

General Medical Practice in the West of Scotland a peer review model has been established for this purpose [6]. The model aims to promote SEA as part of continuing professional development and allows individualised feedback to submitting GPs. Although SEA is well established in General Medical Practice, there is no published information on the use of this technique by Pharmacists.

Objectives

The objectives of this study were to:

- establish a peer reviewer network of pharmacists
- identify areas of weakness on submitted SEAs

Method

Each SEA submitted by a practitioner undertakes educative review by two peers. Thus in order to establish a SEA review system in Scotland, a peer review network of pharmacists had to be recruited, trained, assessed and calibrated.

All potential peer reviewers ($n = 36$) attended two introductory and one calibration workshop. This training focused on the role of SEA in practice, application of the SEA technique and of educative peer review. A standardised report format for SEA submissions and a peer review instrument were introduced. Participants were given the opportunity to perform structured analyses on 'real-life' significant events and gain experience of critically appraising SEA reports using the tool. Participants were provided with the opportunity to compare their critical appraisals to enable consistency of approach across the group (calibration).

As an assessment process, potential peer reviewers were required to submit a completed SEA report for confidential educative peer review. All SEA reports received were anonymised and a copy forwarded to three researchers with experience in the SEA process. Each researcher independently scrutinised every report to determine if it was 'satisfactory' or 'unsatisfactory'. The peer review instrument was applied to aid consideration of whether the SEA had clearly described what had happened, reasons behind the event, what was learned and what was changed to reduce the likelihood of recurrence. The researchers met for joint discussion to agree final outcome decisions for each SEA report. The reasons for any SEA reports being judged as unsatisfactory were also recorded and this educative information disseminated to participants.

Results

At the first workshop 36 pharmacists attended, 23 (64%) of whom subsequently submitted SEA reports for confidential educative review. Of these, 11 (48%) reports were satisfactory on first submission. The remaining 12 (52%) were given constructive educational feedback and 6 of these pharmacists subsequently resubmitted a successful SEA. The reasons for SEA reports being judged as unsatisfactory relate to lack of clarity on four key areas and are summarized in Table 1.

Discussion

There was a significant drop out rate in the cohort being nominated to train as peer reviewers and those continuing participate in the network (17 (47%)). No data is available on this. However, although participants had been involved in critical incident reporting in their own environments, the key reflective practice and learning elements of SEA are a new concept, that pharmacists may find more difficult to accurately describe. A limitation of the

study was also the short time (6 weeks) after training they had to submit an event for analysis. As the results above show, in cases where the SEA was unsatisfactory (52%), the pharmacists were able to describe what happened (75%) but found it harder to reflect on causes (42%) and describe necessary learning (42%) and change (7%). Since significant events can cause individual reflection or have an impact on the individual or team, the study of these types of events may lead to important insights into quality and safety issues that are often missed in standard audit [5] or incident reporting. The SEA system has now been rolled out to pharmacists throughout Scotland with submitted SEAs being reviewed by two practitioners from the peer review network. Future work could look at multidisciplinary peer review of pharmacy and medicine generated SEAs.

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OC5 Association between clinical medicines management services, pharmacy workforce and patient outcomes

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Introduction

At a time of financial constraint in the NHS, evidence that links patient-centred medicines management services (clinical medicines management) to improved patient outcomes would be of great value [1]. Hospital Standardised Mortality Ratios (HSMR) are an effective way of comparing clinical performance, safety and quality between acute trusts [2, 3]. Medicines management is a key issue for hospitals because of the benefits it provides to patients and the control it exerts over medicines expenditure. *Spoonful of Sugar* [4] was published by the Audit Commission in 2001 and data has been captured by the Department of Health [5, 6] and the Healthcare Commission [7] to assess hospital medicines management services in England. Consistent with the aspirations outlined in *Spoonful of Sugar* [4], we developed a set of Key Performance Indicators (KPIs) [8]. The indicators provide a quantitative determination of the extent to which services are being provided by hospital pharmacy to medical and surgical wards from Monday to Sunday and over 24 h each a day.

Objective

To explore associations between pharmacy staff establishment, levels of provision of pharmacy services and patient outcome measures.

Method

All Senior Pharmacy Managers (SPMs) from NHS trusts located in London, Eastern and South East England were invited to participate. This population comprised 78 acute NHS trusts. Ethical advice indicated that formal approval was not required.

