criteria
    SAMBA17: 44.1%
  - 33.3% on needs-based criteria
    SAMBA17: 38.2%
  - 23.3% used a combined age and needs, including younger patients on a case-by-case basis
    SAMBA17: 17.6%
- 8.1% of hospitals units had Level 2 high dependency unit (HDU) beds on AMU
  SAMBA17: 8.3%
  - Within these AMUs, median of 7 beds, range 3-14
    SAMBA17: 5
- There was a variation in the proportion of total hospital beds that were dedicated to the AMU. A median of 7.1% of total beds were in AMUs (range 2.4%-24.9%) (Figure 3.1)
  SAMBA17: 7.0%

Figure 2 The Variation in Percentage of Total Hospital Beds Dedicated to the AMU



Ambulatory Emergency Care (AEC)

- 103 hospitals had an AEC service as part of acute medicine (83% of total hospitals, 95.3% of hospitals submitting complete data for this question)
  SAMBA17: 119 (90.8%) hospitals
- The majority of AEC units use a combination of trolleys, chairs and separate clinic rooms.
- The median number of trolleys and chairs per unit was 8 (range 1 - 54)
- The median number of clinic rooms per unit was 3 (range 1 - 9)

Table 3 Clinical Areas in AEC units

	% of AEC units SAMBA17
Trolleys/Chairs Only	16% 12.6%
Clinic Rooms Only	1% 4.2%
Both Trolleys/Chairs and Clinic Rooms	81% 81%
Flexible Beds on AMU	6% 8.4%

- 68% of AEC units SAMBA 17: 62.2% were separate from AMU
- 49.6% (46.8%) of hospitals had access to speciality 'hot' clinics

AMU Staffing

- The median time at which the last consultant left the AMU was 21:00 (earliest 17:00, latest 23:00)
- 45% of AMUs do not have Advanced Nurse Practitioners
- 21.8% of AMUs have Physician Associates
- 40% of AMUs have access to a social worker SAMBA17: 36.4%

Table 4 Composition of Daytime AMU Medical Team at 11:00

	Median (IQR) SAMBA17
Consultant	3 (2-3) 3
Specialist Trainee	1 (1-2) 1
Core Trainee	2 (1-3) 2
Foundation Year 1	2 (1-3) 2

Table 5 Composition of Acute Take Team

Numbers shown as median (IQR)

Time of day (hrs)	11:00	19:00 SAMBA17	03:00
Consultant	2 (1-3)	1 (1-2)	0 (0-0)
Specialist trainee	1 (1-2)	1 (1-2)	1 (1-1)
Core Trainee	2 (1-2)	2 (2-3)	2 (1-2)
FY1	1 (1-2)	1 (1-2)	1 (0-1)

Table 6 Composition of AMU Team

Numbers Shown as Median (IQR)

Time of day (hrs)	11:00	19:00 SAMBA17	03:00
Matron/Ward Manager	1 (1-1) 1	0 (0-1) 0	0 (0-0) 0
ANP	1 (0-2)	0 (0-1)	0 (0-0)
Ward Sister	2 (1-2) 2	2 (1-2) 1.8	1 (0-2) 1
Staff Nurse	7 (5-9) 7	7 (5-9) 7	6 (5-8) 6
Pharmacist	2 (1-2) 2	0 (0-0) 0	0 (0-0) 0
Physician Associates	0 (0–0)	0 (0–0)	0 (0-0)
Physiotherapist	1 (1-2) 1	0 (0-0) 0	0 (0-0) 0
Occupational Therapist	1 (1-2) 1	0 (0-0) 0	0 (0-0) 0
Social Worker	0 (0-1) 0	0 (0-0) 0	0 (0-0) 0

4 Patients and Outcomes

Patient and Admission Data

- Data was collected from 6114 patients SAMBA17: 4918 patients
- 52.4% patients were female SAMBA17 53%
- 28.5% of patients were aged 80 years and above (Figure 4.1) SAMBA17 30%

Admission to Hospital

- Units registering for SAMBA18 assessed a median of 45 patients (range 4-107)

Where were patients residing prior to hospital?

- Own home 92.5% SAMBA17: 87.6%
- Care home 6% SAMBA17 6.2%
- Another hospital 1.5% SAMBA17: 1.3%

Who referred the patient to Acute Medicine?

