Access to medications in the community by patients in a palliative setting. A systems analysis

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This study performed a systems analysis of the process by which patients under the care of a specialist palliative home care obtained medications, and highlighted factors that delay this process. Systems analysis is the science dealing with analysis of complex, large-scale systems and the interactions within those systems. This study used a mixed-methods approach of questionnaires of general practitioners, pharmacists and patients, and a prospective observational study of delays experienced by patients referred to the home care team over a three-month period. This study found the main factors causing delay to be: medications not being in stock in pharmacies, medications not being available on state reimbursed schemes and inability of patients and carers to courier medications. *Palliative Medicine* (2008); 22: 185–189

Key words: community palliative care; drug availability; systems analysis

Introduction

Specialist palliative home care services staff have a unique opportunity to appraise the difficulties encountered by patients accessing prescribed medication.

St Francis Hospice provides a doctor-led multidisciplinary palliative care service that has home care (divided into two teams, east and west), day care and inpatient palliative care services, all of which are free to patients. St Francis Hospice staff advises patients and families about medication, supports general practitioners (GPs) in symptom management and liaises with GPs and pharmacies about obtaining medications. Many patients in Ireland pay for GP services and drugs, but there are various schemes that cover some of the cost. The General Medical Service (GMS) Scheme (also known as the medical card scheme) has been in existence in Ireland since 1972. A medical card issued by the Health Service Executive (HSE) enables the bearer to receive certain health services and many prescribed medications free of charge. The GMS does not cover all medication; for example, most laxatives are not covered, and no unlicensed medications are covered. In such instances, patients pay for medication or may apply to the ‘Hardship Scheme’ to cover the cost. The Drugs Payment Scheme (DPS) allows individuals and families who do not hold medical cards to limit the amount they have to spend on prescribed drugs. Under the DPS, no individual or family pays more than €85 (limit as of September 2006) in any calendar month for approved prescribed drugs, medicines and appliances. The High Tech Medicines scheme introduced in November 1996 facilitates the supply of certain medicines, eg, those used in conjunction with chemotherapy, which had previously been supplied primarily in the hospital setting. These drug payment schemes are summarized in Table 1.

A frequent aspect of the work of the St Francis Hospice home care team is to advise GPs on medication changes, based on a comprehensive patient assessment. Such actions set in motion a variety of activities, which ultimately results in patients receiving their prescribed medication. Such a process is herein referred to as ‘the system’. A system is any large collection of interacting functional units that together achieve a defined purpose. A *systems analysis* is the study of a system for the purpose of understanding and documenting its essential characteristics. It is the science dealing with analysis of complex systems and the interactions within those systems. This field is closely related to operations research and management science.

The system

Once medication is advised by the home care team, a series of events typically occurs:

- Home care doctor/nurse advises medication change.
- Home care doctor/nurse discusses with patient’s GP, or writes a note for the GP.
- Member of family brings note to GP.
Table 1  Types of schemes available to patients and their families in Ireland to aid payment for medications

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Medical Service (GMS) scheme</td>
<td>Also known as the 'medical card scheme'. A medical card issued by the Health Service Executive (HSE) in Ireland enables the bearer to receive certain health services and many prescribed medications free of charge.</td>
</tr>
<tr>
<td>Hardship Scheme</td>
<td>Some medications not funded under the GMS/medical card scheme can be funded under the hardship scheme.</td>
</tr>
<tr>
<td>Drugs Payment Scheme</td>
<td>For those who do not qualify for a medical card. This scheme limits the amount a family pays for approved prescribed drugs, medicines and appliances.</td>
</tr>
<tr>
<td>High Tech Scheme</td>
<td>The High Tech Medicines scheme introduced in November 1996 facilitates the supply of certain medicines, eg, those used in conjunction with chemotherapy, which had previously been supplied primarily in the hospital setting.</td>
</tr>
</tbody>
</table>

- GP issues prescription.
- Family member brings prescription to pharmacy.
- Pharmacist dispenses medications.
- Family member brings medication to patient.
- Patient takes medication.

System failure
The system can fail at any stage:

- Home care nurse/doctor may be unable to contact GP.
- GP may further wish to discuss/clarify issues relating to the advice.
- Carer may be unable to collect prescription from GP clinic and bring to pharmacy.
- Prescription may be illegible.
- Pharmacist may not have medication in stock.
- Once dispensed, carer may be unable to collect and transport medication.
- Drugs may not be available on GMS and be unaffordable.
- GP/pharmacist may be unaware of other drug reimbursement schemes.