Table 1 Reasons for rating of "unsatisfactory" on submitted SEAs

	What	Why	Learning/insight	Change
No. of SEAs (%) ($n = 12$)	3 (25)	7 (58)	7 (58)	11 (93)

Table 1 Key performance indicators (KPIs)

KPI-1 Medication history taking
KPI-2 Post-take ward rounds (medicine) preadmission (surgery)
KPI-3 Patient reviewed by clinical pharmacist
KPI-4 Patient own drugs
KPI-5 One-stop/dispensing for discharge service
KPI-6 Self-administration of medicines
KPI-7 Medication counselling by pharmacy
KPI-8 Patient information

The KPIs (Table 1) were developed in consultation with a group SPMs and senior practitioners to measure the degree of implementation of national initiatives [4, 9]. The recommended method of completing the data collection form was by ranking rather than submission of absolute numbers. SPMs were asked to rate pharmacy service levels to general medical and surgical inpatients and to provide data on pharmacy workforce in terms of Whole Time Equivalents (WTE). HSMR, defined as the ratio of actual deaths to expected deaths multiplied by 100, was obtained from the Dr. Foster website [3] and data analysis was undertaken using factor analysis and univariate regression methods.

Results

Data were captured from 49 NHS organisations, representing 60% of eligible acute trusts. Factor analysis enabled clustering of the KPIs. One resultant factor, termed *patient consultation*, included the percentage of patients receiving a pharmacy medication history service within 24 h of admission, the percentage of patients reviewed by clinical pharmacists within 24 h of change of medication, the percentage of clinical pharmacist reviews that were recorded and the percentage of patients who received medication counselling by pharmacy staff in readiness for discharge. In this abstract, we report on the derivation of the *patient consultation* factor for services to general medical inpatients.

A negative correlation was found between this factor and mortality ratio ($r = -0.410$, $n = 33$, $P = 0.018$), indicating that the greater the extent of these services, the lower the HSMR. Mortality ratio was also negatively correlated with pharmacy WTE ($r = -0.633$, $n = 37$, $P < 0.001$). A positive correlation was detected between *patient consultation* and WTE ($r = 0.431$, $n = 37$, $P = 0.008$).

Trusts were divided into 'high' and 'low' levels of performance based on their score for the *patient consultation* factor; scores above or below the factor midpoint were classified as high or low respectively. This yielded 22 low performing trusts and 11 high performing trusts. A complete set of data was available for these 33 trusts. Figure 1 demonstrates the relationship between pharmacy WTE and HSMR revealed by regression analysis ($R^2 = 0.442$, $F = 24.512$, $P < 0.001$). Although *patient consultation* was correlated positively with WTE, the relationship between establishment and mortality became more robust when regression was limited to high activity trusts ($R^2 = 0.758$, $F = 28.197$, $P < 0.001$). By comparison, the regression model for the low activity trust was not significant ($R^2 = 0.160$, $F = 3.667$, $P = 0.070$). This suggests that mortality rates are not only related to establishment, but also linked to higher performance in selected clinical medicines management activities for general medical inpatients.

Discussion

Despite debate over the role of HSMR provided by Dr. Foster [10], this investigation indicates that pharmacy establishment, and how that establishment is deployed, is associated in a meaningful way with patient outcome data. Mortality ratio is a relatively crude measure of trust performance and can be affected by vari-

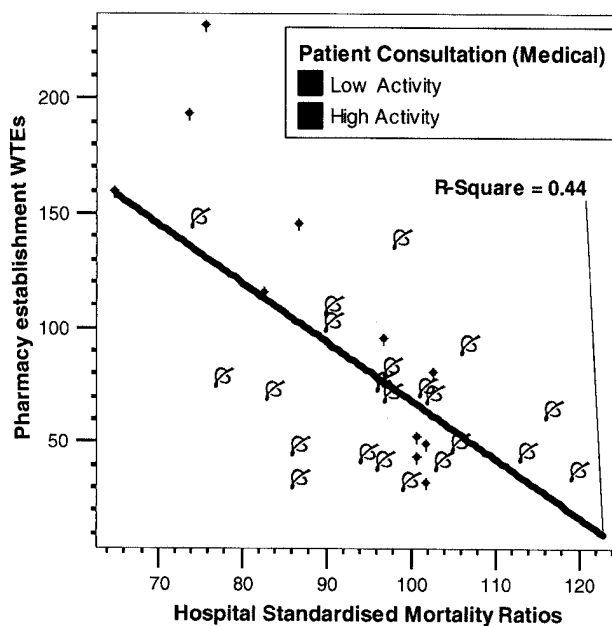


Fig. 1 Pharmacy WTEs and HSMRs. Trusts divided in high/low levels on patient consultation

ables beyond the scope of the present study. Nevertheless, our analysis demonstrates an association between high activity in clinical medicines management, pharmacy staff establishment and lower mortality rates. There is symmetry between this finding and those from the United States [11]. We believe this study is of importance for the promotion and uptake of medicines management services in acute trusts, particularly at a time when staff establishment is under threat.

