B R E A T H E

the lung association

COPD HEALTH SYSTEM ANALYSIS

LUNG ASSOCIATION OF NOVA SCOTIA

6331 LADY HAMMOND ROAD

Halifax, NS, B3K 2S2

BREATHE
the lung association

COPD Health System Analysis

Introduction

In the spring of 2018, the Lung Association of Nova Scotia (LANS) began a COPD Health System Analysis project, aimed at identifying shortcomings in the COPD care pathway. Nova Scotia (NS) has the highest proportion of COPD cases in the country (NS: 5.9% vs. national average of 4%) [1]. Given that NS also has the highest prevalence of smoking in the country (NS: 20% vs. national average: 17%), COPD will remain a major public health and healthcare cost concern [2]. Through a series of phases involving stakeholders and patients, this project documented (Helped to identify?) gaps in COPD care.

Project overview

The initial phase of the analysis engaged stakeholders, and was intended to:

1. Gain knowledge regarding COPD management
2. Identify areas of improvement, and to select
3. Select questions for identifying gaps in COPD prevention and management.

The information gathered in the stakeholder phase helped to inform interviews that were conducted in phase II, with 15 COPD patients and health professionals working in COPD prevention and care.

LANS presented the findings from the COPD Health System Analysis at a COPD Policy Forum, an event the organization hosted in June, 2019. The half-day event included a series of presentations and round-table discussions. Approximately 40 stakeholders from various disciplines attended the event, including respirologists, respiratory therapists, pharmacists, researchers, patients, and government officials from across the province.

The Honourable Minister of Health and Wellness, Randy Delorey was also in attendance, and offered thanks to attendees for their work in COPD care. He closed the meeting with powerful remarks on the need to continue to work to improve COPD prevention and care, while encouraging further collaboration with all stakeholders.

Overall, this process has provided perspective into some of the areas that need to be addressed in order to improve lung health outcomes for people with COPD. The LANS was very encouraged by the level of engagement displayed by various stakeholders throughout the analysis, and is prepared to take a lead role in developing next steps.

Based on feedback from the patients and health professionals, the following outlined items are where action can be taken:

1. Smoking Cessation
2. Testing/Diagnosis
3. COPD Education
4. Pharmacotherapy
5. Pulmonary Rehabilitation

6. Palliative Care

Our hope is that these items will begin the conversation on the need to clearly define responsibilities for each action by topic, along with the respective issues, potential solutions, and recommendations.

1. Smoking cessation

What we've heard: Many health professionals are aware of the smoking cessation services offered in the province. In some zones, in-patient services use the Ottawa Model for Smoking Cessation (OMSC) for patients that use tobacco. These patients are referred to a Respiratory Therapist (RT) as well as mental health and addiction services. Some in-patient programs have full-time staff dedicated to smoking cessation. The INSPIRED COPD Outreach Program is also an entry point for smoking cessation services, where COPD patients can be referred to Mental Health and Addictions. Patients that access pulmonary rehabilitation can be referred to smoking cessation services as well or are advised to talk to their family doctor about quitting smoking. COPD patients can also talk to smoking cessation educators or call the 811 number for phone-based tobacco counseling. The interviewed physicians reported frequently talking to their patients about smoking cessation and reminding them about the importance of quitting smoking during different visits. One health professional was very passionate about smoking cessation and consistently uses motivational interviewing and counseling to help his patients. He talks about quitting smoking and encourages his patients to quit, as evident from a clear sign on his door that reads "Smokers are welcome".

Interviewed patients provided different answers in terms of smoking cessation services. Some received information from their family doctor while others did not. One of the patients quit "cold turkey" after coughing blood and having an X-ray at the emergency room (ER). Another patient never smoked.

