Respiratory RESEARCH REVIEW™

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Issue 1 – 2020

In this issue:

Abbreviations used in this issue
AAT/AATD = α1-antitrypsin (deficiency)
ACS = acute coronary syndrome
COPD = chronic obstructive pulmonary disease
CV = cardiovascular
ED = emergency department
FEV = forced expiratory volume
FVC = forced vital capacity
GOLD = Global Initiative for Chronic Obstructive Lung Disease
HRCT = high-resolution computed tomography
ICS = inhaled corticosteroid
LABA = long-acting β-agonist
LAMA = long-acting muscarinic antagonist
$PM_{2.5}$ = particulate matter, diameter <2.5μm
QOL = quality of life
SVS = Spiration Valve System

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Welcome to this midwinter issue of Respiratory Research Review with the focus on COPD.

While we are used to looking at public health numbers, reporting and strategies, one could compare the COVID-19 data to our epidemiological data on COPD. Worldwide, currently 1.09 billion people currently smoke, and COPD is the third leading cause of death, with more than 3 million deaths per year.

The good news is that public health measures like increased tobacco tax, restrictions on marketing, regulation on smoking in public places and plain packaging are reducing smoking rates. The WHO states that the numbers of male smokers have stopped growing and are projected to decline by more than 1 million by the end of 2020 and by 5 million by 2025. The number of female smokers fell from 346 million to 244 million between 2018 and 2020. Despite these improvements, the WHO target to cut tobacco use by 30% between 2010 and 2025 remains off-track, with only 32 countries currently predicted to meet this target. As practising clinicians, we will see patients with COPD for years to come.

The American Thoracic Society Assembly on Clinical Problems published six questions concerning the effectiveness of drug treatment in COPD. The PICO format makes it readable, the review of the literature is authoritative, and their interpretation may be ahead of local guidelines in the 'Pharmacological management of chronic obstructive pulmonary disease' statement.

- In patients with COPD who complain about dyspnoea or exercise intolerance, we **recommend** LABA /LAMA combination therapy over LABA or LAMA monotherapy.
- In patients with COPD who complain about dyspnoea or exercise intolerance despite dual therapy with LABA/LAMA, we **suggest** triple therapy with ICS/LABA/LAMA in those patients with a history of ≥1 exacerbations in the past year requiring antibiotics or oral steroids or hospitalisation.
- In patients with COPD who are receiving triple therapy with ICS/LABA/LAMA, we **suggest** that the ICS can be withdrawn if the patient has had no exacerbations in the past year.
- We **do not make a recommendation** for or against ICSs as an additive therapy to long-acting bronchodilators in patients with COPD and blood eosinophilia, except for patients with a history of ≥1 exacerbations in the past year requiring antibiotics or oral steroids or hospitalisation, for whom we suggest ICS as additive therapy.
- In patients with COPD and a history of frequent exacerbations despite otherwise optimal therapy, we **advise against** the use of maintenance oral corticosteroid therapy.
- In individuals with COPD who experience advanced refractory dyspnoea despite otherwise optimal therapy, we **suggest** that opioid-based therapy be considered for dyspnoea management, with a personalised shared decision-making approach.

Jack Dummer and colleagues need to be congratulated for their positive, evidence-based and practical position statement from the Thoracic Society of Australia and New Zealand: 'Diagnosis and treatment of lung disease associated with alpha one-antitrypsin deficiency'. It is estimated that about 30,000 individuals in Australia and NZ have AATD (α1-antitrypsin deficiency) and only 10% are currently diagnosed, while 1% of all patients with COPD have underlying AATD. Smokers with AATD develop COPD 10–20 years earlier than smokers with normal AAT levels. The document comes up with too many summary points to repeat here; however, this is a selection of five.

