

The Burden of Nocturnal Symptoms in Patients with Chronic Obstructive Pulmonary Disease: Results of a Real-World Survey in the USA

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Supplemental Information – Explanation of Outcome Variables

Variable name	Physician or patient reported	Variable type	Nominal response type	Timeframe of data collection
<i>Measures of symptom burden, frequency and impact on daily life</i>				
Time of the day that a patient's COPD bothers them	Physician/patient	Nominal	1) Daytime only 2) Primarily daytime with occasional night-time 3) Equally both day and night 4) Primarily night-time with occasional daytime 5) Night-time only	Based on physician and patient recall
Frequency of patient's symptoms on awakening	Physician/patient	Nominal	1) Not at all 2) Less than once a week 3) Once or twice a week 4) 3 to 6 times a week 5) Every day 6) Don't know	Based on physician and patient recall over the past 4 weeks
Frequency of patient's symptoms during the day	Physician/patient	Nominal	1) Not at all 2) Less than once a week 3) Once or twice a week 4) 3 to 6 times a week 5) Every day 6) Don't know	Based on physician and patient recall over the past 4 weeks
Frequency of patient's night-time symptoms	Physician/patient	Nominal	1) Not at all 2) Less than once a week 3) Once or twice a week 4) 3 to 6 times a week 5) Every day 6) Don't know	Based on physician and patient recall over the past 4 weeks

Variable name	Physician or patient reported	Variable type	Nominal response type	Timeframe of data collection
Impact of COPD on day-to-day activities, personal relationships, leisure, work, sleep	Physician/patient	Nominal	1) No impact 2) Rarely impacts 3) Occasionally impacts 4) Frequently impacts 5) Constantly impacts	Based on physician and patient recall
Jenkins Sleep Evaluation Questionnaire (JSEQ)	Patient	Numeric	1) Have trouble falling asleep? 2) Wake up several times per night but did not have trouble falling asleep again? 3) Wake up one or more times per night (including waking far too early) and have trouble falling asleep again? 4) Wake up after your usual amount of sleep feeling tired or worn out?	Patient recall over past 4 weeks
<i>Validated measures of sleep disturbance, health status and work productivity and activity impairment</i>				
Jenkins Sleep Evaluation Questionnaire (JSEQ)	Patient	Numeric	1) Have trouble falling asleep? 2) Wake up several times per night but did not have trouble falling asleep again? 3) Wake up one or more times per night (including waking far too early) and have trouble falling asleep again? 4) Wake up after your usual amount of sleep feeling tired or worn out?	Patient recall over past 4 weeks
Work Productivity and Activity Impairment Questionnaire (WPAI)	Patient	Numeric	The WPAI yields four types of scores: 1) Absenteeism 2) Presenteeism 3) Work productivity loss (overall work impairment/absenteeism plus presenteeism) 4) Activity impairment	On survey date with recall of last 7 days

Variable name	Physician or patient reported	Variable type	Nominal response type	Timeframe of data collection
EQ-5D-3L utility score	Patient	Numeric	3-point rating scale on: 1) Mobility 2) Self-care 3) Usual activities 4) Pain/discomfort 5) Anxiety/depression	On survey date
EQ-5D VAS	Patient	Numeric	N/A	On survey date
<i>Physician-reported reason for drug choice</i>				
Reason for drug choice	Physician	Nominal	1) Immediate onset of action 2) Provides sustained 24-h symptom relief 3) Improvement in shortness of breath 4) Improvement in daytime symptomatic relief 5) Improvement in night-time symptomatic relief 6) Improvement in symptomatic relief on awakening 7) Prevents/reduces frequency of exacerbations 8) Reduces need for rescue medication 9) Clinically relevant improvement in lung function test values 10) Improvement in exercise tolerance 11) Reduces levels of inflammation 12) Reduces response to allergic triggers 13) Penetration of drug in the lower and peripheral airways 14) Well-tolerated side-effect profile 15) Good cardiovascular profile 16) Avoids using high-dose inhaled steroid medications 17) Avoids using LABA medication 18) Limits the use of additional oral steroid medication	On survey date

Variable name	Physician or patient reported	Variable type	Nominal response type	Timeframe of data collection
			19) Maximizes patient compliance 20) Ease of use/suitability of inhaler device 21) Once-daily dosing 22) Acts as both a reliever and as maintenance therapy 23) Option to upward or downward titrate when required 24) Drug familiarity and personal experience 25) In accordance with clinical guidelines 26) Request by patient	
<i>Physician-reported reason for drug choice and drug dosing schedule</i>				
Reason for drug choice	Physician	Nominal	See above	On survey date
Frequency of maintenance daily dosing (drug level)	Physician	Nominal	1) Once-daily 2) Twice-daily	On survey date from available medical records
Time of day of dosing	Patient	Nominal	1) As soon as I wake up 2) During the morning 3) At lunchtime 4) During the afternoon 5) During the evening 6) Just before I go to bed 7) During the night	On survey date
Frequency of maintenance daily dosing	Patient	Nominal	Frequency count of option above	On survey date

Variable name	Physician or patient reported	Variable type	Nominal response type	Timeframe of data collection
<i>Patient demographics and comorbidities</i>				
Physician setting	Physician	Nominal	1) PCP 2) Pulmonologist/respiratory specialist	On survey date
Age (year)	Physician	Numeric	N/A	On survey date
Sex	Physician	Nominal	1) Male 2) Female	On survey date
Body mass index (BMI) (kg/m ²)	Physician	Numeric and nominal	1) <18.5 2) 18.5–24.9 3) 25.0–26.9 4) 27.0–29.9 5) 30+	Based on available medical records
Employment status	Physician	Nominal	1) Working full-time 2) Working part-time 3) On long-term sick leave 4) Homemaker 5) Student 6) Retired 7) Unemployed 8) Don't know	On survey date
Unemployed/retired/sick leave due to COPD	Physician	Nominal	1) Yes 2) No 3) Don't know	On survey date

Variable name	Physician or patient reported	Variable type	Nominal response type	Timeframe of data collection
Smoking status (tobacco)	Physician	Nominal	1) Current smoker 2) Ex-smoker 3) Never smoked 4) Don't know	Based on available medical records
Caregiver status	Physician	Nominal	Whether anyone is responsible for patient's daily needs: 1) Yes 2) No 3) Don't know	Based on available medical records
Current comorbidities	Physician	Nominal	Pre-coded list of current comorbidities	Based on available medical records
Charlson Comorbidity Index (CCI)	Physician	Numeric	Calculated score based on selected current comorbidities	Based on available medical records

COPD chronic obstructive pulmonary disease; *EQ-5D(-3L)* EuroQoL 5-Dimension (3-Level); *LABA* long-acting β 2 agonist; *N/A* not applicable;

PCP primary care physician; *VAS* Visual Analog Scale