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OC6 Assessing and managing the symptoms associated with the anorexia-cachexia syndrome in cancer patients

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Introduction

Cancer cachexia is a complex syndrome that combines weight loss, lipolysis, loss of muscle and visceral protein, anorexia, chronic nausea and weakness [1]. As a syndrome it is under recognised and the symptoms associated with it are under reported by patients and often not addressed by medical and nursing staff [2, 3].

Objectives

To assess the symptoms of the anorexia-cachexia syndrome, reported by cancer patients and to look at the role of the specialist pharmacist in managing these.

Method

Following secured funding from Macmillan Cancer Support and the appointment of a specialist dietician and a senior clinical pharmacist, a cachexia team was established and a service model planned under the guidance of a wider steering group. At baseline a review was conducted of staff attitudes to the management of cachexia and a patient mapping exercise undertaken [3]. Prescribing guidelines and shared care agreements were written and passed for several of the medications to be used. Palliative care patients reporting symptoms associated with the anorexia-cachexia syndrome were eligible for inclusion. Verbal, electronic and written referrals were accepted together with referrals from the weekly multi-disciplinary team meeting. Upon this an appointment was made for either a ward visit (secondary care patients) or a home visit (primary care patients). During the first appointment patients were seen by the senior clinical pharmacist and an assessment of their symptoms completed using the Patient Generated Subjective Global Assessment (PG-SGA) tool [4]. A full diet history and medication review were also completed. In light of these, a management plan was devised including: medicines (both initiated, withdrawn or dosages altered), supplement drinks (as per local protocol), dietician referral and non-pharmacological advice (around topics such as; eating habits, oral hygiene). This plan was communicated to the medical (GP or SHO) and nursing team (SN or DN). Patients were reviewed one week later, in person or via telephone.

Results

During the first 5 months there were 32 referrals. At the end of the 5 months, 18 patients had deceased, 7 were still being seen and 7 were no longer being seen due to resolved symptoms. The population referred were mainly elderly; 44% > 75 years, 34% 60–75 years, 22% < 60 years. Referrers were fairly evenly split between medical staff (18) and nursing staff (14). Most of the referrals came from secondary care (62%).

A total of 143 symptoms were reported from 32 patients all of whom reported at least two symptoms, the most common of which was dry mouth. The symptoms often used in definitions of cachexia were the next most commonly reported: weight loss, feeling full quickly, no appetite and nausea. More than a third of patients reported oral problems such as altered taste, mouth sores and problems swallowing. The symptoms of nausea and vomiting are often grouped together but almost four times as many patients reported feeling nauseous compared to actually vomiting.

Table 1 Symptoms reported from PGSGA ($n = 32$)

Symptom	No. of patients (%)	Symptom	No. of patients (%)
Dry mouth	21 (91)	Altered taste	11 (48)
Weight loss	18 (78)	Pain	10 (43)
Feel full quickly	16 (70)	Mouth sores	9 (39)
No appetite	15 (65)	Problems swallowing	9 (39)
Nausea	15 (65)	Bothered by smells	4 (17)
Constipation	11 (48)	Vomiting	4 (17)

Discussion

This study reinforces the fact that cachexia is a polysymptomatic syndrome, Table 1 illustrating that it is not simply a condition of weight loss and lack of appetite. Indeed, more patients reported dry mouth than weight loss itself, a rate greater than observed in previous studies [5]. In a previous baseline review of local staff attitudes to managing cachexia, staff recognised and asked patients about the more commonly perceived characteristics of cachexia [3] but symptoms such as mouth problems, altered taste/smell and early satiety were enquired about much less frequently. This may explain why some symptoms go unmanaged and why, for example, such a high proportion of the patients reported dry mouth. Table 1 highlights the potential variety of symptomatic treatment required to manage these patients. Treatment of one symptom may alleviate others i.e. the treatment of constipation may improve the feeling of nausea and consequently appetite or the treatment of a dry mouth may alleviate altered taste and therefore appetite. At present the outcomes of interventions have not been formally measured although on review patients reported feeling no worse and many improved in at least one symptom. Using the above data a prescribing algorithm was designed, this was linked into the PG-SGA assessment tool, ensuring that for every symptom reported, the pharmacist could recommend a suitable medication and/or give non-pharmacological advice. In conclusion, the findings of this pilot study confirm that the anorexia-cachexia syndrome is a polysymptomatic condition that requires multiple treatment modalities and our experience shows that a specialist pharmacist is ideally placed to manage this.

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OC7 Supplementary prescribing by a pharmacist for post-myocardial infarction patients as part of a cardiac rehabilitation programme

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