Aim of study
The aim of this study is:

1) To perform a systems analysis of the process by which patients under the care of a specialist palliative home care team access prescribed medications, and highlight factors that delay this process.
2) To document the prevalence of each factor in the system causing delay.

Participants
The study involved patients, pharmacists, GPs and home care nurses. Inclusion criteria for patients were that they were newly referred to the home care team over a three-month period and were willing to participate in the study. There were no exclusion criteria. All GPs in North Dublin, who were principals in their own registered practices, and all chief pharmacists of registered retail pharmacies in North Dublin were eligible. In addition, the respondents included members of the home care nursing team from St Francis Hospice. The only exclusion factor was unwillingness to take part.

Methods
Approval from the St Francis Hospice Research Ethics Committee was obtained.

This study used a mixed-methods approach.

1) Questionnaires were sent to GPs and retail pharmacists and to all patients referred to the home care team (west) over a three-month period.
2) A prospective observational cohort study of delays experienced by patients, as observed by their home care nurses, over a three-month period.

General practitioners
Letters of invitation and questionnaires were sent to all principal GPs of registered practices in North Dublin; there were no exclusion criteria. They were asked to iden-
tify the commonest factors causing delay from the follow-
ing list; more than one factor could be chosen.

- No delay.
- Need to check advice from home care team.
- Special requirement of medication advised.
- Inappropriate advice.
- Cost.
- Patient could not attend surgery at correct time.
- No one available to collect prescription.

After a period of two weeks, a reminder questionnaire was
sent out.

Pharmacists
Letters of invitation and questionnaires were sent to the
chief pharmacists all registered retail pharmacies in North
Dublin. There were no exclusion criteria. They were asked
to report the most common factors causing delay from
this list; more than one factor could be chosen.

- Illegible prescriptions.
- Incorrectly written prescription.
- Medications not in stock.
- Opioids not routinely stocked.
- Supplier difficulties.
- Medications not available through the GMS scheme.
- Drugs not available in specified formulations.
- Concerns regarding the security of dispensing con-
trolled drugs.
- Concerns regarding the person collecting the script.
- Out of hours/no one available to collect medications.

After a period of two weeks, a reminder questionnaire was
sent out.

Patients
Questionnaire and consent forms were sent all new
patients to St Francis Hospice Home care west team
over a three-month period. A letter of invitation to partic-
ipate in the study was sent to all potential participants,
highlighting the nature of the study, assuring anonymity
and confidentiality and informing of the voluntary nature
of participation in the study. Written consent was
obtained from the participants. If a patient was unable
to fill out a questionnaire, their main carer or a family
member was asked to do this on their behalf.

Patients were asked to report any delay they perceived
as a problem from a short list, which included the
following:

- Received medication within 24 hours.
- Concern regarding side effects of medications.

- No family member available to collect prescription.
- Had not been advised to change medications.

Reminder questionnaires were not sent to patients.

Nursing drug delay reports
Drug delay report forms completed by home care nurses if
they noticed a significant delay (over 24 hours) in a
patient acquiring medications.

Results

GP results
Questionnaires were sent to 268 GPs; 111 were returned, a
41% response rate. Thirty-four (30.6%) respondents
reported the need to clarify the advice given by the home
care team as a cause of delay, 26 (23.4%) respondents
identified the inability of someone to collect the prescrip-
tion and 21 (18.9%) respondents reported the patient
being unable to attend the surgery as a cause of delay.
Other causes are shown in Table 2.

Pharmacist results
Questionnaires were sent to 171 pharmacists; 57 (33%)
completed questionnaires were returned. Twenty-eight
(49.1%) of respondents reported that some specialist palli-
ative care medications were not stocked. Furthermore, 19
(33%) respondents reported difficulty in obtaining the
supply of these types of medications; 49% stated that med-
ication not being available on the GMS caused delay.
Additional delay causing factors are highlighted in
Table 3.

Patient results
Fifty-seven patient questionnaires were sent to St Francis
Hospice (west) home care team patients; 22 were returned

Patient answers are expressed to represent the total number
of positive answers on questionnaires. Many respondents
identified more than one cause of delay.
Table 3  Delay causing factors in the supply of medications to patients in the community experienced by pharmacists