- Demonstrably improved clinical outcomes from screening for AATD are limited.
- AAT levels can determine who should have further testing with a high degree of sensitivity and specificity, and should be measured together with CRP level.
- Augmentation therapy could be considered in nonsmoking patients with AATD (not currently funded in Australia and NZ).
- Lung volume reduction therapy (outside clinical trials) is not advised in AATD due to a lack of evidence supporting its use.
- Smoking cessation is critically important in all individuals with AATD.

Three recommendations for further reading or review at evidence-based meetings: i) 'Update in asthma 2019'; ii) State of the art review – 'Pulmonary rehabilitation, physical activity, respiratory failure and palliative respiratory care'; and iii) State of the art review – 'What are the respiratory effects of e-cigarettes?'.

We hope you enjoy this extended selection of articles. We are open to feedback and comments.

Kind regards,

Professor Lutz Beckert
lutzbeckert@researchreview.co.nz

Lung function decline in former smokers and low-intensity current smokers

Authors: Oelsner EC et al.

Summary: These researchers undertook a secondary analysis of data from six US population-based cohorts, from the NHLBI Pooled Cohort Study, comprising a total of 25,352 participants aged 17–93 years who completed 70,228 valid spirometry exams. Median follow-up was 7 years, during which time the respective decreases in FEV_1 at the median age of 57 years among sustained never-smokers, former smokers and current smokers were 31.01, 34.97 and 39.92 mL/year. Compared with never-smokers, FEV_1 decline was accelerated in former smokers by 1.82 mL/year, which was ~20% of the effect estimate for current smokers of 9.21 mL/year. Compared with never-smokers, the accelerated decrease in FEV_1 was evident among former smokers for decades after quitting, as well as in current smokers of <10 pack-years. The estimated decline in FEV_1 in current smokers of <5 cigarettes per day (7.65 mL/year) was 68% that of current smokers of ≥30 cigarettes per day (11.24 mL/year) and ~5-fold greater than for former smokers (1.57 mL/year). These associations remained but were attenuated for individuals without prevalent lung disease.

Comment: In NZ, public health measures have been successful in reducing smoking rates. As clinicians, we are mainly seeing former smokers and patients who smoke only a few cigarettes per day. These authors use spirometrically confirmed 7-year follow-up data of more than 25,000 participants of six US cohort studies. At the median age of 57 years, the yearly decline in FEV_1 was 31mL in never, 35mL in former and 40mL in current smokers. **Bottom line: a loss in FEV_1 was noted in former smokers for decades; smokers with <5 cigarettes per day had 68% of the loss of 30 cigarettes-per-day smokers.**

Reference: Lancet Respir Med 2020;8:34–44
Abstract

The effects of marijuana smoking on lung function in older people

Authors: Tan WC et al., on behalf of the CanCOLD Collaborative Research Group

Summary: The risk of COPD (defined as a postbronchodilator FEV_1/FVC ratio of <0.7) associated with marijuana smoking was explored in a population-based cohort of 5291 individuals, and the rate of FEV_1 decline was evaluated in a subgroup of 1285 individuals aged ≥40 years. Marijuana smoking was self-reported by ~20% of participants, with 83% also reporting having smoked tobacco cigarettes. Heavy marijuana smokers were at increased risk of developing COPD (adjusted odds ratio 2.45 [95% CI 1.55, 3.88]). Compared with marijuana and tobacco never-smokers, FEV_1 decline was accelerated for heavy marijuana smokers (29.5 mL/year [p=0.0007]), heavy tobacco smokers (21.1 mL/year [p<0.0001]) and heavy smokers of both (32.31 mL/year [p<0.0001]).

Comment: A 'pack-year' is the number of packets smoked per day multiplied per year, and a 'joint-year' is the number of joints smoked per day multiplied per year. The authors use data from the Canadian Obstructive Lung Disease study for just above 5000 randomly selected participants, of whom about 1300 had been followed longitudinally for about 12 years. In their editorial, Bob Hancox and Malcolm Sears give a detailed account of the limitations of this study and the at times counterintuitive findings. **Bottom line: even though the active ingredient, nicotine or tetrahydro-cannabinol, is different, the effects of smoking are similar in a dose-dependent manner.**

Reference: Eur Respir J 2019;54:1900826
Abstract

Early life exposure to coal mine fire smoke emissions and altered lung function in young children

Authors: Shao J et al.