Issues: Although some of the interviewed physicians mentioned that the smoking cessation programs offered by Mental Health and Addictions are excellent, they were concerned because they believe that these programs do not exist in their region anymore. Others were not aware of the phone counselling services by Tobacco-Free Nova Scotia through the 811 number. One of the interviewed health professionals believes that there are two central issues: the underuse of motivational interviewing and counseling by health professionals and the hesitance on part of professionals to be persistent in urging patients to quit smoking. The interviewed pharmacists identified the cost of pharmacotherapy cessation aids as a barrier to many smokers. Overall, it is clear that health professionals are motivated to help patients access smoking cessation services through addiction services and in-patient settings. In some zones, however, concerns regarding the capacity available to help patients were voiced. The inconsistency in the levels of smoking cessation support received by the interviewed patients is also a clear concern that needs to be addressed.

Solutions: One solution addressing the capacity for delivering smoking cessation could possibly be carried out by pharmacists. The interviewed pharmacists mentioned that the Pharmacy Association of Nova Scotia and Doctors Nova Scotia rolled out a collaborative care project that trained pharmacists in counseling and pharmacotherapy for smoking. Blue Cross and Green Shield offer some coverage for these services and have a list of approved health care providers. Pharmacy-based smoking cessation could thus offer an option for patients intending to quit smoking. An important solution to the hesitance

of health professionals to recommend smoking cessation services is to add clarity on smoking cessation support available for their patients.

Potential action(s):

- Increase counseling through pharmacies.
- Offer counseling and smoking cessation support through Mental Health and Addictions in a consistent way across the province.
- Create a list of smoking cessation services for health professionals, to facilitate referral to these services.
- Increase the awareness for health professionals about phone counselling services offered by Tobacco Free Nova Scotia.

2. Testing/Diagnosis

What we've heard: According to one of the interviewees, there is no specific guideline for testing and diagnosis; each RT takes a different course of action depending on what the doctor or respirologist recommends. The recommendation mainly depends on the symptoms and smoking history of the patient. In some cases, patients arrive to the RT after a Pulmonary Function Test (PFT). If they have an exacerbation, they may be referred for another PFT through a respirologist. The respiratory departments perform the first tests, usually a spirometry first and then a PFT if needed. In other cases, RTs see a patient admitted for COPD without any tests. The RT then works with respirologists to get a referral for the PFT. Spirometry is integrated within INSPIRED and some self-referral programs in some areas. Once the patients are referred for a PFT or have confirmed COPD, they will get a PFT. If it has been years, there is a change in medication, or if the condition worsens, they are referred to spirometry. Some areas perform pre- and post-treatment spirometry. In other cases, spirometry is done first, and then PFTs are ordered if needed. A respirologist mentioned that the decision between a spirometry and full PFT depends on the symptoms the patient presents.

Issues: A large issue identified in this area was in relation to over-referral for PFTs. One health professional stressed the need for better communication and awareness that most patients need just spirometry. Another clear issue voiced by the interviewees was wait times for testing. This issue also stems from over-referral for PFTs, which congests the system and delays testing and subsequent diagnosis. The evident concern from the patients' perspective is that testing is delayed for COPD, as some were in the ER prior to their diagnosis, and even then correct diagnosis sometimes follows a misdiagnosis with other conditions.

Solutions: Health professionals believe that it is crucial not to overdo PFTs and select spirometry as the initial test in most cases. Some physicians echoed the same decision process for spirometry vs. PFTs. Some health professionals suggested spirometry testing in primary care settings. Three interviewed patients each identified that spirometry was the test that was able to diagnose them with COPD. One mentioned that spirometry was used to confirm their diagnosis after a chest X-ray identified a potential lung condition. Another patient had pneumonia and faced problems with breathing for years. Once breathing problems were difficult to cope with, the patient was tested and then diagnosed with COPD through a spirometry test.

Potential action(s):

- Increase awareness about the need to use spirometry as the first diagnostic test for COPD and follow with PFTs if needed.
- Create a province-wide plan for COPD testing in primary care settings through trained allied health professionals using spirometry.

