

## SUPPLEMENT

### **Appendix 1: Participants in EPOCONSUL study**

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## Appendix 2: Hospital-related and patient-related variables

### Hospital-related variables

1. Autonomous Community of Spain
2. Province where the hospital belongs
3. Population assigned for admission to the hospital
4. Name of hospital
5. Is it a University hospital?
6. Is there inpatient clinic in the Respiratory unit?
7. Respiratory hospitalization beds
8. Are there Pulmonology residents in the hospital?
9. Total number of Pulmonology residents in the beginning of the study
10. Number of staff pulmonologists in the Unit (excluding residents)
11. Which of the following specialized respiratory outpatient clinics are available in your Respiratory unit?
12. How many minutes do you usually have for a scheduled first time visit in a specialized respiratory outpatient clinic?
13. How many minutes do you usually have for a scheduled follow-up visit in a specialized respiratory outpatient clinic?
14. How many minutes do you usually have for a scheduled first-time visit in the general respiratory outpatient clinic?
15. How many minutes do you usually have for a scheduled follow-up visit in the general respiratory outpatient clinic?
16. Is there a nursing respiratory in the outpatient clinic?
17. How many nursing respiratory outpatient clinics are there?
18. Does your Respiratory unit have a specialized COPD respiratory outpatient clinic?
19. How many scheduled visits are there in a week in the specialized COPD respiratory outpatient clinic?
20. Does the specialized COPD respiratory outpatient clinic have a nurse available?
21. What is the nurse profile?
22. Does the Unit have an organized educational program on inhaler use for the outpatient COPD patients?
23. Who runs it?
24. Does the center have forced spirometry available?
25. Does the center have static lung volumes measurement available?
26. Does the center have diffusing capacity measurement available?
27. Does the center have respiratory muscle strength measurement available?
29. Does the center have sputum eosinophil count available?
30. Indicate how often you use it in your clinical practice
31. Does the center have sputum culture available?
32. Does the center have cardiorespiratory exercise testing available?
33. Does the center have echocardiography available?
34. Does the center have simple thoracic X-ray available?
35. Does the center have chest CT scan available?
36. Does the center have total serum IgE determination available?
37. Does the center have serum Alfa-1-antitrypsin determination available?
38. Does the center have genetic testing for Alfa-1-antitrypsin deficiency available?
39. Does the center have 6MWT available?
40. Does the center have Shuttle walking test available?
41. Does the center have CAT questionnaire available in the outpatient clinic?
42. Does the center have SGRQ questionnaire available in the outpatient clinic?

43. Does the center have CCQ questionnaire available in the outpatient clinic?
44. Does the center have a respiratory rehabilitation program available?
45. Of what type:
46. Is there any type of protocolled nutritional support for COPD patients?

#### Patient-related variables

1. Investigator
2. Center
3. Follow-up start and final date
4. Visit type
5. Patient gender
6. Patient age
7. Years of clinical follow-up
8. Smoking history available
9. Number of cigarettes per day
10. Number of years smoking
11. Last spirometry testing
12. Post-bronchodilation spirometry - Date
13. Post-bronchodilation spirometry - FEV1 (ml)
14. Post-bronchodilation spirometry - FEV1 (%)
15. Post-bronchodilation spirometry - FVC (ml)
16. Post-bronchodilation spirometry - FVC (%)
17. Post-bronchodilation spirometry - FEV1/FVC
18. Pre-bronchodilation spirometry (baseline) - Date
19. Pre-bronchodilation spirometry (baseline) - FEV1 (ml)
20. Pre-bronchodilation spirometry (baseline) - FEV1 (%)
21. Pre-bronchodilation spirometry (baseline) - FVC (ml)
22. Pre-bronchodilation spirometry (baseline) - FVC (%)
23. Pre-bronchodilation spirometry (baseline) - FEV1/FVC
24. Does the patient participate in any clinical trials or research projects?
25. Does the patient meet all the inclusion criteria?
26. What Unit referred the patient to the Respiratory outpatient clinic?
27. What is the type of outpatient clinic that follows the case?
28. Date of current visit
29. Date of previous scheduled follow-up visit
30. What is the smoker status of the patient?
31. Patient's weight in the last spirometry report(Kg)
32. Patient's height in the last spirometry report(m)
33. Are the comorbidities defined in the clinical record, including:?
34. Cardiopathy
35. Peripheral arterial disease
36. Arterial hypertension
37. Dyslipidemia
38. Neurologic disease
39. Sleep apnea
40. Depression
41. Anxiety
42. Chronic respiratory disease
43. Of what type:
44. Other respiratory diseases
45. Asthma
46. Rhinitis