Summary: The relationship between exposure to 6 weeks of air pollution from a coalmine fire among 84 evaluable children aged <2 years and their lung function 3 years after the fire was prospectively explored in this research. The children had their lung function parameters measured with the forced oscillation technique. The respective median values for the average and peak $PM_{2.5}$ (particulate matter with aerodynamic diameter <2.5μm) exposure were 7.9 and 103.4 μg/m^3, and the respective mean Z-scores for resistance and reactance at a frequency of 5Hz and area under the reactance curve were 0.56, –0.76 and 0.72. Each 10 μg/m^3 increase in average $PM_{2.5}$ exposure was significantly associated with worsening of the area under the reactance curve (adjusted β-coefficient 0.260 [95% CI 0.019, 0.502]); the association between a 100 μg/m^3 increase in peak $PM_{2.5}$ and area under the reactance curve was of borderline significance (0.166 [–0.002, 0.334]).

Comment: During the Australian bush fires, some of us would have looked up the respiratory effects, only to find that besides the short-term effects, little information on the long-term respiratory consequences is available. Our Australian colleagues report on the impact on lung functions in 84 children 3 years following exposure to the Hazelwood coalmine fire. All children underwent forced oscillation technique lung function testing 3 years apart. The strongest effect on lung function was maternal smoking during pregnancy. **Bottom line: a small reduction in lung functions after exposure to increased pollution was seen after 3 years.**

Reference: Respirology 2020;25:198–205
Abstract

Handheld flow meter improves COPD detectability regardless of using a conventional questionnaire

Authors: Fujita M et al.

Summary: In this split-sample validation study, 2008 individuals aged 40 years were screened for COPD using scores obtained from handheld flow meters and/or International Primary Care Airway Group questionnaires; 1007 participants were assigned to a model creation dataset and 1001 to a model assessment dataset. A decision curve analysis revealed that the handheld flow meter score with or without the questionnaire performed better and had higher specificity values than the questionnaire alone; the curves for the scores for the handheld flow meter only and combined with the questionnaire crossed and were practically the same, with no significant difference for their respective sensitivity or specificity values.

Comment: This article is from colleagues in Japan, and they seem to have similar problems to us with the accuracy of the COPD diagnosis and access to spirometry in a primary-care setting. The authors compared the performance of a COPD questionnaire with a small, handheld, inexpensive spirometer to diagnose COPD. Peter Frith puts the findings into a primary-care context for us in his excellent editorial, encouraging us to embrace targeted case finding. In case you would only wish to use one modality, choose spirometry. **Bottom line: handheld spirometry significantly outperforms a questionnaire in detecting COPD.**

Reference: Respirology 2020;25:191–7
Abstract

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FEV_1 is a stronger mortality predictor than FVC in patients with moderate COPD and with an increased risk for cardiovascular disease

Authors: Bikov A et al.

Summary: FEV_1 and FVC were compared for their ability to predict the risks of death, CV events and COPD exacerbations in 16,485 participants from the SUMMIT study. Compared with the lowest FEV_1 quintile (<53.5% of predicted), the risk of death from any cause was decreased across quintiles 2–5 (53.5–<57.5%, 57.5–<61.6%, 61.6–<65.8% and ≥65.8% of predicted; respective risk reductions, 20%, 28%, 23% and 30%); for FVC, the only significant risk reduction (21%) was seen for the highest versus lowest quintile. There were no significant associations between either FEV_1 or FVC and CV risk. The risk of moderate-to-severe and severe COPD exacerbations decreased with increasing FEV_1 and FEV_1/FVC quintiles, but the highest FVC quintile was associated with a significant increase in risk of 28%.

