

**LETTER IN RESPONSE TO: A COST ANALYSIS OF SALBUTAMOL ADMINISTRATION BY METERED-DOSE INHALERS WITH SPACERS VERSUS NEBULIZATION FOR PATIENTS WITH WHEEZE IN THE PEDIATRIC EMERGENCY DEPARTMENT: EVIDENCE FROM OBSERVATIONAL DATA IN NOVA SCOTIA**

*To the editor:* I read the above-mentioned article<sup>1</sup> with interest, because the use of the metered-dose inhaler (MDI) versus nebulized treatment in the emergency department is a commonly discussed topic. The article concludes that the MDI is cost-effective as compared to nebulized therapy. The cost conclusion is based largely on the nursing costs associated with nebulized therapy. The authors have based their nursing cost calculations on the 2008 UK study by Mason et al. However, in the Mason et al.

study, the actual nursing time spent on treatment with the MDI versus nebulizer was almost identical in the two groups (155.5 seconds for the MDI, 134.5 seconds for the nebulizer). Instead of using the actual time spent by nursing staff on treatment, the authors have used the *total treatment duration time*. The vast majority of the treatment time in a nebulized treatment is without direct nursing care. If the current study's cost estimation is adjusted to reflect the fact that nursing time is essentially the same between the MDI and nebulized therapy, the cost per treatment becomes significantly higher in the MDI group as compared to nebulized therapy. With respect to the current study, if nursing time spent with patients were assumed to be equal in the two groups (as in the Mason et al. study)<sup>2</sup>, the cost per treatment for

nebulized therapy drops to \$3.21, which is significantly lower than the \$10.80 reported in the study for a single MDI treatment.

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**REFERENCES**

1. Spin P, Sketris I, Hill-Taylor B, Ward C, Hurley KF. A cost analysis of salbutamol administration by metered-dose inhalers with spacers versus nebulization for patients with wheeze in the pediatric emergency department: Evidence from observational data in Nova Scotia. *CJEM* 2017;19(1):1-8.
2. Mason N, Roberts N, Yard N, Partridge MR. Nebulisers or spacers for the administration of bronchodilators to those with asthma attending emergency departments? *Respir Med* 2008;102(7):993-8.