

The pharmacist in same day emergency care: a service evaluation of pharmacy services on the ambulatory assessment unit at the John Radcliffe Hospital

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Abstract

Same day emergency care (SDEC) is an increasingly important part of urgent care delivery in secondary care. This service evaluation examined the role of the pharmacy service on a busy SDEC unit over a 3 week period.

A total of 634 patients were seen on the unit and 513 pharmacy interventions were made. Patients were taking a mean number of 6.7 medicines and the average age was 59.3. The most common medication type pharmacists intervened in were anticoagulants.

To meet the demands of SDEC service, the pharmacy team is crucial for maintaining medication safety and ensuring patient flow through hospital pathways.

Keywords

Same Day Emergency Care, Pharmacy

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Introduction

There has been an increase in same day emergency care (SDEC) services within the National Health Service (NHS) following the publication of the NHS Long Term plan¹ in 2019. SDEC aims to provide care same day care to patients who would traditionally have required inpatient admission.

The NHS has set targets that 33.3% of medical admission patients should have their first clinical assessment through SDEC services;¹ however Society of Acute Medicine Benchmarking Audit (SAMBA) 2019 data produced by the Society of Acute Medicine has demonstrated that only 29.6% of trusts audited are achieving this.² It is recognised that in order to increase the acuity of patients being seen in SDEC, that a multi-disciplinary team (MDT) approach is required.

The SDEC service at Oxford University Hospitals (OUH) was opened in 2015 and has expanded rapidly seeing around 1000 patients per month. Care through this treatment method has been demonstrated to be safe and effective³ when compared to standard non-ambulatory care in OUH.

Although the pharmacist is an established member of the multi-disciplinary team on inpatient wards, the role of the pharmacist within the SDEC setting has not been well established. Data from the SAMBA 2019 audit showed that 97% of acute medical units had access to a pharmacist between 8am and 8pm, however only 24% of services audited

in SAMBA had the same pharmacy resource for their SDEC unit.² A literature search was conducted and revealed no published data on the role of the pharmacist working in SDEC.

The pharmacy team working in SDEC at OUH comprised of 1 full time junior pharmacist and 1 full time pharmacy technician with oversight from a full time senior pharmacist who is an independent prescriber. The core hours of this team are Monday – Friday 8am–6pm, additional weekend cover is provided through a shared resource with other medical wards. Service provision is targeted at providing discharge medicines in timely fashion and completing medicines reconciliation for patients aged over 80 or those on complex medication regimens. The unit also supports a small satellite pharmacy to facilitate timely discharge medication supply. An audit of this satellite service demonstrated that it reduced patient time on the unit by an average of 71 minutes.⁴

The SDEC service at OUH sees a high volume of high acuity patients and has a well-established MDT in place. Therefore, a service evaluation was planned to identify the pharmacy activity on the SDEC service at the John Radcliffe Hospital in Oxford.

Methods

Pharmacy activity was prospectively recorded to examine how many contributions are made by the pharmacy staff working in SDEC. A contribution

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was defined as an interaction between a pharmacy staff member and another member of the clinical team or patient to improve the efficacy of medication use or reduce the risk of medication use. In addition the number of discharge prescriptions (TTOs) screened was also recorded.

Patients are selected for review by pharmacy staff by age 80 years or older, presenting complaint or past medical history suggesting they may be taking regular medications.

We collected data during the pharmacy team's core hours over a period of three discreet weeks in September 2019, February and May 2020. A data collection tool was used to categorise the interventions by type of intervention and medication type.

A descriptive analysis of the results was performed using Microsoft Excel.

Results

A total of 634 patient visits to SDEC occurred, 513 pharmacy contributions were made between the hours of 8am– 6pm across the three weeks.

The average age of the patients seen was 59.3years old, ranging from ages 16 to 98. As figure 1 demonstrates, the highest number of patients were in the 81–90 year old category. The unit only accepts adult patients, hence no-one younger than 16 in the data sample.

Patients seen were on an average of 6.7 medicines, this varied from 0 medicines to 30 medicines. There were two modal numbers for age ranges 16–20 and 41–50. In the under 50s, patients were frequently on 0 medicines or a high number of medicines. The mean and modal number of medications increased with age, as demonstrated in table 1, however the mean number of medicines fell in patients aged over 90.

