



Healthcare Costs of Pediatric Home Mechanical Ventilation

Presenter: Mika Nonoyama, RRT PhD

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Session Abstract

Background/Objectives: Children using home mechanical ventilation (HMV) live at home for better quality of life, despite financial burden for their family. Previous studies of healthcare utilization and costs do not consider public and private expenditures, including family caregiver time. We sought to determine public and private healthcare utilization and costs for children using HMV and to examine factors associated with highest costs. **Methods:** Longitudinal, prospective, observational cost analysis study (2012-2014) on public and private (out-of-pocket, 3rd party insurance, caregiving) costs every 2 weeks for 6 months using the Ambulatory Home Care Record. Functional Independence Measure (FIM), WeeFIM and Caregiver Impact Scale (CIS) were collected at baseline and study completion. Regression modelling examined a priori selected variables associated with monthly costs using Andersen & Newman's framework for healthcare utilization. 2015 Canadian dollars (\$1CAD=\$0.78USD=€0.71). **Results:** We enrolled 42 children and their caregivers. Overall median (interquartile range) monthly healthcare cost was \$12,131 (\$8,159-15,958) comprising \$9,929 (89%) for family caregiving hours, \$996 (9%) publicly funded and \$252 (2%) out-of-pocket (<1% third party insurance) costs. For every 10 FIM points (lower dependency), median costs were reduced by 4.5% (95% confidence interval 8.3-0.5%), adjusted for age, sex, tracheostomy and daily ventilation duration. **Conclusions:** For HMV children, most healthcare costs were from family caregiving. The most dependent children had highest costs. The financial burden to family caregivers is substantial and must be considered in future policy decisions related to pediatric HMV.

Session Objectives

1. To learn about the gaps in pediatric home mechanical ventilation (HMV)
2. To learn about a prospective longitudinal study describing the healthcare costs of pediatric HMV
3. To learn about the impact on caregivers of children on HMV
4. To learn how healthcare costs of pediatric HMV compare to adults on HMV

Speaker Biography

Dr. Nonoyama is a registered respiratory therapist with a PhD in the Rehabilitation Sciences from the University of Toronto. She completed post-doctoral fellowships at Toronto Rehabilitation Institute and the University of Toronto's Lawrence S. Bloomberg Faculty of Nursing. She is currently an associate professor in the Faculty of Health Sciences at Ontario Tech University, a Health Clinician Scientist at SickKids in the Respiratory Therapy Department and Clinical Health Evaluative Sciences, and a status-only assistant professor in the Department of Physical Therapy and Rehabilitation Sciences Institute at the University of Toronto.