3. COPD education

What we've heard: The referral for these services is through self-referrals or health professionals. Some RTs recognized education as a priority that is important in different settings, including smoking cessation and self-management through action plans. The comfort level of RTs to provide COPD education is fairly high and the guidelines are easy to follow. Sometimes the challenge is dealing with other conditions that may affect the patients and making sure they are receiving the right treatment. Some doctors mentioned that, in hospitals with access to knowledgeable RTs, COPD education is optimal. Patients mentioned receiving education from different sources including pharmacists, family doctors, allied health professionals, and websites. The education received by patients was in the areas of stopping smoking and medication use for the most part. Others mentioned education on oxygen therapy and how to breathe.

Issues: There is a wide variation in the availability of COPD educators in different zones: some did not have any while others had roughly four educators. There is limited or no outpatient access and no referral process for outpatient COPD education. Overall, finances are a barrier and determine the availability of COPD educators, and thus education, for patients. Patients also varied in their responses regarding COPD education. Some mentioned that they did not get education until a year after diagnosis. Others mentioned that they did not get any until enrolling in pulmonary rehabilitation and then received little education from their family doctor and respirologist as far as medication use is concerned. Some patients expressed concerns over their pharmacist's insufficient education for medication use.

Solutions: Health professionals strongly voiced the need for dedicated COPD educators in outpatient settings across the province to ensure equitable access to COPD education.

Potential action(s):

- Train and hire more COPD educators in underserviced zones.
- Create an online module for pharmacists to update their knowledge on explaining the administration of new COPD medications/devices.

4. Pharmacotherapy

What we've heard: There is a wide variation on the use of action plans across Nova Scotia. Some health professionals mentioned that patients very rarely have action plans, so RTs have to create them and send them to family doctors. Other health professionals mentioned that they consistently used evidence-based plans. Doctors go through action plans in collaboration with the patient, RT or nurse practitioner, and the family doctor. Half of the patients seen by one of the RTs come with an established action plan. Another RT mentioned that they have a clear care pathway, which includes a print-out of what to teach and appropriate medication. This pathway document previously included an action plan with details on day-to-day actions. However, the same RT mentioned that they will switch to the INSPIRED model, which incorporates its own action plan, so they are currently in a transition state. Only

one of the interviewed RTs mentioned that action plans are used with every single patient. The action plan follows a clear diagnosis through spirometry and includes a self-management education component, which is very important.

Access to medication is reasonable but special labels require more paperwork. Sometimes there is inconsistency in approving claims for COPD medications and they do not always get approved easily. Some doctors and respirologists use the CTS guidelines, while others use the GOLD guidelines. Guidelines are one component that can determine treatment decisions, whereas others are finances, drug availability, and patient needs.

When it comes to patients, one mentioned that they were given medication with minimal information from their family doctor, but their pharmacist helped explain how to use it. The respirologist also provided some explanation about their medication, additional medication that was prescribed, and checked the usage of the patient's inhaler. One of the patients recalled using three medications but stated that they have not found a place to go to learn more about their COPD medications. They waited 6 to 9 months to see a respirologist, went to pulmonary rehabilitation for a second time, and did a stress test. One other patient recognized that their puffers changed three times over the years. They remember Ventolin being one, then Spiriva, and Symbicort. They received sufficient education on how to use them; they use them as instructed and feel comfortable with them.

Issues: There was a clear inconsistency in pharmacotherapy treatment for COPD patients. Some issues were related to the variation in using action plans. One barrier to action plans is getting used to "the old way of doing things" where action plans were not used in comparison to recent years. Another barrier is the fact that some physicians are uncomfortable with filling out action plans for patients for whom they are not the family doctor. Sometimes the issue with action plans is the dearth of support systems, such as family or friends that would help patients execute the action plans. The biggest barrier to action plans, however, seems to be a lack of patient understanding on what action plans are and fear of taking responsibility for them. Another main concern in treatment is the wait times for PFTs, which are important to identify the correct medication for patients and delay pharmacotherapy. The fact that combination treatments are more difficult to get approved than single treatments is also of concern. Finally, some patients seem to have insufficient knowledge about their medications and how to use them.