Table 1. Average number of medicines by patient age

Age	Mean number of medicines	Modal number of medicines
16-20	1.75	0 and 4*
21-30	3.12	0
31-40	3.45	0
41-50	5.22	0 and 7*
51-60	6.28	4
61-70	7.78	6
71-80	7.95	8
81-90	8.33	6
91-98	6.38	8
Total	6.70	6

*In these groups there were two equal peaks therefore creating bimodal distribution of the data

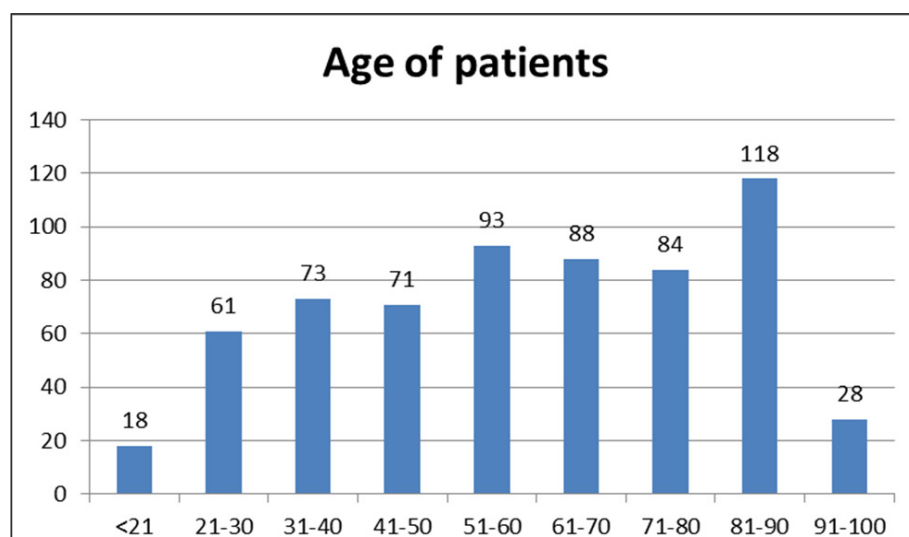


Figure 1. Age distribution of patients seen on AAU

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The most frequent intervention recorded was determination of level 2 medicines reconciliation from the patient (207/355). The specialist pharmacy service defines the levels of medicines reconciliation with level 1 being an admission lead drug history and level 2 as pharmacy consolidation using multiple resources for high risk or targeted patients requiring review by a pharmacist.⁵ The majority of reconciliations are performed routinely, however medical or nursing staff may flag patients to the pharmacy team to be performed. Patient counselling and information provision to healthcare professionals made up a further 73 pharmacy contributions. All contributions can be seen in the table 2 below.

Pharmacy contributions relating to specific medicines were classified by medicines type (see figure 2 below). There were 148 contributions split between 29 different medication categories, 93 of these medications were high risk or time critical medications as defined by the national patient safety agency⁶ and locally within OUH. The most common medication contribution related to anticoagulants, accounting for 38 of the 148 documented.

Some of the most critical interventions made that allowed patients to remain on an SDEC pathway

included: omission of time critical Parkinson's disease medicines, concurrent use of multiple anticoagulant medications, identification of allergies to medicines prescribed.

Discussion

The results of this evaluation demonstrate that the pharmacy service made a significant number of important pharmacy contributions to patient care and play a key role in the medication management within the SDEC service at OUH. The contributions broadly support patient medication safety, accurate medicines reconciliations and appropriate patient flow through the urgent care service.

Medicines reconciliation has been demonstrated to improve patient safety, with the majority of medication errors likely to occur at the interfaces of care. NICE recognise this in their medicines optimisation guidance⁷ suggesting that medicines reconciliation be conducted within 24 hours of a person moving care setting. Level 2 medicines reconciliation in SDEC are targeted to patients most likely to benefit as suggested by the specialist pharmacy services. Many patients have no medications prescribed when they arrive on the unit, and are therefore identified either by age, presenting complaint or past medical history. Review of the patients medical history is important for identification of critical regular medications and ensuring they are administered while the patient is on the unit. Some examples of this have included; transplant immunosuppression, Parkinson's disease medicines, and insulin. Prior to this evaluation patients aged over 80 were targeted for medicines reconciliation, however in light of the mean number of medicines in those aged 60 or over, suggests this should be lowered. Overall, the mean number of medicines taken by patients seen was 6.7, suggesting that a significant proportion of patients had underlying medical conditions exposing them to polypharmacy, and therefore benefit from this advanced medicines reconciliation process.