Comment: The management of COPD is currently guided by two symptom sets, the patient's shortness of breath and the number of exacerbations/hospital admissions. This is a good reminder of the importance of spirometry, not only in detecting COPD, but also in estimating the future risk. These authors use the data from the >16,000 patients in the study to understand mortality and morbidity (SUMMIT) in COPD and determine the predictive value of FEV_1. Previous studies have highlighted the predictive value of lung functions; however, FVC seemed to have the strongest correlation. **Bottom line: the lower the FEV_1, the higher the exacerbation rate and all-cause mortality.**

Reference: Int J COPD 2020;15:1135–1142
Abstract

Get with the guidelines: management of chronic obstructive pulmonary disease in emergency departments in Europe and Australasia is sub-optimal

Authors: Kelly A-M et al., on behalf of the AANZDEM and EuroDEM Study Group

Summary: Compliance with COPD guideline recommendations in Europe and South East Asia/Australasia was evaluated. Management and outcomes were prospectively compared for patients presenting to one of 66 European and 46 South East Asian/Australasian EDs with a primary complaint of dyspnoea. Of the 801 patients included in the study, 80.3% received inhaled bronchodilator therapy, 59.5% received systemic corticosteroids, 44% received antibiotics and 60.6% with a pH of <7.3 received noninvasive ventilation. Compared with the patients presenting to the European EDs, significantly greater proportions of those presenting to the South East Asian/Australasian EDs received systemic corticosteroids (66% vs. 52% [p<0.001]) and antibiotics (49% vs. 40% [p=0.02]); noninvasive and mechanical ventilation usage rates were similar, as were the overall in-hospital mortality rates (3.9% vs. 4.5% [p=0.77]).

Comment: Shortness of breath is one of the main reasons for presentation to an ED and COPD was the main diagnosis in 14% of these presentations. This is an ambitious audit comparing the adherence of COPD management between 66 European and 46 South East Asia-Pacific/Australasian centres; four NZ centres participated. The mean age of the COPD patients was 72 years, 58% were male and 90% had a prior history of COPD. Smoking rates were 41% in the European and 24% in the South East Asia-Pacific/Australasian centres. Interestingly, fewer patients in European centres were prescribed steroids or antibiotics. **Bottom line: better compliance with guidelines has the potential to improve patient outcomes.**

Reference: Intern Med J 2020;50:200–8
Abstract

Underuse of beta-blockers by patients with COPD and co-morbid acute coronary syndrome

Authors: Parkin L et al.

Summary: This NZ nationwide follow-up study sought to describe β-blocker and other CV prevention drug use for a cohort of 83,435 patients aged ≥45 years with COPD and ACS (acute coronary syndrome). Among patients with ≥1 ACS admission during 290,400 person-years of follow-up (n=2637), 56.6% received a β-blocker within the 6 months following their first admission, 87.7% received aspirin and 81% received a statin. Compared with patients with lower-severity COPD, those with greater severity were less likely to receive a β-blocker, as were those with no history of ACS or heart failure.

Comment: This NZ study from our colleagues in Dunedin is based on linked data from the NZ Ministry of Health government-funded dispensing data and public hospital discharges. Based on prescribing information, about 80,000 patients were judged to have COPD and 2637 of these had an admission for an ACS, but only 56% received β-blocker treatment. Christine Jenkins reviews this important study in her editorial, draws attention to an ongoing study for β-blockers in COPD that we are currently recruiting for, and gives us the **bottom line: COPD patients suffer a triple hit – heightened prevalence, under-diagnosed risk and under-treatment.**

Reference: Respirology 2020;25:173–82
Abstract

Each month we highlight a particularly excellent paper with our butterfly symbol.