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medications not in stock</td>
<td>49.1%</td>
</tr>
<tr>
<td>Medications not available on GMS</td>
<td>49%</td>
</tr>
<tr>
<td>Supplier difficulties</td>
<td>33%</td>
</tr>
<tr>
<td>Incorrectly written prescriptions</td>
<td>31.5%</td>
</tr>
<tr>
<td>Opioids not routinely stocked</td>
<td>22.8%</td>
</tr>
<tr>
<td>Illegible prescriptions</td>
<td>17%</td>
</tr>
<tr>
<td>Concerns regarding the security of dispensing</td>
<td>10.8%</td>
</tr>
<tr>
<td>Concerns regarding person collecting the medication</td>
<td>5.2%</td>
</tr>
<tr>
<td>Out of hours</td>
<td>12.2%</td>
</tr>
<tr>
<td>No one available to collect medication</td>
<td>3.5%</td>
</tr>
<tr>
<td>No patient of St Francis Hospice</td>
<td>29.8%</td>
</tr>
</tbody>
</table>

Percentages are expressed to represent the total number of positive answers on questionnaires. Many respondents identified more than one cause of delay.

(38.5% response rate). Of these returned questionnaires, 12 (54%) reported that they had received their medication without delay, and the other 10 (46%) had not been advised to change their medication by the home care team within the time frame of the study. Interestingly, many patients and their families sent letters with the questionnaire expressing their satisfaction with the home care team.

Nursing delay reports
There were 12 delays reported over the 12-week period studied. There were five delays of over a week. Eleven delays were greater than 48 hours. Six (50%) of these delays were due to medications not being in stock in the pharmacy. Two delays were because no one could collect the medication on behalf of the patient. Two further delays were due to prescribing delays.

Discussion
This study is a systems analysis, which looks at the components and chain of events that occur after a change of medication is advised by a member of the home care team. The different perspectives of the stakeholders within this system have been presented. For logistical reasons, we decided to survey only one of the home care teams. Also, we did not wish to burden patients with reminder questionnaires as over the period of two weeks, many of the patients would have deteriorated. Both of these factors combined with the low response rate means that it is hard to draw conclusions from the patient/family perspective. The response rate was also low from pharmacists.

Both pharmacists and home care nurses reported stocking issues to be the main factor causing delay from their perspectives (49.1 and 50%, respectively). Although not specifically examined in this study, a number of the drugs prescribed in palliative care are unlicensed, and therefore are not routinely stocked by pharmacists. Drugs not being available on the GMS was highlighted by pharmacists. Some palliative care drugs including most unlicensed drugs are not available on the GMS. This has been recognized as a serious problem and was raised in the Irish Parliament in 2005.

The main delay reported from a GPs perspective was a need to clarify the advice given by the home care team before prescribing the new medication. Many of the GPs in North County Dublin are single-handed practices, and the home care nurse or doctor cannot always discuss proposed changes with GPs. More effective communication strategies between GPs and members of the specialist palliative home care team are needed.

Worldwide, cancer pain is a public health problem. The World Health Organisation has identified a treatment gap between what can be done and what is done about cancer pain. This treatment gap may be narrowed by educating health care workers, and by increasing access to pain relief and palliative care services. The need to improve drug availability was recognized in Ireland in the Report of the National Advisory Committee on Palliative Care. The report, adopted as government policy recommended the development of local arrangements between pharmacists in specialist palliative care units and the community to ensure patients receiving palliative care have access to all necessary medications as and when required.

Elsewhere, the Winnipeg Regional Health Authority in Canada provides a ‘mini-kit’ containing some of the medications a patient may need until such time as they are able to acquire their full prescription from their pharmacy. The Royal Pharmaceutical Society of Scotland set up three model schemes in 1999 with the cooperation of the Scottish Executive, where participating pharmacies stock commonly used palliative care drugs, and supply other pharmacies if necessary. These model schemes have shown how the Pharmacists involved have been able to enhance patient care. In England in 1997, 30 South Essex community pharmacists, working with the local NHS Trust, agreed to keep a minimum supply of palliative care medications in case of urgent night-time call-outs. A scheme has also been piloted across three south-west Hampshire regions and to provide essential medications both in hours and out of hours. By studying the problem of access in these areas and implementing change, improvement was seen in relation to access to medications seven days a week. More widely in the UK, these issues are being further addressed as part of the Gold Standards Framework in the NHS, with specific attention being paid to out of hours problems experienced by patients.
Conclusion

In this study, we identified factors causing delays in patients accessing their medications. The main problems highlighted are:

- Pharmacy stocking issues.
- Lack of availability of these medications on the GMS.
- No one to bring prescriptions/medication to and from GP, pharmacy and patient.
- Communication between palliative home care team and GPs.

Locally, we are addressing these issues by working with our colleagues in pharmacies, and by improving communication between GPs and the home care team. Nationally, this area needs to be addressed, in particular with regard to drug cost reimbursement schemes and improved courier services in the community between GPs, pharmacies and patients.

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