Pharmacists are recognised as improving the safety of medications as part of the multidisciplinary team in acute medical units.⁸ In this evaluation 93 contributions were around high risk or time critical medicines, demonstrating that these medications are frequently prescribed in SDEC. Provision of patient information, particularly for anticoagulants, has been recognised to improve patient safety and reduce harm. Counselling is provided by the pharmacy team for all newly initiated oral anticoagulants. For other newly initiated medicines counselling was provided on an individual basis depending on the medication and the patients requirements. We identified 38 interventions involving anticoagulants

Table 2. Pharmacy contribution by type

Nature of contribution	No. interventions
Change in dose	4
Change in frequency	2
Change in formulation	4
Timing adjustment	2
Drug added	17
Drug stopped	2
TDM (efficacy/toxicity)	1
Policy enforcement	1
Formulary	7
Adverse drug reaction	2
Contraindication	1
Omission	14
Level 2 medicines reconciliation	207
Discharge prescription (TTO) screening	158
Reconciliation (IP to TTO)	4
Clarification of plan	14
Patient advice/counselling	34
Information provision to HCP	39
Totals	513

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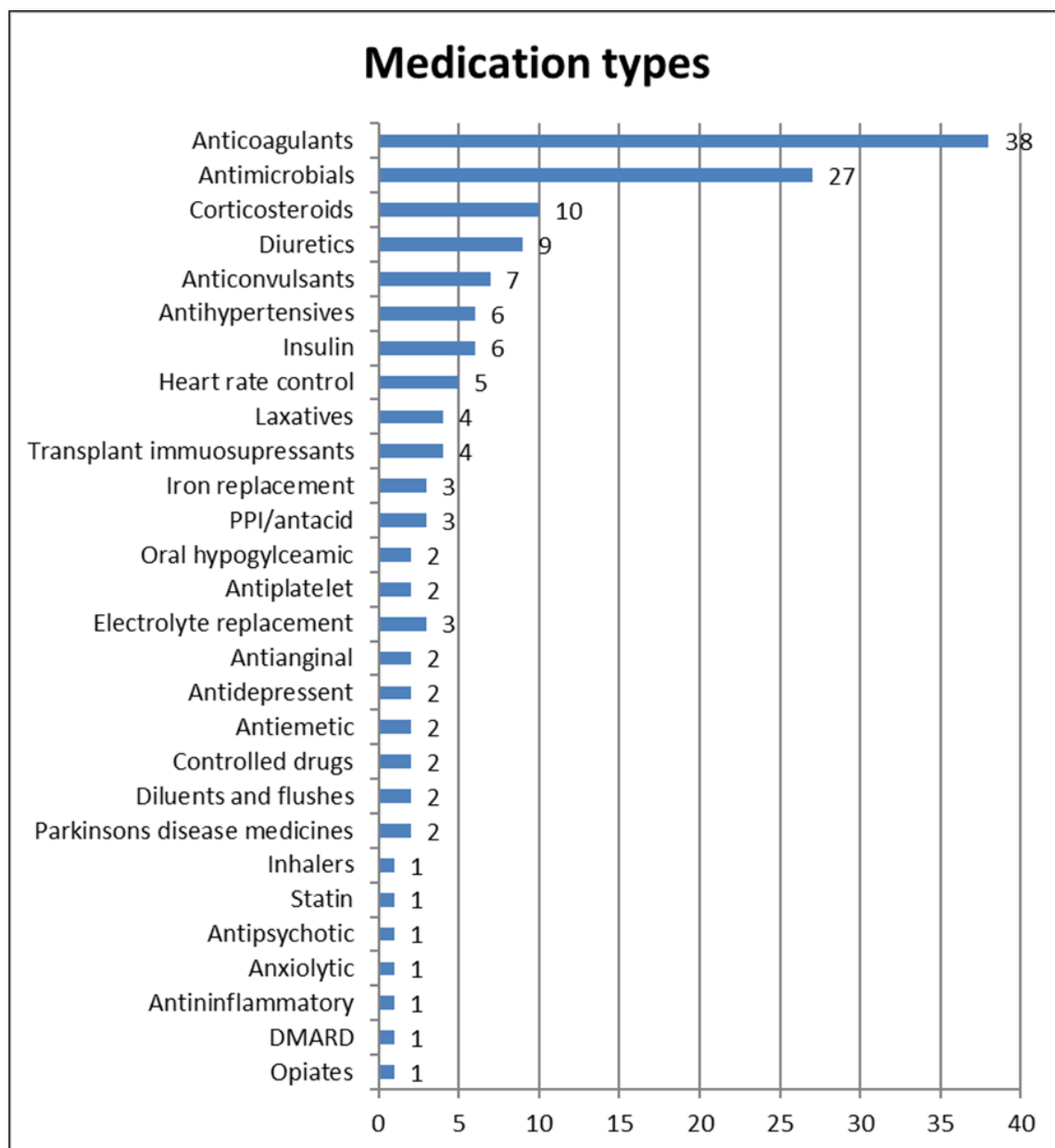