- ED 60.3% (unit median 62%, interquartile range 50-74)
  SAMBA 17 58.4%
- GP/Primary Care 31.7% (unit median 27.5%, interquartile range 16-42) SAMBA17 30.2%
- Paramedic direct referral 1.4% SAMBA17: 1.9%
- Own Hospital 5.3% (2.6% from out-patients, 2.7% elsewhere) SAMBA17: 2.1%

Where was the first Acute Medicine assessment?

- 60.0% in ED SAMBA17: 33%
- 20.1% in AEC SAMBA17: 16.5%
- 19.5% in AMU SAMBA17: 41%
- 1.4% in other locations
- 19.1% of patients admitted through ED went direct to a medical ward or medical outlying ward, bypassing AMU.
- 51.9% of patients had multiple clerkings SAMBA 17: 50.8%

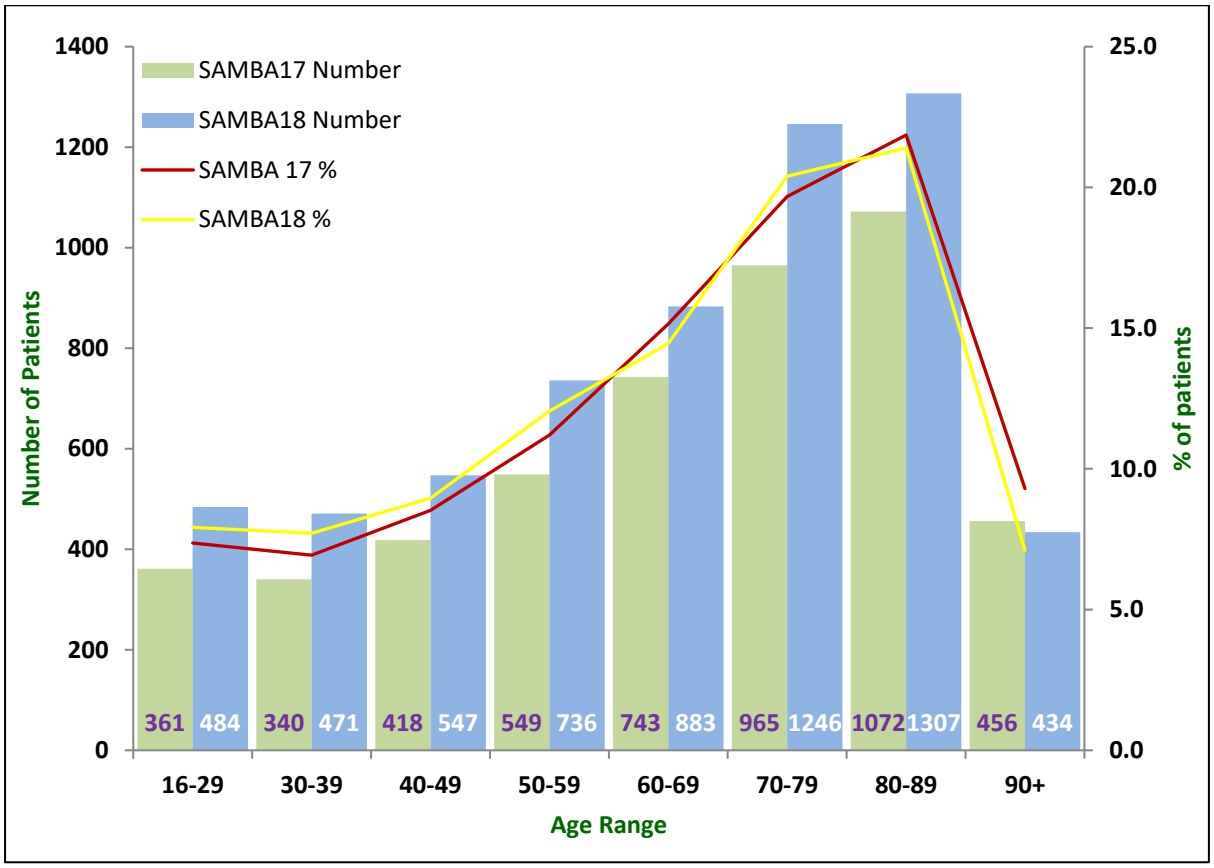
What were the same day discharge rates from the different initial assessment locations?