Solutions: Education and awareness regarding the importance of action plans and patient education about medications are much needed. There are also future plans in one of the zones to have one physician and one RT responsible for the action plan, which will make it more streamlined, efficient, and consistent.

Potential action(s):

- Implement a clear strategy that outlines the importance of action plans.
- Provide access to an action plan template.
- Increase patient awareness about the meaning and importance of action plans.
- Simplify forms for combination treatment medications for COPD.
- Provide a standardized method and template for offering education to patients about COPD medications and how to use them.

5. **Pulmonary rehabilitation**

What we've heard: In terms of pulmonary rehabilitation, referrals are prescreened and assigned a start date. The pulmonary rehabilitation programs are typically 12 weeks long with three groups per year and 10-12 people per group. In areas where there is no pulmonary rehabilitation program, patients are referred to the closest pulmonary rehabilitation site. For example, patients in Elmsdale get referred to Halifax. Cardiac rehabilitation facilities, which are present in many sites, will sometimes take pulmonary patients on a case-by-case basis. Cardiac and pulmonary rehabilitation are very similar, so pulmonary rehabilitation can be integrated into cardiac, which can help build capacity.

Patients that have a pulmonary rehabilitation program in their area accessed it. Some patients proactively asked to do it. They felt that they have gained general information about the condition, increased their awareness about diet and activity, and continued to stay active. Where possible, patients tried to enroll more than one time. Overall, patients feel better and more conscious of healthy living after attending pulmonary rehabilitation.

Issues: Some areas have pulmonary rehabilitation while others don't. Travel is a major barrier because of cost and effort to the patients. For instance, some patients must travel with an oxygen tank. Others feel that the winter is a barrier to travelling a long distance. Health professionals are in consensus in believing that patients will not agree to travel for one or more hours "just to exercise", as they can receive some education in other places. One issue from the perspective of some respondents is that INSPIRED accepts referrals to pulmonary rehabilitation from RTs, nurses, or physicians, but not pharmacists. Another issue is the NS Health Authority website, which is difficult to navigate. Further, there is a lack of an "automatic referral system" to flag a patient with COPD exacerbation, for instance, and fast track assessment. From the patient perspective, there was an issue of not even knowing what pulmonary rehabilitation is for some. For instance, one patient thought it was "something just for smokers". This dearth of patient awareness about pulmonary rehabilitation is concerning.

Solutions: Access is key and there is a need to offer pulmonary rehabilitation services within reasonably close proximity to patients. Some areas have maintenance programs to check on the progress of patients, but these are needed in other areas to help better manage COPD.

Potential action(s):

- Integrate cardiac and pulmonary rehabilitation services, where possible.
- Create new infrastructures to reduce travel time for COPD patients.
- Increase the utilization of the Living with COPD resources as it outlines a "how to" resource for health professionals wishing to run pulmonary rehabilitation services.

6. **Palliative care**

What we've heard: Patients access palliative care when self-management of COPD becomes difficult. The decision to refer patients to palliative care is on a case-by-case basis through their family doctor. The comfort level with working in palliative care differs across health professionals, partially depending on their experience with it. Some interviewees suggested that nurses, RTs or physicians can be part of palliative care. Often an RT will stay with the patient when transferred into the intensive care unit as the familiar face is easier to talk to. RTs play some role in palliative care in terms of oxygen therapy,

checking medication use, and education. Pharmacy teams usually play a big role in the provision of medications for palliative care patients. Oftentimes pharmacists have daily contact with palliative care patients and their caregivers and are quite comfortable dealing with that. The INSPIRED program is also a resource, as it offers patients access to an advanced care planner.

Issues: Family doctors should make the decisions for moving to palliative care before the patient finds themselves in an emergency situation. The patient has an established relationship with the family doctor, but family doctors don't always have the time to have these conversations. One patient, who mentioned that they have received medications and education in palliative care, identified a need for doctors to have a basic understanding of what the patient wants to have done.

Solutions: Palliative care should not be limited to a specific discipline, but the person who can make the patient comfortable. This professional could be different in every case; for example a social worker. As suggested by an advanced care planner, having a family member or close friend with the patient while having discussions about advanced and palliative care can be beneficial.

