

Does the National Heart, Lung, and Blood Institute's (NHLBI) Accrual Policy Improve Recruitment in Cardiovascular Clinical Studies?

Addou E, Rosenberg ER, Gulin J, Evans FJ, Kaltman JR, Burns KM, Gordon DJ, Pearson GD, Pemberton VL
National Heart, Lung, and Blood Institute, National Institutes of Health

Introduction

Clinical studies are often challenged to meet patient recruitment timelines, and many do not finish on time or meet their target recruitment goals.

Suboptimal recruitment numbers and slow enrollment affect validity and relevance of clinical study results, increase risks to subjects, and adversely affect the flow of research funds.

In October 2009, NHLBI initiated an Accrual Policy, requiring all clinical trials with ≥ 150 subjects and observational studies with ≥ 1000 subjects to establish a recruitment plan and report enrollment milestones quarterly. Program staff actively monitor recruitment, and corrective action plans are mandated for all studies that fail to meet milestones, falling into the amber or red zone (Figure 1).

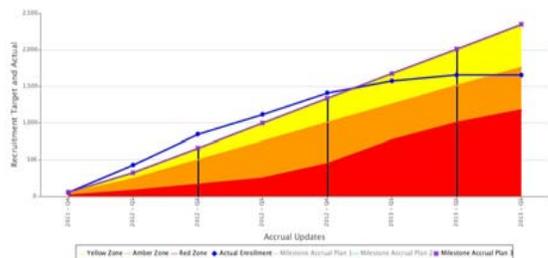


Figure 1: Milestone recruitment graph: The yellow zone represents ≥ 75 -100%, amber: 50-75% and red: $< 50\%$ of accrual target.

Objectives

- To determine if the 2009 NHLBI Accrual Policy improved recruitment of human subjects and enhanced on-time completion for NHLBI clinical studies.
- To identify differences in enrollment rates and durations for clinical studies starting before, during, and after the Accrual Policy was implemented.

Methods

- Data were collected for 324 clinical studies with start/stop dates ranging from 1996-2017.
- Studies still recruiting or where sample size or duration data were unavailable were omitted.
- The remaining 275 clinical studies were placed into three categories (Table 1).
- Proposed and actual recruitment targets and study durations were compared.
- Data were analyzed using MS Excel and SAS.

Group	Definition	Number of Studies
Group A	Clinical study began and ended prior to policy being implemented	184
Group B	Clinical study began before policy was implemented and ended after policy was implemented	41
Group C	Clinical study began and ended after policy was implemented	50

Table 1: Clinical study groupings, definitions, and sample sizes

Results

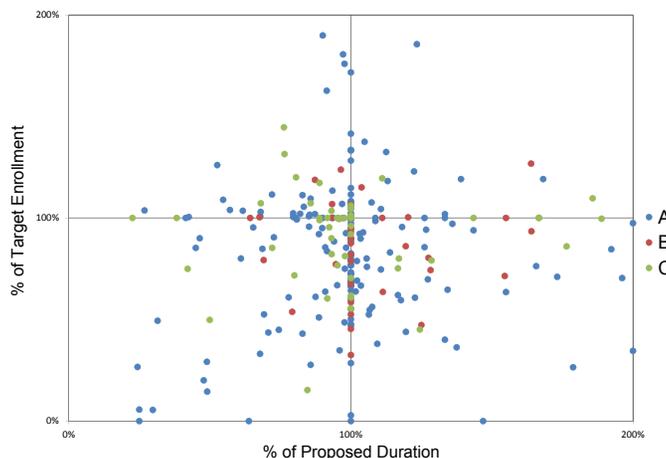


Figure 2: 275 clinical studies by group, where the intersection of the vertical and horizontal lines represents studies that achieved recruitment target and finished at proposed duration. Those in the upper left quadrant finished earlier and with more subjects than proposed.

- Among Groups A, B, and C, there were no significant differences in the proportion of trials that met their recruitment targets or that were completed on time.

Group	Studies that did not meet recruitment targets p=0.47	Studies that required more time to complete p=0.12
A	60%	31%
B	59%	39%
C	50%	22%

Table 2: Percentage of studies that did not complete target recruitment or on time; no significant differences were noted between groups

Results (Continued)

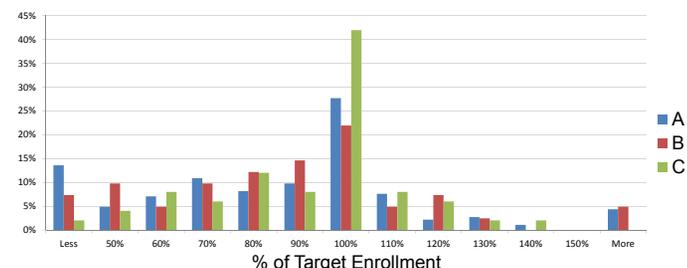


Figure 3: Percentage of studies by group that recruited the number of subjects proposed (100%), more subjects ($>100\%$) and fewer subjects ($<100\%$)

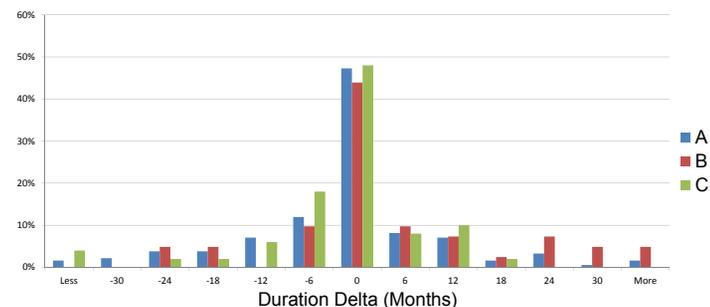


Figure 4: Duration Delta: The difference between proposed and actual duration by group; 0 indicates on target, >0 : more time required and <0 : less time required

Conclusions

- There were no significant differences in recruitment success or timely completion of studies started before, during or after the Accrual Policy was implemented.
- More than half of studies did not meet proposed recruitment goals, although there was a trend toward improvement after the Accrual Policy was implemented.
- More time was required than planned to achieve full enrollment in a significant proportion of studies, although this also showed a trend towards improvement after the implementation of the Accrual Policy.
- This study is limited by retrospective data collection and the fact that specific aspects of policy implementation were not evaluated. Further analysis of the Accrual Policy is warranted.