- 5.6% from ED
- 20.1% from AMU
- 79.5% from AEC
- 9.1% of patients were discharged prior to consultant review 9.9% in SAMBA 17

Readmissions

- 20.4% of patients had been in hospital in the 30 days prior to assessment on SAMBA day
  SAMBA17: 12%, SAMBA16: 13%

Figure 3 Age Distribution of SAMBA17 and SAMBA18 Patients



CQI Outcomes SAMBA18

Table 7 Overall Success in Achieving CQIs

Clinical Quality Indicator 1

All patients should have their NEWS measured within 30 minutes of arrival.

84.1% of patients had their first NEWS within 30 minutes of hospital arrival

83% in SAMBA 17

Clinical Quality Indicator 2

All patients should be seen by a competent clinical decision maker within four hours of arrival on the AMU.

91.4% of patients were seen within 4 hours of arrival in hospital

65% in SAMBA 17

Composite of CQIs 1,2

76.1% of patients received both standards

Clinical Quality Indicator 3

All patients should be seen by a consultant within 12 hours of arrival in hospital

62.8 % of patients were reviewed within 12 hours by a consultant

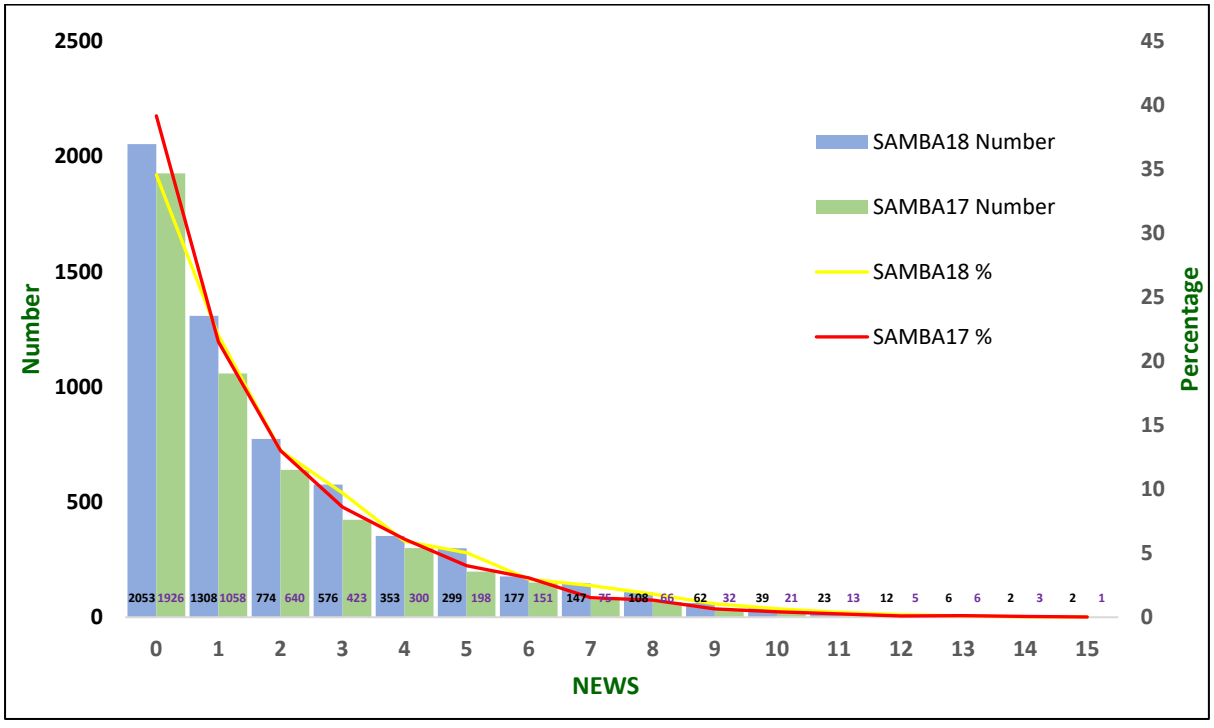
Table 8 Attainment of CQIs by Initial Assessment Location Percentage of Patients

	ED	AMU	AEC
CQI 1	84.9% (83%)	85.4% (83%)	82.1% (85%)
CQI 2	91.4% (59%)	88.9% (68%)	94.5% (85%)
Composite CQIs 1,2	77.2%	75.1%	75.7%

- Acuity at presentation was assessed using the National Early Warning Score (NEWS) (Figure 4.2). NEWS was used in 75 of hospitals, MEWS in 11% a Hospital's own scoring system in 8%, NEWS 2 in 2.5%,
- The median NEWS on arrival was 1 [IQR 0-3],
- Patient outcomes are shown by NEWS (Figure 4.3)
- After initial assessment
  - 23 patients were transferred to ICU
  - 28 to HDU
  - 34 to acute stroke unit
  - 69 to CCU.

