Original Article

A Proposed Taxonomy of Terms to Guide the Clinical Trial Recruitment Process

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Abstract

Context. The successful conduct of clinical trials in palliative care is challenged by low accrual rates, high attrition of study patients during trials, difficulties managing comorbidity, and other factors. But what has been learned about improving the feasibility of palliative care research studies?

Objective. To develop standard terms to describe patient accrual, and using these terms, describe an approach to allow investigators to predict trial feasibility.

Methods. We proposed a standard language and definitions for specific elements of feasibility within clinical trial design and conduct. We then developed an approach to apply data generated from the use of these terms to allow researchers to predict feasibility at the design stage of a clinical trial's development.

Results. We developed a taxonomy and then retrospectively applied the approach to four trials selected from our library of completed studies, to provide preliminary validity evidence. The approach includes a framework to help predict the number of patients needed to be assessed to achieve a study's accrual targets, as part of ongoing operational oversight to monitor the conduct and feasibility of a clinical trial.

Conclusion. Challenges to successful completion of palliative care trials are prevalent and serious. A taxonomy to characterize the eligible patient pool, and an approach by which feasibility is systematically investigated, hold the promise to enhance the effectiveness of scarce resources applied to palliative and end-of-life research. J Pain Symptom Manage 2010;40:102–110. © *2010 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.*

Key Words
Palliative and end-of-life care, clinical trial, feasibility, trial design

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Introduction

With a shift in demographics, developed countries are experiencing a surge in the population of individuals with advanced chronic illness. There is wide acceptance that more palliative care research is of critical importance.[1–4] However, there are substantial challenges to successful completion of research in the palliative and end-of-life population,[5–15] similar to challenges experienced by clinical trialists in a range of other areas of study.[16–18] Researchers focused on palliative care, and those focused on other areas have identified potential strategies to overcome these barriers. Although there is extensive information on this topic within the wider clinical trials literature, we were interested to better understand and directly apply these principles within the conduct of palliative care research.

Specifically, within the palliative care literature, many studies pose a clinically relevant research question and posit a cogent argument in favor of its pursuit. However, only too commonly, palliative care trials are unable to reach accrual targets, collect complete patient data, or capture a sample size sufficient to achieve statistical and clinical significance.[19–24] An illustrative example was reported from Australia, where two very similar palliative care trials were conceived and initiated concurrently, unbeknownst to the two study teams. One of these trials was successfully conducted and the other was not. Mitchell and Abernethy[25] compared and contrasted the two trials in detail.

Given the increasing demand for effective treatment and symptom control in the palliative care community, and the rising expectations of patients and their families, rigorous well-funded research is in critical need. But how can palliative care researchers be better equipped to complete the trials they have started?

Shedding further light on this issue, prodigious effort has been expended in the identification, classification, and characterization of barriers that investigators encounter when conducting research in palliative care.[5–13] Literature suggests that barriers can be broadly categorized into four domains: patient-related barriers, organizational barriers, logistical barriers, and barriers that are specific to the trial itself. A summary of these barriers described in the literature is presented in Table 1, and approaches described to address them are outlined in Table 2.

However, within the published literature, we encountered a puzzling range of terms used to describe the population of patients who are at different stages of the navigation through the clinical trials process and different approaches in applying these terms when characterizing trial feasibility. We did not encounter a practical model to guide the assessment of trial feasibility. The purpose of this article is to recommend simple definitions of terms that can be used to inform clinical trial feasibility in palliative care. We then used these terms within a taxonomy that characterizes the populations of potential palliative care clinical trial patients and provides preliminary validity evidence for application of the taxonomy to help investigators predict whether their proposed research is likely to reach accrual targets.

Methods

We performed an informal environmental scan of the literature to identify the terms used to describe populations of patients being considered for, or actively involved in, clinical trials in palliative care. We then explored the use of these terms within our own research team's clinical trials screening logs. After discussion within the team, we established draft definitions for the palliative care clinical trials research population to have a consistent approach to describe what populations of study patients are being referred to by the study personnel (Table 3).

We reasoned that use of consistent definitions of patients as they move through different stages of evaluation for potential entry or enrollment into a trial would allow for more accurate study logs. After a trial has been completed, by reviewing the study logs, one could then calculate the ratio of the number of patients needed to be in the total pool of potential study candidates divided by the number of completed patients for whom there are adequate data. This ratio would represent the number of patients needed to be in the total pool of potential study candidates to have one completed patient. We called this ratio the "number needed to assess" (NNA) (Table 3).