Figure 2. Pharmacy contributions by medicines type

and 73 interventions that involved providing information to patients or healthcare professionals. In order to maintain patient safety in this complex patient cohort, it is essential that SDEC units have pharmacy input available.

Appropriate discharge is critical for flow of patients through SDEC units and this evaluation demonstrated the high volume of discharge prescriptions screened by pharmacists. The timely screening and supply of discharge medicines maintains flow through the SDEC unit and supports movement of patients through the interdependent

urgent care areas. This evaluation did not record the discharge prescriptions supplied by the on call pharmacist or written on FP10 prescriptions outside of the units pharmacy core hours.

To meet the demands of moving complex medical patients into SDEC and away from the traditional medical take, sufficient pharmacy input to maintain patient safety is required. As the SAMBA data demonstrated the majority on units do not have pharmacy access which raises the question if these units are seeing less complex patients, or how they ensure their medication safety?

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Declaration of competing interests

SM, JS, AA-B, AM, EM, JB, DL have no conflicts of interest.

References

1. NHS. The NHS Long Term Plan. NHS, 2019. <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan-june-2019.pdf> [Accessed 03/11/2020].
2. Society of Acute Medicine. Society for Acute Medicine Benchmarking Audit: SAMBA19 Report. 2020 SAMBA19-National-Report.pdf (acutemedicine.org.uk) [Accessed 03/11/2020]
3. Reschen M, Bowen J, Singh S *et al*. Process of care and activity in a clinically inclusive ambulatory emergency care unit: progressive effect over time on clinical outcomes and acute medical admissions. *Future Healthc J* October. 2020
4. McGlen S, Heyden E, Atienza-Hawkes R *et al*. Near patient pharmacy dispensing – Improving patient experience on a busy ambulatory unit at the John Radcliffe Hospital, Oxford. *Society for Acute Medicine conference, Newcastle*. 2019
5. Specialist Pharmacy Services. Improving the quality of medicines reconciliation: A best practice resource and Toolkit. 2017. https://www.sps.nhs.uk/wp-content/uploads/2015/06/Medicines_Reconciliation_Best_Practice_Standards_Toolkit_Vs1.1_June-15-links-updated-Aug-17.pdf [Accessed 27/11/20]
6. National Patient Safety Agency. Rapid Response Report: Reducing harm from omitted and delayed medicines in hospital. 2010. <https://www.sps.nhs.uk/wp-content/uploads/2018/02/NRLS-1183-Omitted-and-deles-RRR-2010-02-23-v1.pdf> [Accessed 27/11/20]
7. National Institute for Health and Care Excellence (NICE). Medicines optimisation: the safe and effective use of medicines to enable the best possible outcomes. 2015. <https://www.nice.org.uk/guidance/ng5> [Accessed 2/12/20]
8. Kaboli P, Hoth A, McClimon B, *et al*. Clinical pharmacists and inpatient medical care: a systematic review. *Arch Intern Med*. 2006.