Acuity of Illness

Figure 4 Distribution of NEWS SAMBA18 and SAMBA 17



Time to consultant review

When should the clock start?

Acute medicine sees patients across the ED, AMU and AEC, and times for review need to take this into account. The current SAM quality indicators are based on time of arrival on AMU but SAMBA data has shown that many patients are initially assessed in ED. Seeing patients in ED rather than waiting until transfer to AMU is the most timely route to assessment and treatment by acute medical teams. However, patients referred by ED may not have had a consultant review prior to referral to medicine and so if we start the clock at the time of referral, we will not capture waiting time from arrival. Patients who are directly referred from the community to AMU and ED will have their waiting time to consultant review start from arrival time.

The challenge for SAMBA is to have consistent assessment of waiting times to see a consultant in the acute care pathway so we understand how consultant review is delivered during a critical time for patients. We recognise that for patients referred from ED, the total waiting time from arrival reflects both the function of ED and acute medicine and its interpretation is therefore different to the interpretation of wait times in AMU and AEC. We also need to use data that is reliably collected and arrival time is usually electronically stamped in the ED.

For these reasons, we have included time from arrival at all portals of entry to acute medicine in SAMBA18.

What is the right time interval?

There is variation among national bodies about appropriate times for consultant review for patients treated by acute medicine (Table 8). There is no evidence base to guide optimal time to review. However, if this time interval is too short then results of critical investigations will not be available which will impede decision making and if it is too long, then patients may have deteriorated without optimal management. The time targets are:

Table 9 Time Standards for Consultant Review

SAM[3]

For patients arriving on AMU between 08.00-18.00, consultant review should usually be undertaken within 8 hours of the patient's arrival with provision for earlier review according to clinical need. Otherwise, patients should be seen within 14 hours.

NHS Improvement[5]

All acute admissions: patients should have a consultant approved care plan within 12 hours. All patients with a predicted mortality of 10% should have a consultant review within 1 hour. During daytime hours, review within 3 hours is recommended.

NICE Quality Standards[6]

All acute medical admissions should have a consultant review within 6 hours of arrival during daytime hours.

As there is no accepted single time interval for review, we took a pragmatic approach of using the NHS Improvement target of 12 hours (by definition, a consultant review will deliver a consultant approved care plan). Previously in SAMBA data collection, the precise times have been difficult to collect and analyse and therefore in SAMBA18 we asked if a 12 hour review time was met or not. We recognize that this also reflects time to referral for patients who are seen in ED.

Overall, 62.8% of patients had a consultant review within 12 hours of arrival in hospital; within AEC this was 73.8%; for patients in AMU this was 65.3%; for patients in ED this was 59%.

Locations of Care & Transfers After Admission

Data on 5167 patients were available (those with outcome data and pathway data who were initially assessed in ED, AMU or AEC). Table 8 shows the total numbers of patients who were assessed and discharged the same day by place of initial assessment, as well as the numbers of patients who had progressively more complex journeys as measured by changes in locations of care for the 7 days after initial assessment. Two or more transfers of care location within the hospital were rare.

Table 10 Initial discharges and number of changes in locations of care during the in-hospital journey, by initial assessment location

Hospital acute care journey	Total (n=)	Initial assessment location		
		ED	AMU	AEC
Assessment and same day discharge	1676	302	347	1027
Hospital admission, no subsequent ward transfers	1530	1201	159	170
Admission, one transfer	1880	1240	579	61
Admission, two or more transfers	81	50	28	3

Death in the First week

The severity of illness as measured by NEWS was higher in patients initially assessed in the ED (Median 2. IQR 0 - 4) than in the AMU (Median 1, IQR 0 - 3) and AEC (Median 0, IQR 0 - 1). Of the 118 patients who died in the first seven days, 94 were initially assessed in the ED, 17 in the AMU and 3 in AEC. In addition, 4 patients died who were seen by the acute medical team but were already in patients on other wards. 64 patients who died were more than 80 years old. Of patients who died 68 were admitted with a NEWS of 5 or more, 18 with a NEWS of 3-4 and 30 with a NEWS of less than 3. Two patients who died did not have a NEWS recorded in SAMBA18.

