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TITLE

Optimised clinical study recruitment in palliative care: success strategies and lessons learned

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None declared.

Abstract

Recruitment challenges to clinical research studies in palliative care settings, particularly in hospices, are well documented. However, a recent study (Hospice Inpatient Deep vein thrombosis Detection Study (HIDDen)) performed across five hospices in the UK recruited above target and on time. We describe strategies that aided successful recruitment in this study, and the lessons learnt for improving future studies. A recent review suggested that the 'Social Marketing Mix Framework' could help researchers with recruitment strategies in palliative care. We describe the recruiting strategies employed through the Social Marketing Mix lens and consider if it would be a useful framework for future researchers to use at the planning stage.

Successful recruitment strategies employed in HIDDen included: i) addressing particular study related factors, ii) ensuring all patients were screened and offered participation if eligible, iii) reducing impact on the clinical team through dedicated research nurses at sites, iv) addressing research team issues with cross-cover between sites where geographically possible, and v) regular video conferencing meetings for support and collaborative solving of challenges. Limited pre-existing research infrastructure at most of the recruiting hospices created particular challenges.

The Social Marketing Mix Framework provides a potential structure to help researchers plan recruitment. However, to fully streamline trial set up and in order for hospice involvement in research to be realised systematically, a centralised approach to governance, organisational culture change whereby hospices embrace research as a legitimate purpose and consistent access to research staff, are identified as key strategic elements promoting recruitment to studies in hospices.

Key Words

Palliative, recruitment, hospice, Social Marketing Mix Framework, clinical study

Key Statements

What is already known about the topic?

Research in palliative care, particularly in hospices is challenging with many studies failing to recruit successfully.

What this paper adds

This report illustrates that the use of the Social Marketing Mix Framework to inform recruitment strategies can facilitate hospice clinical studies.

Implications for practice, theory or policy

Incorporation of frameworks such as this when designing clinical studies in a hospice setting should improve recruitment.

Introduction

Compared with many other clinical specialties there are fewer clinical studies in palliative care. In order to obtain good translation from research into practice, clinical studies should be performed in a population that is representative of those in whom the intervention will be used. However, patients with poor performance status (ECOG>2) or estimated prognosis of less than three months are commonly excluded. Patients requiring hospice in-patient admission often experience a wide variety of unstable physical and psychological symptoms.(1) Few studies include patients with very advanced disease or who are hospice in-patients which limits generalisability to patients in this setting.(1)

The many recruitment challenges in the palliative care setting are well documented (2-4) but not insurmountable. In addition to patient related factors including fatigue, limited prognosis etc., particular obstacles in the hospice setting include a lack of research infrastructure, aversion to perceived risk, few trained clinical researchers, prioritisation of clinical responsibilities, lack of protected research time, and funding difficulties especially as non-commercial research rarely generates income – a particular issue for many hospices which are funded independently. (5)

Adequately powered palliative care clinical studies conducted solely in hospices are relatively few, with a recent review showing that only 10% of palliative and end of life studies conducted in Scotland (2006-2015) were undertaken in a hospice.(6) Yet larger scale recruitment is possible.(7) As studies in the hospice setting which have recruited either to, or above, target are infrequent, in this paper, we describe the recruitment strategies used in a successful

prevalence cohort study which recruited 343 patients over 16 months from five hospice sites; the Hospice Inpatient Deep vein thrombosis (DVT) Detection Study (HIDDen).(8)

Study assessments, including a bedside Doppler ultrasound scan, were conducted at baseline and then weekly for a maximum of three weeks or until discharge or death. Ethical approval allowed immediate recruitment and consultee agreement if required and recruitment beyond the sample size based on the primary endpoint in order to increase precision around secondary endpoints. From 1390 patients screened, 343 participants were recruited, which was above target (figure 1). Just over 60% (841) potential participants were ineligible, mostly due to an estimated prognosis of less than 5 days or being outside of the consent timeframe (within 48hrs of admission). Less than a third (206) of those eligible declined participation.

Figure 1 Predicted versus actual cumulative recruitment to HIDDen study

INSERT FIGURE 1

Strategies Used

A recent review demonstrated the 'Social Marketing Mix Framework' (SMMF) could help guide researchers when planning and implementing recruitment strategies in palliative care, and hence improve recruitment to trials.(9) The recruitment strategies used in this study are compared with SMMF principles (the 6 'Ps')(9) to determine if these were employed in HIDDeN (Table 1), and might thus be a useful tool to guide those planning future studies wishing to emulate HIDDeN's recruitment success.

