Title **Hospital Technology at Home: Portable Oxygen Therapy in COPD**

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Aim

To summarize evidence on the efficacy, safety, and cost effectiveness of portable oxygen equipment in treating chronic obstructive pulmonary disease (COPD), to evaluate Canadian service delivery models, to review the psychosocial, legal, and ethical implications of home oxygen programs, and to provide guidance for Quebec policy.

Conclusions and results

Long-term oxygen therapy (LTOT) is shown to prolong the lives of patients with COPD, but evidence on the costs and benefits of portable oxygen therapy is limited. The first controlled trial on costs and benefits showed no benefits in quality of life, compliance with treatment, or exercise tolerance, but the sample was small (n=22). Criteria for prescribing portable oxygen therapy do not exist, although the US and UK have adopted some guidelines. Organization and delivery of home oxygen in Québec is decentralized and highly variable. No data have been gathered on the use, cost, or health outcomes of this service.

Recommendations

MSSS should: Define the indications for need regarding all types of portable oxygen equipment; develop a standardized instrument for assessing and monitoring eligible patients; develop standard procedures for prescribing, covering, and monitoring portable oxygen use; set up the infrastructure for a coherent home oxygen therapy program that includes portable oxygen equipment; and consider establishing a central patient registry that could be used to assess delivery, access, and health outcomes. MSSS is encouraged to work in partnership with health professionals, research groups, and patient representatives to implement a care program that is effective, efficient, and fair for all patients.

Methods

Review of the published literature, analysis of data on services provided to Québec COPD patients, interviews with clinical and administrative leaders of home oxygen therapy programs and home delivery services in Québec, and a key informant survey with home oxygen program leaders in Ontario and Alberta.

Further research/reviews required

Further research is needed on: the link between smoking and COPD, the costs and benefits of different portable systems, complementary or alternative therapies for COPD, current Québec practices for LTOT delivery, the effect of patient education and support on health outcomes, and instruments that assist the routine collection of quality-of-life data for COPD patients on LTOT in clinical practice.

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