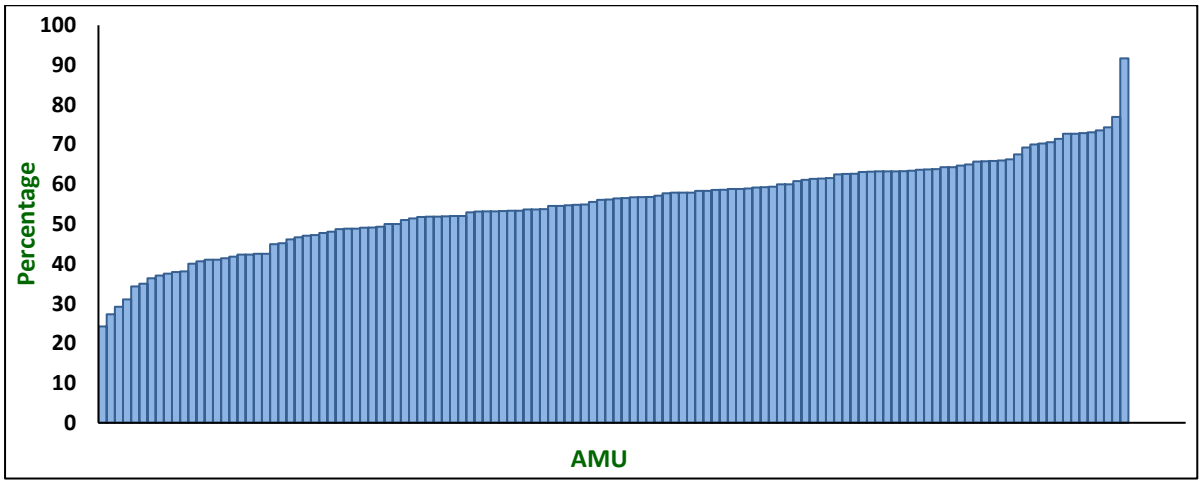
Table 11 Outcomes at 7 days

Outcome	%
Alive in hospital	23.2%
Died	2.0%
Discharged from hospital	72.2%
Transferred to another Hospital	1.3%
Self-discharged	1.3%

Table 12 Patient Outcomes at 7 Days by NEWS (Percentage of Patients)

NEWS	Died in hospital	Alive in hospital	Medically discharged	Self-discharged	Transferred
0 to 4	1.0	21.7	74.7	1.3	1.3
5 to 6	4.1	33.1	61.4	0.4	0.9
7 +	12.9	36.8	46.0	2.1	2.1

Figure 5 Percentage of Physiologically Stable Patients Per Unit Defined as NEWS < 2



Ambulatory Emergency Care

- 23% of units did not see patients in a dedicated AEC for their first assessment.
- 65.3% (SAMBA17 58.6%) of units undertook 10% or more of their total initial assessments on AEC
- 46.5% (SAMBA 17 35.1%) of units undertook 20% or more of their total initial assessments on AEC
- The median percentage of total patients initially assessed on AEC was 18.1 % (SAMBA17 16.5%)

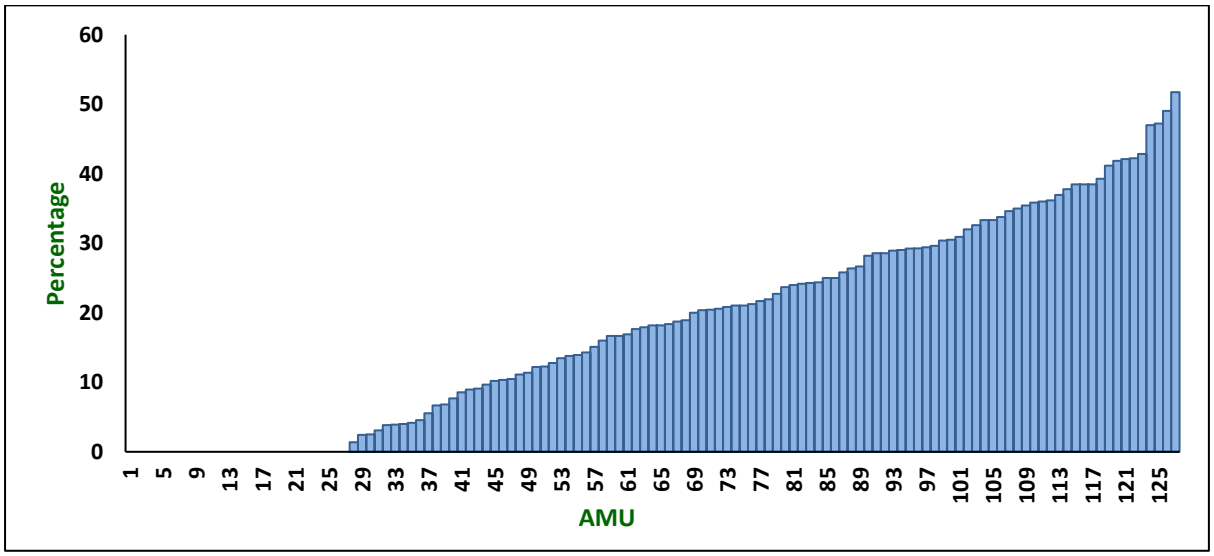
Demographics of patients who came to AEC

