



College of  
Respiratory Therapists  
of Ontario

Optimizing  
Respiratory Therapy Services

Transitioning LTV Clients  
**from Hospital  
to Home**  
an RT Model of Care

Final Report  
Executive Summary

January 2011

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## Partners



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Ontario HealthForceOntario

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# Introduction

Respiratory Therapists (RTs) are highly skilled and competent health care professionals who have extensive training and experience in caring for clients requiring mechanical ventilation and airway management. RTs provide this service in hospitals throughout Ontario. RTs with the same competencies also work in the community with a role that primarily involves the care of clients who require oxygen therapy.



Clients who require Long-Term Ventilation (LTV) but are otherwise medically stable, often remain in a hospital setting due to inadequate support in the community.

With a goal to address this identified gap in community support, the College of Respiratory Therapists of Ontario (CRTO) applied for and received a grant from HealthForceOntario's *Optimizing Use of Health Providers' Competencies Fund*.

With this funding resource, the project team embarked on an 18-month project aimed at demonstrating that the utilization of RT services in the community would allow many of these clients to safely transition into, and remain in their homes. The project ran from October 2008 until March 2010.

The key deliverables of this project are aligned with the Ministry of Health and Long Term Care's Critical Care Capacity Investment goal to implement the recommendations of the Final Report of the *Chronic Ventilation Strategy Task Force*.

One of the key recommendations of this report was to provide and fund Respiratory Therapy services in the community:

*"That the MOHLTC and, in due course, the LHINs, improve the support provided for ventilator-dependant clients living in the community by: **Providing and funding additional services for ventilator-dependant clients living in the home. These additional services would include Respiratory Therapists' services. These services could be delivered through CCACs or a hospital-based service**". (MOHLTC, 2006)*



Recent changes to the *Provision of Community Services* regulation (O.Reg 386/99) made under the *Home Care and Community Service Act* enables Community Care Access Centres (CCACs) to contract RT services in the community for clients who are "ventilator-dependent, have artificial airways or are receiving home oxygen services under the Assistive Devices Program". In our view, there are sufficient numbers of RTs working for home care companies, independently or through hospital out-reach arrangements to provide this service.

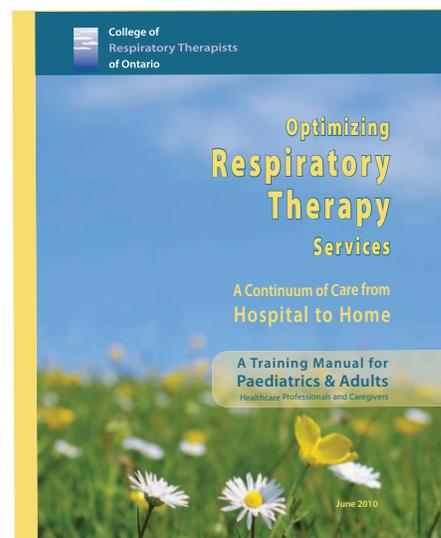
# Project Overview

- To demonstrate a safe and efficient model of RT services for this client population, the CRTO partnered with ProResp who provided community RT services for those clients who met eligibility criteria.
- The criteria for selecting those clients who could potentially be safely and successfully transitioned into the community were broadly determined to be:
  1. Medically stable;
  2. Maximally weaned on the ventilator;
  3. Minimal co-morbidities;
  4. Medical support for ventilation in the community by a most responsible physician (MRP);
  5. Client's desire to return home;
  6. Family's desire to have patient return home; and
  7. Adequate care hours/support in the home.



# Project Outcomes

- The most significant project achievement was the transition of 30 clients who required long term ventilation (LTV) directly from the Intensive Care Unit (ICU) setting into the community (ages ranged from 1 to 77). These clients resided in Central and South-Western Ontario and had a variety of clinical diagnoses (e.g., Amyotrophic Lateral Sclerosis (ALS), Bronchopulmonary Dysplasia (BPD), Chronic Obstructive Lung Disease (COPD), Kyphoscoliosis, Duchene's Muscular Dystrophy (MD), Multiple Sclerosis (MS), Quadriplegia, Primary Alveolar Hypoventilation Syndrome, Spinal Muscular Atrophy (SMA Type 1)) and prognoses.
- *A Training Manual for Paediatrics & Adults (Healthcare Professionals and Caregivers)*<sup>1</sup> was developed as a resource for clients (adult and paediatric) and for use by the interprofessional health care team and other caregivers. This manual contains tools to facilitate ICU discharge planning and to support safe and effective client care in the home environment.
- Since the completion of the project, all of the clients have been able to remain in their homes.