Improving lung function in severe heterogenous emphysema with the spiration valve system (EMPROVE)

Authors: Criner GJ et al., for the EMPROVE Study Group

Summary: Patients aged ≥40 years with severe, heterogeneous emphysema were randomised to receive medical management with (n=113) or without (n=59) the SVS (Spiration Valve System), a less invasive, nonsurgical intervention, in this open-label trial. Compared with medical management alone, the addition of the SVS was associated with a significant improvement in mean FEV_1 at 6 months (primary efficacy outcome; difference, 0.101L [95% Bayesian credible interval 0.060, 0.141] and 12 months (0.099L [0.048, 0.151]), as well as significant improvements at 6 months for most secondary endpoints (including difference in FEV_1 response rate, target lobe volume reduction, hyperinflation, health status and dyspnoea), but not 6-minute walk distance. The SVS group had a higher 6-month incidence of serious thoracic adverse events (primary safety outcome) than the medical therapy only group (31.0% vs. 11.9%), due to a 12.4% incidence of serious pneumothorax.

Comment: The cornerstones of COPD treatment are smoking cessation, pulmonary rehabilitation, inhaled therapy and oxygen therapy. None of these increase the FEV_1 or stop the progressive disability in COPD. The national emphysema treatment trial showed that lung volume reduction surgery can improve survival, lung functions and exercise capacity in selected patients; however, the morbidity associated with thoracic surgery is often prohibitive. This international trial used bronchoscopically placed valves in selected COPD patients to achieve a 'medical lung volume reduction'. **Bottom line: bronchial valve placement can improve spirometry, shortness of breath and health status.**

Reference: Am J Respir Crit Care Med 2019;200:1354–62
Abstract

Safety and adverse events after targeted lung denervation for symptomatic moderate to severe chronic obstructive pulmonary disease (AIRFLOW)

Authors: Slebos D-J et al., on behalf of the AIRFLOW-2 Study Group

Summary: Patients with symptomatic COPD (n=82) were randomised 1:1 to targeted lung denervation or a sham procedure. During the 3- to 6.5-month timeframe, patients in the targeted lung denervation group experienced significantly fewer respiratory adverse events (primary endpoint) than those in the sham group (32% vs. 71% [p=0.008]); however, this was not the case during the 0- to 12.5-month timeframe (83% vs. 90% [p=0.52]), but the targeted lung denervation group did have a lower risk of COPD exacerbation requiring hospitalisation during this 0- to 12.5-month timeframe (hazard ratio 0.35 [95% CI 0.13, 0.99]). There were no significant between-group differences for time to first moderate or severe COPD exacerbation, patient-reported symptoms or other physiological measures over the 12.5 months of follow-up.

Comment: Many patients with COPD continue to have symptoms despite optimal medical inhaler therapy. These European authors present a randomised controlled study using sham therapy or bronchoscopic targeted lung denervation via radiofrequency energy to ablate parasympathetic nerves to the airway, which contribute to mucus hypersecretion, airway inflammation and increased smooth muscle tone. The accompanying editorial is expressing concerns about the small numbers, lack of clinically meaningful improvement and the high number of events in the sham group. **Bottom line: targeted lung denervation may reduce exacerbations and hospital admissions.**

Reference: Am J Respir Crit Care Med 2019;200:1477–86
Abstract

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Research Review publications are intended for Egyptian health professionals.

Predicting response to benralizumab in chronic obstructive pulmonary disease

Authors: Criner GJ et al.