- 32.7% of patients were 70 years or older
- 83% (SAMBA17 93.5%) of patients had a NEWS of less than 2
- 1.4% of AEC patients (SAMBA17 3.1%) had a NEWS of 5 or more.

7-day outcomes among AEC patients

- 20.5% of patients were admitted for in patient care.
- 4.7 % of patients initially seen in AEC were in hospital at 7 days after initial assessment (91.6% were at home)
- 0.2% of patients died in hospital.

Figure 6 Variation in Percentage of Initial Medical Assessments Undertaken in AEC



5 Summary & Discussion

What has SAMBA18 shown?

The increase in the number of patients with acute medical needs is accelerating. This year we had 14% more units taking part but 25% more patients in total. Despite this, the times to NEWS and initial competent decision maker were met or improved compared with last year which is impressive. Overall mortality at 7 days is low and three quarters of all patients are discharged by this time point as well.

The patient cohort is becoming more complex. 20% of patients who were seen by teams in SAMBA 18 were in hospital 30 days previously, with large variation between hospitals. Whilst we can speculate about the reasons for this variation, it shows that the work of acute medicine is not carried out in isolation – there is an impact of community medical activity and prior hospital activity on the acute front door.

There has also been an increase in the proportion of the acute take that is assessed through ambulatory care. This cohort is being well selected as evidenced by the low rate of conversion to admission and the very low rates of death or need for in patient care at 7 days.

Our preparations this year for SAMBA demonstrated the difficulties in matching an appropriate consultant review time with the changing constraints in day to day acute medical care (we were also mindful of the data collection burden and difficulty in validating time data). Many patients are seen by medical teams in ED and so a 'time to review' that starts on AMU doesn't capture a critical time in the patient journey. There are also different time standards for consultant review depending on time of day, NEWS and a time standard for a consultant approved care plan – some of these contradict each other and more work is needed to get a set of clear measures that are clinically meaningful and simple to collect, however well they are initially achieved.

Efficiency & the Emergency Department Interface

Over half of the patients in this year's SAMBA had multiple clerkings. reflecting the high proportion of the medical take that is referred from ED. This represents an opportunity for innovation in assessment to streamline the collection and recording of healthcare data, and is already a focus for change in several units.

The Future for SAMBA

One of the major limitations of SAMBA is that it is a single day of care survey, and performance can be influenced by many factors that are outside the control of the acute medical team on that day. A stable assessment of performance over time is a fairer reflection of the impact of local structures and processes on performance measures, but this is hard to collect given the human resource implications of the current SAMBA data collection platform. Furthermore, learning about the performance of the acute care 'system' during periods of relentless and intense pressure, and how to improve it, is an extremely high priority in healthcare policy and practice. SAMBA should deliver answers in winter as well as summer and for longer periods of time to estimate 'true' performance.

We have been exploring different methods to take this forward through SAM Council and through national audit bodies (RCP and HQIP) so that SAMBA can help acute hospital trusts as well as their clinicians and patients. Acute Medicine remains a specialty in its infancy and, as such, faces many challenges associated with developing new ways of working. A reasoned and cogent reflection of the impact of Acute Medicine over the last decade necessitates a conclusion

that much has been achieved and the infrastructure is in place to ensure future innovative, high quality and adaptive acute medical care. Early international adopters of the specialty demonstrate its increasing traction.

The evidence for Acute Medicine is growing. However, even its most ardent supporter would struggle to argue that sufficient progress has been made in the research aspect of the specialty but undoubtedly the foundations are being established.