47. Digestive disorders
48. Metabolic syndrome
49. Diabetes
50. Chronic renal disease
51. Neoplastic disease
52. AIDS
53. Connective tissue diseases
54. Bone, joint and muscle disorders
55. Total Charlson index
56. Bronchodilator reversibility testing
57. % reversibility
58. Is serum Alfa-1-antitrypsin determination available?
59. Measured value
60. Is sputum culture performed on any occasion?
61. Cardiopulmonary exercise testing performed on any occasion?
62. Is Chest CT scan carried out on any occasion?
63. Reason for performing chest CT scan?
64. Is 6MWT performed on any occasion?
65. Date of 6MWT
66. Distance recorded
67. Are Symptoms or quality of life questionnaires determined on any occasion?
68. Date CAT
69. Score CAT
70. Date CCQ
71. Score CCQ
72. Date SGRQ
73. Score SGRQ
74. Other
75. Date other
76. Score other
77. Is Lung volume measurement performed on any occasion?
78. Is diffusion capacity performed on any occasion?
79. Are Arterial blood gases performed on any occasion?
80. BODE index calculated on any occasion?
81. Value BODE
82. Is the BODEx index calculated on any occasion?
81. Value BODEx
82. Dyspnea grade according to mMRC
85. Does the patient currently meet the clinical criteria for chronic cough and/or chronic expectoration?
86. Sputum color in stable phase
87. Is there chronic colonization by any microorganism?
88. Is the number of moderate/severe exacerbations in the last 12 months recorded during the visit?
89. Number
90. Review clinical record and indicate number
91. Is the number of hospital admissions in the last 12 months recorded?
92. Number
93. Review clinical record and indicate number
94. Are symptoms suggestive of asthma (wheezing, variability) recorded during the visit?
95. Is smoking history recorded during the visit?
96. Is exercise routine recorded during the visit?

97. Is annual influenza vaccination recorded during the visit?
98. Is pneumococcal vaccination recorded during the visit?
99. Specify if any complementary examination is considered during the current visit
100. Spirometry (baseline or on current admission)
101. FEV1 (ml)
102. FEV1 (%)
103. FVC (ml)
104. FVC (%)
105. FEV1/FVC
106. Bronchodilation reversibility testing
107. FEV1 (ml)
108. FEV1 (%)
109. FVC (ml)
110. FVC (%)
111. FEV1/FVC
112. Lung volumes
113. Diffusing capacity
114. Arterial blood gases
115. 6MWT
116. 6MWT reason
117. Total serum IgE
118. Reason
119. Sputum eosinophilic count
120. Sputum culture
121. Echocardiography
122. CT
123. Symptoms questionnaires
124. Score
125. Other
126. Is the current COPD medication reported in the clinical record?
127. Which of the following pharmacologic treatments is the patient prescribed:
128. Is treatment adherence evaluated in some way?
129. Are treatment-related adverse events recorded?
130. Is the grade of satisfaction with the inhaler device recorded?
131. Is inhalation technique evaluated in some way?
132. Was the pharmacologic treatment modified compared with the previously used?
133. Indicate any changes
134. Long-term oxygen therapy
135. Home mechanical ventilation
136. Does the patient participate in a respiratory rehabilitation program?
137. Is a specific intervention for smoking cessation offered?
138. Indicate
139. Is exercise recommended during the visit?
140. Is vaccination recommended during the visit?
141. Indicate
142. Is COPD diagnosis established in the clinical record?
143. Is COPD severity defined in the clinical record?
144. Based on which criteria:
145. Is COPD type defined in the clinical record?
146. Indicate
147. Is the GesEPOC phenotype defined in the clinical record?