Summary: This analysis of data from 3910 participants from the placebo-controlled GALATHEA and TERRANOVA studies sought to identify the clinical and physiological characteristics of patients with COPD who achieved the greatest treatment benefit with subcutaneous benralizumab 30mg or 100mg every 4 weeks for three doses then every 8 weeks. The study participants were aged 40–85 years at enrolment, and they had moderate-to-very severe airflow limitation, elevated blood eosinophil counts and ≥2 exacerbations or one severe exacerbation in the prior year while receiving dual or triple inhaled therapy, which they continued into the study. Compared with placebo, benralizumab 100mg (but not 30mg) every 8 weeks was associated with a significant treatment effect in participants with blood eosinophil counts ≥220 cells/μL who had: i) experienced ≥3 exacerbations in the prior year (rate ratio 0.69 [95% CI 0.56, 0.83]); ii) postbronchodilator FEV_1 of <40% (0.76 [0.64, 0.91]); or iii) postbronchodilator response of ≥15% (0.67 [0.54, 0.83]). An analysis of combined factors revealed that participants with elevated baseline blood eosinophil counts who had experienced ≥3 exacerbations in the prior year and who were also receiving triple therapy were likely to benefit from benralizumab 100mg (but not 30mg) every 8 weeks compared with placebo (rate ratio 0.70 [95% CI 0.56, 0.88]).

Comment: Benralizumab is a humanised monoclonal antibody against the IL-5 receptor, which is licensed (but not funded) for the treatment of eosinophilic asthma. It is effective in the management of asthma; however, two large trials failed to show a reduction in exacerbation in COPD. In this subgroup analysis, the authors review the data on patients with more frequent exacerbations, poorer baseline functions and raised eosinophil counts. The dataset is large enough to give us some information to articulate a hypothesis. **Bottom line: patients with frequent exacerbations and a raised blood eosinophil count respond to benralizumab 100mg eight-weekly.**

Reference: Lancet Respir Med 2020;8:158–70
Abstract

Bronchial infection and temporal evolution of bronchiectasis in patients with chronic obstructive pulmonary disease

Authors: Martínez-García MA et al.

Summary: The temporal evolution of bronchiectasis was explored in a cohort of 201 patients with COPD (GOLD stages 2–4) with an HRCT scan at recruitment who were followed at least every 6 months for a median of 102 months, during which time 99 patients died. For 77 patients in whom a second HRCT scan was obtained, these revealed no development of bronchiectasis in 27.3% of patients, stability in 36.4%, increases in size/extension in 16.9% and new bronchiectasis in 19.5%. Risk factors for bronchiectasis progression or emergence were the presence of chronic mucopurulent or purulent sputum (hazard ratio 2.8 [95% CI 1.3, 5.8]), frequent hospitalisations for COPD exacerbations (1.2 [1.1, 1.5]) and isolation of potentially pathogenic micro-organisms (1.1 [1.02, 1.3]).

Comment: Neutrophilic inflammation of the airways has the capability to damage local connective tissue, epithelial tissue and may lead to bronchiectasis. Bronchiectatic changes in patients with COPD are associated with increased mortality. The group had previously shown an increased prevalence of bronchiectasis in patients with COPD. Approximately 10 years later, about a quarter of patients still had no bronchiectasis. Bronchiectasis was stable or increased in just over half of the patients with risk factors, which the authors suggest may be modifiable. **Bottom line: chronic purulent sputum production, pathogenic organisms and hospitalisations are risk factors for developing bronchiectasis in patients with COPD.**

Reference: Clin Infect Dis; Published online Jan 22, 2020
Abstract

Exacerbation action plans for patients with COPD and comorbidities

Authors: Lenferink A et al.

Summary: Patients with COPD (GOLD stages 2–4) with ≥1 comorbidity were randomised to a patient-tailored self-management intervention (n=102) or usual care (n=99) in this trial. The primary outcome (COPD exacerbation-days per patient per year) did not differ significantly between groups (median 9.6 vs. 15.6 [p=0.546]); however, the median duration of each exacerbation was shorter (8.1 vs. 9.5 days [p=0.021]) and the probability of having ≥1 respiratory-related hospitalisation was lower (relative risk 0.55 [95% CI 0.35, 0.87]) in the self-management group. No between-group difference was seen for all-cause hospitalisations or mortality.