SAMBA, initially focused on the Society for Acute Medicine's key quality indicators, has flourished and evolved to analyse other fundamental aspects of acute medical care. There has been rapid expansion both in terms of participating AMUs and patient numbers and this continues reflecting that SAMBAs reputation as the primary national Acute Medicine audit. SAMBA has established a significant dataset. This leaves SAMBA perfectly positioned to help guide research priorities, drive understanding of the practice of Acute Medicine and underpin practice changing studies that are needed to further embed the specialty. SAMBA has the opportunity to set international standards of acute medical care, an iterative process which benefits patient care. The ability to do this is reliant on the continued hard work and support of dedicated Acute Medicine practitioners both in terms of data collection and implementation of the changes SAMBA highlights to achieve this goal.

There is an expectation and desire that SAMBA will continue to grow incorporating international involvement as countries adopt the model of Acute Medicine. SAMBA not only benchmarks performance but can guide the development of future clinical quality measures in the UK and set international standards of acute medical care, an iterative process which benefits patients care.

As we consider SAMBA18 we, as Acute Medicine practitioners, need to reflect on what we are achieving and what there is to accomplish. We need to be excited both about the increasing national and international footprint of Acute Medicine as a specialty and the opportunity this offers to improve acute care of medical patients. SAMBA, owned by Acute Medicine clinicians, is primed to help achieve this.

Appendix 1 Glossary of Terms & Abbreviations

Abbreviations

AEC	Ambulatory Emergency Care
AIM	Acute Internal Medicine
AMU	Acute Medical Unit
ANP	Advanced Nurse Practitioner
CCU	Coronary Care Unit
CPD	Continuing Professional Development
CQI	Clinical Quality Indicator
ED	Emergency Department
ICU	Intensive Care Unit
MDT	Multi-Disciplinary Team
NEWS	National Early Warning Score
RCP	Royal College of Physicians of London
SAM	Society for Acute Medicine.
SAMBA	Society for Acute Medicine Benchmarking Audit
SSW	Short Stay Ward,

Terms Relating to Acute Medicine

Acuity

This is a measure of how unwell patients are. In SAMBA18 this is assessed with the NEWS.

Acute Medicine

This is discussed in detail on page 6. In simple terms, Acute Medicine is the care process for unwell adult patients (usually age 16 years and above) who attend hospital with a medical (non-surgical) condition.

Acute Internal Medicine

This is the specialism that medical trainees enter if they want to become Acute Physicians. This training pathway has been available since 2009. The term AIM is sometimes used synonymously with Acute Medicine

Acute Medical Unit

The area of a hospital where Acute Medicine is based, sharing some similarities with a traditional hospital ward.

Acute Physician

A doctor who specialises in, and is dedicated to, the practice of Acute Medicine. In addition, physicians from other specialties contribute to the care of acutely unwell medical patients, including participating in the admission process or 'medical take'.

Ambulatory Emergency Care

AEC provides care for patients with acute medical problems but in an outpatient setting. Patients are selected for AEC by their condition and physiological stability. AEC provides the same level and standard of care as patients admitted to hospital but with the advantage of getting patients home more quickly.

Medical Patient

A medical patient is an adult, usually age 16 years and above, and who does not have a surgical condition at the time they are referred to Acute Medicine (although some will subsequently be diagnosed with conditions that need an operation).

Medical Take

Or simply the 'take', is the summative term used to describe the process of assessing and admitting non-elective (emergency) medical patients to hospital. For example, doctors might refer to the take as being busy or refer to their on-call shift as being 'on take' if it involves admitting patients.

Patient Outcomes

There are many markers of patient outcomes. Of course, for patients this means getting better. However, to objectively measure outcomes, healthcare professionals use a number of parameters including readmission rates to hospital, length of stay in hospital and death rates, to name but a few.

Physiological Parameters and Stability[4]

In SAMBA18 this was assessed using the NEWS (National Early Warning Score). NEWS provides a cumulative score of physiological parameters (blood pressure, pulse rate, respiratory rate, temperature, oxygen levels in the blood (saturations), use of oxygen therapy and level of consciousness). Patients with higher scores are more unwell and have less good outcomes.