Table 1 Social Marketing Mix Framework (adapted from Dunleavy et al(9)) and Strategies Used to Recruit in the HIDDen Study

Social Marketing Mix Framework (the 6 'Ps')	**Definitions**	**Strategies Used in HIDDen Study**
Identifying participants	Defining the target audience	• Wide inclusion criteria- all admissions who could have Doppler ultrasound • Minimal exclusion criteria- prognosis < 5 days, language issues, no consultee if lack of patient capacity • All patients screened on admission for eligibility – strategies implemented to ensure all were screened
Product i) Defining the product ii) The product's competition	The intervention is the product (its scientific, theoretical basis, does it meet the needs of the target audience?), the product must address a problem that is perceived as serious and amenable to the intervention The amount of competition for the participant's time and energy	• While there was no intervention in this study, identification of the clinical relevance of DVT was important in this setting o known to be important to patients o serious and amenable to intervention • Public and Patient Involvement (PPI) from the start of study design and throughout • Few or no competing clinical studies in recruiting units • 16 month recruitment period to maintain staff enthusiasm.
Price	The cost to the potential participant of taking part in the study (e.g.	• No financial cost to patient • No travel or additional appointments required

	financial, time, physical and emotional effort). Things need to consider: type of costs and how to minimise the costs	• Little physical effort for patient as study performed at patient's bedside at a time convenient to them • Consent process was quick and immediate consent allowed – consultee agreement also allowed to reduce ineligibility with post hoc consent where possible • Short time requirement for involved patients once a week (10-20 mins maximum) • Very few questions asked to patients- information sourced from medical notes where possible
Place (improving accessibility)	'The location where the participant will receive information about, or engage in, the intervention'	• Patients all seen by their bedside at a time convenient to them. • Inpatient setting so more accessible than outpatient • Multiple recruitment sites with dedicated research nurse and clinical champion
Promoting the study	'Identify the acceptable avenues that reach the target population'	• Education of all staff to reduce the risk of gatekeeping • Use of role-play for research nurses and clinical staff to ensure key messages given to patients in an understandable and consistent way. • Screening for recruitment had minimal impact on clinicians- less than two minutes per patient and minimal paperwork. Consent process and data collection all done by dedicated research nurses.

		• Screening sheet included with medical admission pack to remind clinicians to screen all patient and involved brief tick box form for eligibility • Research nurses followed up any patients that had not been screened for eligibility within the recruitment timeframe with clinical staff where possible. • If patients were too symptomatic to discuss the study on the day of admission, permission was sought to return and discuss the trial the next day (if still within the recruitment period) – 'respectful persistence'
Working With Partners	'Partners are defined as organisations involved with a social change effort or serving as conduits to target audiences'. Things to consider: partner education, partner referrals and recruitment and barriers to partnering.	• Partnerships were formed with PPI representatives and the five hospice units involved • Research Ethics- significant effort was employed to ensure ethical issues were appropriately addressed. PPI representation helped facilitate this • Staff were educated about the trial and risks of gatekeeping to aid referrals to the research nurses • Good personal relationships between the research nurses and the clinical teams were fostered by repeated contact with referral sources • A Clinical Champion at each site encouraged recruitment • Resources- funded research nurses were employed at each site

		• Cross cover of sites by research nurses where geographically possible for leave and staff turnover.

All strategies used had crucial input from service users and members of the public (Patient and Public Involvement [PPI]). Strategies included:

i) *Trial design factors –*

The trial had broad eligibility criteria with few criteria for exclusion; any adult being admitted to the hospice could be recruited so long as their prognosis was expected to be greater than five days. This made the screening process straightforward, reducing the burden on research nurses. A particular design strength was the inclusion of proxy consent for those unable to consent. This would include patients with hypercalcaemia, infection or opioid toxicity; all treatable yet highly thrombotic conditions which would have been lost to recruitment without proxy consent. PPI members gave specific advice on issues of recruitment, consent, sharing of Doppler ultrasound results and confirmed the importance of the research question. The high clinical relevance and importance to all patients facilitated maximum “buy-in” from staff, patients and carers.

ii) Trial process factors

Several strategies were employed to ensure identification of all eligible patients. In order to reduce gatekeeping, training was provided for all clinical staff regarding the importance of the research project. Patent screening sheets were inserted into the hospice admission packs to act as a prompt for the admitting clinician to screen and where appropriate ask permission for the research nurse to approach. In addition, there was daily research nurse follow up for those not screened to minimise missing eligible patients.

