COPD Bundle to Prevent Hospital Readmissions and ED Visits

To the Editor:

The search for interventions to reduce avoidable readmissions after an exacerbation of COPD has attracted substantial attention after the Centers for Medicare & Medicaid Services included COPD exacerbations in its Hospital Readmissions Reduction Program.¹ We read with great interest the study by Jennings et al² in a recent issue of CHEST (May 2015) and applaud the authors for conducting a randomized clinical trial to test the effects of a predischarge care bundle. The study demonstrated a numerically lower but not statistically significant risk of 30-day readmissions or visits to the ED in the intervention group (risk difference, −3.4%; 95% CI, −15.7% to 8.8%). The authors acknowledged several potential limitations in the study design, including relying on the primary team to implement interventions directed at risk factors identified by the researchers and the selective eligibility criteria.

We propose another limitation. The study used a highly optimistic effect size (50% reduction from 20% to 10%) for sample size calculations and was, therefore, underpowered to test the hypothesis that a predischarge care bundle can reduce postdischarge readmissions or ED visits. Why was this large effect size proposed? Overall, the study highlights the continued need to identify interventions that reduce readmissions in patients with COPD exacerbations.

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FINANCIAL/NONFINANCIAL DISCLOSURES: The authors have reported to CHEST that no potential conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

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Response

To the Editor:

We appreciate the comments by Dr Zaidi and colleagues on our recent article in CHEST.¹ They ask whether the effect size in our study from 20% to 10% reduction in readmissions was overly optimistic. There is a paucity of data in the literature to guide us as to what an expected magnitude of reduction in 30-day readmission rates should be. Importantly, choosing an effect size should be based on what is “clinically meaningful.” Unfortunately, this can oftentimes be challenging and subjective. In the absence of a specific intervention, rates of 30-day readmissions for COPD range from 7% to 22%.² We, therefore, chose an absolute reduction of 10%, given our baseline prestudy admission rate of 20% at Henry Ford.

Would choosing a smaller effect size have shown us a difference between groups? Perhaps not. While the point estimate of the risk difference was −3.5%, the CI shows that true risk difference may very well be +8.8% in favor of no intervention. Nonetheless, had the larger sample size resulted in statistical significance for this small risk difference, one might question the clinical significance of an intervention as only marginally favorable.

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FINANCIAL/NONFINANCIAL DISCLOSURES: The authors have reported to CHEST that no potential conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

FUNDING/SUPPORT: This study was supported by the Breech Chair for Health Care Quality Improvement [Grant J90002].

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DOI: 10.1378/chest.15-1131

Acknowledgments

Role of sponsors: The sponsor had no role in the design of the study, the collection and analysis of the data, or the preparation of the manuscript.

References
