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EDITORIALS

Integrated disease management for adults with chronic obstructive pulmonary disease

We still have a lot to learn about how to make it work in primary care

Jean Bourbeau *professor, McGill University Health Centre*

Respiratory Epidemiology and Clinical Research Unit, Montreal Chest Institute, Montréal, QC, Canada, H2X 2P4

Chronic obstructive pulmonary disease (COPD) places an enormous burden on patients, families, and healthcare systems. Optimal care of COPD patients requires a patient centered approach that recognizes and treats all aspects of the disease and integrates medical care among healthcare professionals and across healthcare sectors. Integrated disease management, a system of coordinated healthcare interventions and communications for patients with chronic disease in which self management by patients is important, has been proposed as a model. A recent Cochrane review found clinically relevant reductions in admissions and days in hospital and improvements in exercise tolerance and health related quality of life, mostly for adults with severe COPD, with integrated disease management programs in secondary care.[1] However, we should not assume that programs with proven effectiveness in secondary care transfer readily to primary care settings.

In the linked paper (doi:10.1136/bmj.g5392), Kruis and colleagues report the results of an important trial to evaluate the benefits of integrated disease management and to help to improve our understanding of transferring its components to a family practice setting.[2] Components tested in the RECODE trial include optimal drug adherence, applying self management plans, and promoting positive changes in health behavior such as increased physical activity. RECODE is a well designed and faithfully conducted cluster randomized trial with two years of follow-up, during which 40 clusters of primary care teams in the Netherlands treated 1086 COPD patients with integrated disease management or usual care.

Integrated disease management did not improve participants' health related quality of life at 12 months or their scores on the Clinical COPD Questionnaire, a measure of symptoms and functional state. The authors also report no improvement in other outcomes including exacerbations, self management, Medical Research Council dyspnea scores, St George's Respiratory Questionnaire (a measure of health related quality of life), and mortality. Integrated disease management did seem to improve participants' level of follow-up and coordination of care, relative to controls.

These negative results are disappointing but can teach us a lot about how to redesign, evaluate, and use integrated disease management in primary care in the future. If we want to be able to define a model of care delivery that is well integrated and more coherent, we need to have a more careful look at the patient, the provider, and the system or organization.

In the RECODE trial, the primary care system was already operating at a high standard. However, Kruis et al were still able to show positive changes in follow-up and structure of care for COPD patients associated with integrated disease management.[2]

The effectiveness of any complex intervention such as integrated disease management also depends critically on the healthcare professionals who must deliver it. Variations in expertise or fidelity of delivery can have an important effect on results. In RECODE, the healthcare professionals had extensive training in integrated disease management. The intervention included a web based disease management application for both patients and healthcare providers. The patients' portal provided simple educational materials and allowed patients to set personal goals and make notes. However, the authors did not measure (or perhaps report) to what extent providers adhered to the protocol. Discrepancies between the intent of the program and its delivery are still possible, although healthcare workers are unlikely to do any better in routine practice than they did within the confines of a trial.

The patients in RECODE had mild to moderate COPD, with an average forced expiratory volume in one second of 68% of predicted and a relatively small reduction in their health related quality of life. Little room existed for improvement in quality of life, as reported in a previous primary care trial of a similar intervention.[3]

Perhaps the most important and most often neglected aspect of non-drug treatments is their effect on behavior. Behavioral change is critical for improving health outcomes in patients, and it should be measured and reported as an intermediate outcome. We may have failed to intervene, or our intervention may not be properly adapted to respond to patients' needs, or both. Behavioral change evolves over time, with different

Correspondence to: jean.bourbeau@mcgill.ca

patterns and timelines for different people. In this trial, because patients had mild disease, they may not have had the motivation or desire to change or to commit to an intensive integrated care approach with an exercise program. The individual patient's needs, preferences, and personal goals should inform the design of any intervention with a behavioral component.

What have we learnt overall from both positive and negative studies of integrated disease management programs for patients with COPD? Primary care professionals must diagnose COPD early and promote a healthy lifestyle from the start (for example, smoking cessation and physical activity). An interdisciplinary team with dedicated and resourced professionals may also be needed for selected patients with more severe disease and those having exacerbations and important comorbidities. Complex patients, including those with very severe disease, could benefit from a specialized COPD clinic in secondary or even tertiary care.[4] In these specialist settings, pulmonary rehabilitation combined with self management, the most common and comprehensive form of integrated disease management program, seems the best way to improve self help skills and encourage healthier lifestyles.[5] Pulmonary rehabilitation in particular is well established as a means of enhancing standard treatments in order to control and alleviate symptoms, optimize functional capacity, and improve health related quality of life.[6]

What we still need to learn is how best to deliver healthcare that is better integrated and more coherent. That is, care based on a strategic alliance between primary and secondary care and supported when needed by interdisciplinary teams for patients with high risk and complex COPD.

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