iii) Trial conduct factors

The trial was designed to confer minimal additional work on the clinical team and have little, if any, impact on the patient's clinical care. This was facilitated by the presence of a dedicated research nurse who had no additional clinical commitments on the ward.

iv) Research team issues –

The research nurses worked hard to develop a relationship with the clinical team, wherever possible ensuring a consistent presence in the hospice, which included attending team meetings and clinical handover. Monthly face-to-face meetings between research nurses, using video conferencing to include those more distant helped support nurses working alone and address challenges faced.

Challenges encountered

Limited pre-existing research infrastructure at most of the individual hospices created a challenge. Governance and paperwork processes differed among the sites (one NHS site, two Marie Curie voluntary sector hospices, two independent voluntary sector hospices). Only one site had a research nurse in post (Princess Alice, London). Another had a research nurse seconded from the local university (Cardiff), but the three Northern Ireland hospices had to recruit and employ research nurses for the first time. These different approaches were time consuming to negotiate.

In the two sites that were geographically isolated, recruitment was not possible during periods of research nurse leave (annual and sick). The three Northern Ireland sites were within a 25 mile radius of each other, and so this was not an issue as the research nurses cross-covered the sites, greatly improving recruitment. However, this meant all three nurses needed contracts and to meet the requirements at each of the three sites (one NHS, one Marie Curie and one independent voluntary sector hospice) which was time consuming to set up. This included

induction and mandatory training requirements at each site. Funding was also needed for travel between sites, but this was built into the budget.

Application

The HIDDeN study has shown that a funded multisite study in UK hospices is possible and can recruit successfully to allow scientifically robust results. Using the '6Ps' of SMMF, successful recruitment strategies could be incorporated into study design and recruitment processes to help recruitment to time and target. This study showed that many hospice patients are willing to be involved in research even when in the last weeks of life, and the well-rehearsed challenges are not insurmountable. A systematic review and narrative analysis highlighted how palliative care researchers can learn from successful strategies in other "difficult-to-recruit" areas in healthcare such as delirium, dementia and emergency medicine. (10) It is important to consider our experiences in context; HIDDen was an observational study and it would presumptive to suggest the strategies reported would be sufficient to gain similar recruitment to a Clinical Trial of an Investigational Medicinal Product (CTIMP). Such trials may encroach more on staff time, particularly with respect to pharmacovigilance and the necessary approval and safety processes such as adverse event reporting. Furthermore, it is possible that staff may be more reticent to flag up patients for a randomised interventional trial and patients may be reluctant to risk receiving placebo. However, such potential setbacks may be obviated by applying the 6Ps, with emphasis on "promoting the study". This should focus on spending time to help the clinical team to understand the need for the trial and the concept of equipoise between the two trial arms.

Implications for Research and Clinical Practice

The importance of hospice involvement in research has been highlighted by Hospice UK (the national charity for UK hospice care).(11) Multisite studies are required for timely recruitment

and to increase generalisability of findings. A centrally agreed and single governance process would be helpful in establishing hospice based research networks. Access to research nurses for hospices would greatly facilitate multisite research in the hospice setting. Maintenance of clinical services is the priority for most hospices and research nurses will usually need to be costed into grant applications. In the UK, clinical research networks may support trials with network research nurses to assist recruitment and consent, but such nurses are very rarely attached to Hospices. The recent decision by the National Institute for Health Research in the UK that hospices were eligible to receive NHS Research Costs is an important step in the right direction. Hospices, from the management level to those delivering clinical services, must commit to having research as a core, legitimate purpose and to supporting regular research studies in order to maintain research nurse skills.

Conclusions

Research in hospices is vital to guide practice and improve patient care. While there are challenges, successfully run studies are possible when adequate attention, including PPI involvement, is given to addressing study design issues and recruitment strategies put in place. The SMMF provides one potential structure to address these issues. The successful recruitment in the HIDDEN study(8) across five hospices in the UK demonstrates the value of the SMMF approach in planning Hospice based studies. However, in addition to such planning for studies in Hospice settings, a centralised approach to governance, a culture change whereby hospices embrace research as a legitimate purpose, and employment of (or consistent access to) research staff, will be necessary for the full research benefit to patients and services to be realised systematically.

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