Comment: COPD self-management plans are structured, personalised, multicomponent interventions to motivate, engage and support the patient to adapt their health behaviour and develop skills to better manage their disease. These Australian/Dutch authors report on the effect of their plan to reduce exacerbations. The exacerbation-days did not reduce; however, the risk of a respiratory-related hospitalisation was reduced without excess mortality. Correspondence from Oxford asks 'Is it time to give up on "self-management" of COPD exacerbations?'. The authors' reply is our **bottom line: COPD self-management interventions reduce COPD exacerbation duration and hospitalisations, and improve QOL.**

Reference: Eur Respir J 2019;54:1802134
Abstract

Regular, sustained-release morphine for chronic breathlessness

Authors: Currow D et al, on behalf of the Australian National Palliative Care Clinical Studies Collaborative (PaCCSC)

Summary: Australian adult inpatients and outpatients with chronic breathlessness were randomised to receive oral sustained-release morphine 20 mg/day with a laxative (n=145) or placebo (plus laxative; n=139) for 7 days in this trial; ≤6 doses of immediate-release morphine 2.5mg could be taken as needed by all participants. There was no significant difference between the morphine and placebo groups for change from baseline in mean breathlessness intensity VAS score (primary endpoint) or for any of the secondary endpoints assessed. There was more constipation and nausea/vomiting in the morphine group, but no cases of respiratory depression or obtundation.

Comment: We have previously (Respiratory Research Review, issue 143) reflected on our empathy gap to manage breathlessness because we can more easily imagine being in pain than being breathless. Disabling breathlessness often persists and is associated with anxiety, depression, impaired function, poor QOL and earlier death. This large Australian trial studied the use of slow-release morphine in the management of chronic breathlessness. Interestingly, the ethics committee stipulated the use of rescue morphine therapy in the control group, which probably led to the lack of difference in breathlessness between the two groups. **Bottom line: long-acting morphine was safe to use in breathless patients.**

Reference: Thorax 2020;75:50–6
Abstract

Independent commentary by Professor Lutz Beckert

Professor Lutz Beckert is the Associate Dean Medical Education with the University of Otago, Christchurch. He is also a Respiratory Physician at Canterbury District Health Board. **FOR FULL BIO CLICK HERE**

Earlier palliative home care is associated with patient-centred medical resource utilisation and lower costs in the last 30 days before death in COPD

Authors: Scheerens C et al.

Summary: These researchers retrospectively investigated the impact of palliative home care on medical resource use and costs during 30 days prior to death for 58,527 decedents with COPD, and a primary cause of death being COPD or CV disease, during 2010–2015 in Belgium. Palliative home care earlier than 30 days before death was provided to 644 of the decedents. Compared with no palliative home care, the provision of palliative home care was associated with: i) significantly lower likelihoods of hospitalisation (odds ratio 0.35), ICU admission (0.16), specialist contact (0.58), invasive ventilation (0.13), medical imaging including chest x-ray (0.34), use of sedatives (0.48) and death in a hospital (0.14); ii) significantly increased likelihoods of home care (3.27), GP contact (4.65), palliative care unit admission (2.61), noninvasive ventilation (2.65), gastric tube (2.15), oxygen (2.22) and opioid use (4.04); and iii) lower mean total healthcare costs (by €1569).

Comment: The WHO advocates timely initiation of palliative healthcare to align with patient care preference and to adopt a patient-centred approach. An impressive population-based study from Belgium reports on the almost 60,000 patients who died with COPD. About 600 received palliative home care at least 30 days before death. Those receiving palliative home care had fewer ED presentations, hospital admissions, radiological investigations and fewer died in hospital. Most had access to noninvasive ventilation, received opioids, had GP contact and died at home. Other studies have demonstrated a better QOL with palliative home care; this study adds – **bottom line: the healthcare cost was significantly lower for patients accessing palliative home care.**

Reference: Eur Respir J 2020;55:1901139
Abstract

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