<sup>1</sup> The Training Manual and complete Final Report are available on the CRTO website at <http://www.crto.on.ca/hfo.aspx>



# Key Findings

## 1. IMPROVED CLIENT QUALITY OF LIFE (QOL)

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- Acknowledging the client's basic human right to choose where they live and the type of support they need, quantifiably enhances their quality of life.
- The alternative model explored in this project enabled direct-from-ICU discharge of clients on LTV. This provided a definitive advantage for clients who resided outside of the Greater Toronto Area and did not have access to specialized LTV training or weaning centres. In addition, this model facilitated living with dignity for those who have a disease process that limits their life expectancy.
- With the addition of Respiratory Therapy to the interprofessional services offered to clients and their families, medically stable individuals on LTV were safely and successfully transitioned directly from an ICU setting into their home.
- The provision of RT support in the community resulted in a decreased incidence of unplanned or unnecessary hospital re-admissions.

## 2. INCREASED JOB SATISFACTION

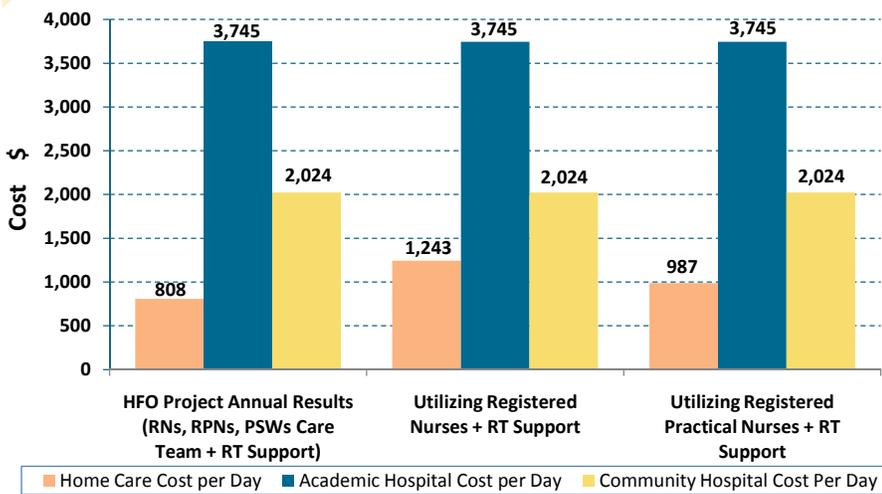
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- Utilizing more of their core clinical competencies enabled the community RTs to work to their full scope of practice. This strengthened job satisfaction and may, in the future, enhance recruitment and retention in this employment sector.
- The role of the RT in caring for this client population involved:
  - Ventilatory/airway management;
  - On-going support and education for client, family members and interprofessional caregivers (e.g., registered nurse (RN), registered practical nurse (RPN), personal support worker (PSW)); and
  - The provision of around-the-clock emergency and supportive services coverage for troubleshooting of equipment and direct client care as required (e.g., safety checks on ventilations, non-invasive monitoring, tracheostomy care).

### 3. ESTIMATED COST SAVINGS

- The project demonstrated that transitioning clients from the ICU setting into their homes resulted in significant financial savings to the healthcare system by optimizing infrastructure costs (i.e., facility, human resources).
- Freeing up ICU beds can have a positive impact on Emergency Department wait-times, as it may improve flow through the hospital system and reduce some “bottlenecks” to ICU admissions.
- Decreased incidence of unplanned or unnecessary hospital re-admissions.
- In a regional health model, utilizing RTs to provide community care for stable clients requiring persistent ventilation maximizes the existing healthcare infrastructure by ensuring the availability of ICU beds for critically ill clients.
- Hospital ICU costs per day remained the same regardless of whether the client was invasively ventilated 24/7, nocturnally or non-invasively ventilated. Conversely, the costs per day were substantially less for nocturnally ventilated and non-invasively ventilated clients when cared for in the home.

#### Cost of Care - Invasively Ventilated



- **Costs of homecare** modeled with 24/7 professional care including RNs, RPNs, PSWs + RTs.
- Rates for RN, RPN & PSW are the average CCAC rates (as of 2008).
- RT visit rate \$110 per visit inclusive.
- **Includes \$50 per day for supplies/medications, etc.**

- Homecare costs per day with 24/7 paid professional care are similar to the costs of a complex continuing care bed or a chronic ventilatory care bed.
- Relevant health care savings realized with private residences that exist for most of these clients providing the “infrastructure” to care for them.

Example of an actual client transitioned home through this project after a 15-month ICU stay in a Community Hospital at an approximate health care cost of **\$923,450**.