Appendix 2

References

1. Royal College of Physicians. Acute medical care. The right person, in the right setting – first time. Report of the Acute Medicine Task Force. London: RCP, 2007. Available at: http://shop.rcplondon.ac.uk/products/acute-medical-care-the-right-person-in-the-right-setting-first-time?variant=6297968773. [Accessed 12 February 2019]

2. Royal College of Physicians. Medical Care. London: RCP, 2016. [Online]. Available at: http://www.rcpmedicalcare.org.uk/designing-services/specialties/acute-internal-medicine. [Accessed 12 February 2019]

3. The Society for Acute Medicine. Clinical Quality Indicators for Acute Medical Units. Edinburgh: SAM, 2011. [Online]. Available at: https://www.acutemedicine.org.uk/wp-content/uploads/2010/11/clinical_quality_indicators_for_acute_medical_units_v18.pdf. [Accessed 12 February 2019]

4. Royal College of Physicians. National Early Warning Score (NEWS): Standardising the assessment of acute-illness severity in the NHS. Report of a working party. London: RCP, 2012. [Online]. Available at: https://www.rcplondon.ac.uk/projects/outputs/national-early-warning-score-news-2. [Accessed 22 October 2018].

5. Emergency Care Intensive Support Team. Effective Approaches in Urgent and Emergency Care Paper 1. London: NHS IMAS, 2011. [Online]. Available at: https://www.england.nhs.uk/wp-content/uploads/2013/08/prior-acute-hosp.pdf. [Accessed 12 February 2019].

6. National Institute for Health and Care Excellence. Emergency and acute medical care in over 16s Quality standard [QS174]. London: NICE, 2018. [Online] Available at: https://www.nice.org.uk/guidance/qs174. [Accessed 28 October 2018].

Bibliography – SAMBA publications: SAMBA12 to SAMBA17.

Subbe CP, Ward D, Latip L, Le Jeune I, Bell D. A day in the life of the AMU--the Society for Acute Medicine's benchmarking audit 2012 (SAMBA '12). Acute Med. 2013;12(2):69-73

Le Jeune I, Masterton-Smith C, Subbe CP, Ward D. "State of the Nation"--the Society for Acute Medicine's Benchmarking Audit 2013 (SAMBA '13). Acute Med. 2013;12(4):214-9.

Subbe CP, Burford C, Le Jeune I, Masterton-Smith C, Ward D. Relationship between input and output in acute medicine - secondary analysis of the Society for Acute Medicine's benchmarking audit 2013 (SAMBA '13). Clin Med (Lond). 2015;Feb 15(1):15-9. doi: 10.7861/clinmedicine.15-1-15

Pradhan S, Ratnasingham D, Subbe CP, Stevenson S, Ward D, Cooksley T. Society for Acute Medicine Benchmarking Audit 2015: The Patient Perspective. Acute Med. 2015;14(4):147-50

Subbe CP, Le Jeune I, Burford C, Mudannayake RS. The Team at Work--The Society for Acute Medicine's Benchmarking Audit 2014 (SAMBA'14). Acute Med. 2015;14(3):99-103.

Subbe CP, Jeune IL, Ward D, Pradhan S, Masterton-Smith C. Impact of consultant specialty on discharge decisions in patients admitted as medical emergencies to hospitals in the United Kingdom. QJM. 2017;Feb 1;110(2):97-102.

Society for Acute Medicine. SAMBA2016 Society for Acute Medicine 2016 Annual Report. Edinburgh: Society for Acute Medicine, 2016. [Online]. Available at: http://www.acutemedicine.org.uk/resources/document-library/sam-benchmarking-audit-annual-report-2016/. [Accessed 12 February 2019].

Asmat H, Shinwari SK, Cooksley T, Duckitt R, Le Jeune I, Subbe CP. Measuring impact of telephone triage in Acute Medicine. Acute Med. 2017;16(3):104-106.

Seccombe A, Kennedy A, Holland M, Subbe C. The SAMBA highlights increasing complexity of acute medical systems. Br J Hosp Med (Lond). 2018; Jan 2;79(1):4-5. doi: 10.12

Society for Acute Medicine. SAMBA2017 Society for Acute Medicine 2016 Annual Report Against the Clock – Time for Patients. A National Audit of Acute Medical Care in the UK . Edinburgh: Society for Acute Medicine, 2017. [Online]. Available at: https://www.acutemedicine.org.uk/wp-content/uploads/2017/12/Society-for-Acute-Medicine-Benchmarking-Audit-2017-National-Report.pdf. [Accessed 12 February 2019].

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Appendix 4 Units & Participants

The list below shows the 127 units that submitted data. Named participants are those people who registered to enter data or who have contacted us this year. The SAMBA team apologise if we have omitted any names or made any errors. We would be happy to amend the on-line version of the SAMBA18 report. If we can help, please contact us at www.acutemedicine.org.uk

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