148. Indicate
149. Are BODE or BODEx scores defined in the clinical record?
150. The most recent BODE score
151. Is the next scheduled visit indicated in the clinical record?
152. Next follow-up visit in...(months)
153. Was the patient discharged from the clinic?

Appendix 3: Clinical guidelines recommendations (GesEPOC 2012 y GOLD 2013) evaluated in EPOCONSUL study. GOLD 2013: Global Initiative for Obstructive Lung Disease 2013;<sup>2</sup> GesEPOC 2012: Spanish National Guideline for COPD.<sup>3</sup>

<b>Clinical practice guideline</b>	<b>Recommendation</b>
<b>Clinical evaluation of the patient</b>	
GOLD 2013	GOLD recommends the use of the Modified British Medical Research Council (mMRC) questionnaire or the COPD Assessment Test (CAT).
GOLD 2013	At each visit, inquire about changes in symptoms since the last visit, including cough and sputum, breathlessness, fatigue, activity limitation, and sleep disturbances.
GOLD 2013	Comorbidities should be looked for routinely, and treated appropriately, in any patient with COPD.
GOLD 2013	At each visit, determine current smoking status and smoke exposure
GOLD 2013	Monitoring of physical activity may be more relevant regarding prognosis than evaluating exercise capacity
<b>Disease evaluation</b>	
GesEPOC 2012	In all patients with COPD plasma concentration of alpha-1-antitrypsin should be determined at least one time
GOLD 2013	The World Health Organization recommends that COPD patients from areas with a particularly high prevalence of alpha-1 antitrypsin deficiency should be screened for this genetic disorder
GesEPOC 2012	The severity of a patient with COPD is determined by the BODE index. Alternatively, the BODEx index can be used for patients with mild-to-moderate COPD
GesEPOC 2012	The clinical phenotype of COPD should be established in all patients. GesEPOC sets four different clinical phenotypes: A) non-frequent exacerbator, with emphysema or chronic bronchitis; B) COPD-asthma overlap; C) emphysema frequent exacerbator; and D) chronic bronchitis frequent exacerbator
GOLD 2013	COPD assessment must consider the following aspects of the disease separately: current level of patient's symptoms, severity of the spirometric abnormality, exacerbation risk, presence of comorbidities
GOLD 2013	Lung Volumes and Diffusing Capacity help characterize the severity of COPD but are not essential to patient management
GesEPOC 2012	Indication for lung volumes determination: suspected restrictive component or grades III–IV obstruction for investigating lung hyperinflation
GesEPOC 2012	Indication for diffusing capacity determination: grades III–IV obstruction, hypoxia or severe dyspnea not proportional to the degree of obstruction, investigation of emphysema
GesEPOC 2012	Indications for 6-min walking test: calculate BODE index, obstruction grades III-IV, prior to the evaluation for respiratory rehabilitation
GOLD 2013	Patients with severe or very severe COPD should undergo the following test at least one time: maximal exercise test
GesEPOC 2012	Indications for a chest CT scan: frequent exacerbator phenotype for the diagnosis of bronchiectasis, exclusion of other associated lung diseases, diagnosis and evaluation of emphysema



GOLD 2013	Computed tomography (CT) of the chest is not routinely recommended. However, when there is doubt about the diagnosis of COPD, CT scanning might help in the differential diagnosis where concomitant diseases are present.
<b>Therapeutic intervention</b>	
GOLD 2013	Dosages of various medications, adherence to the regimen, inhaler technique, effectiveness of the current regime at controlling symptoms, and side effects of treatment should be monitored.
GesEPOC 2012	Indications for arterial blood gas analysis: grades III–IV obstruction or FEV <sub>1</sub> <1 L, MRC dyspnea 3–4, indication and monitoring of patients with OCD,
GeEPOC 2012	It is recommended to offer all smokers with COPD advice to quit supported by medical/ psychological counseling
GesEPOC 2012	Influenza vaccination should be recommended for all COPD patients
GesEPOC 2012	Pneumococcal vaccination should be offered to patients with COPD
GesEPOC 2012	Regular exercise should be recommended for all COPD patients