Potential action(s):

- Create a clear guideline for interdisciplinary care at the palliative care stage.
- Increase the number of Nurse Practitioners for the INSPIRED program
- De-stigmatize palliative care and increase health professional comfort level in providing such care.

Final Recommendations

The LANS appreciates that there are an abundance of various opportunities listed for COPD system changes that may not all be feasible to undergo. To that end, we have identified four recommendations based on their promising tendency to yield positive outcomes and their amenability for change:

1. To include nicotine replacement therapy in the drug formulary with a 12-week supply and make it available through local pharmacies or mail.
    - Evidence: British Columbia's Smoking Cessation program demonstrated a 26.8% quit rate following free 12-week supplies of NRT products following the implementation of the program [3].
2. To make spirometry tests in primary care settings an option in order to reduce the underuse of the tests. This can be conducted by trained nurses or physicians or Respiratory Therapists that can both perform the tests and complete other respiratory health treatment tasks.
    - Evidence: Increasing spirometry testing to become part of standard care encourages patients with early stage COPD to quit smoking and training primary care practitioners is recommended. Spirometry use by physicians in primary care settings, changes treatments and is deemed an important tool in COPD diagnosis [4, 5, 6].
3. To emphasize the need for adopting the recommendations put forth by the Atlantic Common Drug review to prevent/reduce poor pharmacotherapy decisions
    - Evidence: Evidence-based recommendations are important to improve clinical outcomes [7].
4. To use virtual pulmonary rehabilitation to increase outreach in rural Nova Scotia and alleviate access issues in these regions.

- Evidence: Virtual pulmonary rehabilitation is safe, feasible and produces clinical gains that are similar to those of regular pulmonary rehabilitation programs [8].

Conclusion

The Lung Association of Nova Scotia has always been aware of the burden of COPD on the healthcare system. However, this analysis was the first time that we have conducted in-depth research on this topic within our own province. We recognize there is much more to learn about the journey of a COPD patient and as an advocacy organization, we are committed to improving COPD care in Nova Scotia.

Healthcare professionals who deal with respiratory issues in Nova Scotia have done a remarkable job, contributing to a system that has been very helpful to many Nova Scotians that are coping with COPD.

We believe that a focus on prevention and early detection will not only save the system significant dollars in the future, but most importantly it will save lives. We want to thank all of those who have supported this endeavour and we look forward to collaborating with all stakeholders in making positive changes in lung health.

References

1. Statistics Canada. (2014). *Chronic obstructive pulmonary disease by sex, by province and territory.* Retrieved from http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/health105b-eng.htm.
2. Canadian Community Health Survey. (2017). *Canadian Smoking Prevalence, Overview of Historical Trends, 2001-2016.*
3. British Columbia Ministry of Health. (n.d.). *BC Smoking Cessation Program—Quick Reference for Pharmacists.* Retrieved from https://www2.gov.bc.ca/assets/gov/health/health-drug-coverage/pharmacare/sc-pc-qr.pdf.
4. Coates, A.L., et al. (2013). Spirometry in primary care. *Canadian Respiratory Journal, 20*(1), 13-21.
5. Coates, A.L., Tamari, I.E., & Graham, B.L. (2014). Role of spirometry in primary care. *Canadian Family Physician, 60(*12), 1069-1070.
6. Mapel, D.W., et al. (2015). A clinical study of COPD severity assessment by primary care physicians and their patients compared with spirometry. *The American Journal of Medicine, 128*(6), 629-637.
7. Nova Scotia Department of Health and Wellness. (n.d.). Atlantic Common Drug Review. Retrieved from https://novascotia.ca/dhw/pharmacare/atlantic-common-drug-review.asp.
8. Knox, L., et al. (2019). Safety, feasibility, and effectiveness of virtual pulmonary rehabilitation in the real world. *International Journal of Chronic Obstructive Pulmonary Disease, 14*, 775-780.