Client transitioned into the community April 2009. For the 345 days April 2009 through March 31, 2010, approximate costs for home care (average of 100 hours per week of RPN care plus RT support):

Home	Community Hospital ICU Bed*	Savings
\$235,026	\$698,280	\$463,254

*\* ICU bed costs taken from Ontario Cost Initiative Data 2004/2005 as reported in the Chronic Ventilation Strategy Task Force Report.*

## 24/7 Care in the Community

- With the addition of Respiratory Therapy to the interprofessional services offered to clients and their families, medically stable individuals on LTV were safely and successful transitioned directly from an ICU setting into their home.
- The provision of clinical support and on-going education by the RTs to the caregivers and interprofessional team increased the capacity of the team to sustain clients with complex health care needs in the community.
- The ongoing clinical support from and training by the RTs mitigated unnecessary hospital visits and readmissions.
- This model of care has the potential to reduce hospital Alternative Level of Care (ALC) days for medically stable clients who require LTV and have the desire to reside in their own home.
- The model employed by this project achieved the goal of maximizing health care resources by offering care in the most appropriate setting for these clients by providing the necessary supports, including RT support.



**“Right person ~ Right place ~ Right time”**

## Testimonials



### 10 month old child – transitioned home ventilated 24/7

*They are filled with joy at being able to have their son home. This much loved child is a part of their extended family. They worry about his future but are filled with optimism and pride. From a practical point of view, the mother asks why they do not have the option to hire RTs to care for him. Mom stated “My child is not sick, he only has respiratory issues”.*

This little boy has remained home, is now weaned from the ventilator, and is walking and talking.

### 6 month old child – transitioned home for palliative care

*They were an immigrant family whose belief is that the entire family should be present when someone dies. Enabling this family to bring home their wee one gave them the comfort of knowing that they had done everything possible for this child. He was able to die surrounded by his parents, grandparents, aunts and uncles.*

The project enabled a dignified death.



### Adult male – transitioned home ventilated 24/7

*My RT colleague and I had the absolute privilege of rolling the client out of ICU and down to the client transport van. We were taking him home! With every roll of the wheels of his chair and every breath that was delivered by the ventilator, the hope in the client’s eyes remained strong. As we rolled across the threshold of the door of his home, the smile on his face made it all worthwhile. He was home at last!*

This client has remained at home with his family since discharge.

## Featured Patient/Client K

K was born prematurely July 11, 2008 at 28 weeks gestation and developed severe Bronchopulmonary Dysplasia. He remained hospitalized, fully ventilated twenty-four hours a day with a very poor prognosis.

As the months went by, the family expressed their strong desire to take their little boy home. Respecting their wishes and utilizing the resources

offered with the HealthForceOntario project for RT support in the community, the hospital team made the decision to start the discharge process in April 2009. Community care team training started in late April, a collaborative effort between the hospital and community RT teams. The last day of April brought about the final discharge meeting. K was going home on a ventilator with parameters that indicated entire dependence on the ventilator for his breathing. On May 5, 2009, K went home to stay.



The community RTs worked very closely with K, his parents and family, and the community nursing team to ensure all were comfortable with the necessary technology to keep K alive and ensure risk management for this wee man. K showed signs of enjoying his new surroundings and healing with the care and love of his parents and family almost immediately. After a couple of weeks, the parents and community RT coordinated a time for K's first outing which went very well. Within a month of discharge, the community RT started to wean K from the ventilator in collaboration with his physician and the lead hospital RT. The weaning was very gradual as they allowed K to "show his stuff". Over the next several months weaning from the ventilator and oxygen continued. K continued to grow and show the team he had what it takes to manage his breathing all by himself.

The memorable day came on September 2, 2010, sixteen months after his discharge home when the physician gave order to discontinue ventilation! K had grown and developed from a baby for whom the hospital team offered little hope of survival to a little two-year old boy full of life and energy. Today he walks and talks – one day he will tell his own story.

## Existing Barriers to Optimal Care

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- Without the requisite financial aid to support the necessary human resources such as Respiratory Therapists and competent interprofessional teams, the burden of providing complex respiratory care falls primarily on the family. This increases the health risks to the clients and offers little respite for caregivers. The likelihood that clients requiring LTV will end up re-admitted to the hospital is then increased because care at home cannot be sustained practically, emotionally or financially.
- It is a reality that at home, families incur many of the costs for items that are normally supplied in hospital ICUs such as gloves and suction catheters. An inequity to access care arises for those unable to afford to keep their loved ones at home.
- Clients and families often have little choice when it comes to what type of services they receive.

# Key Recommendations

1. That the LHINs and CCACs make funding of RT services in the community a priority for medically stable clients who require LTV and have the desire to reside in their home.
2. That funding for interprofessional services (e.g., RT, RN, RPN, PSW) offered to LTV clients be based on their individual and changing needs to ensure client-centred care.
3. That funding be available for necessary equipment and supplies to avoid hospital readmission.
4. That essential funding for respite care for family members be made available.







Available at: [www.crto.on.ca](http://www.crto.on.ca)

# A Training Manual for Paediatrics & Adults

Community RT Team



Funding provided by



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