

*Table S1* KEYWORDS USED TO SEARCH THE LITERATURE

"COPD",  
"CHRONIC OBSTRUCTIVE PULMONARY DIS\*",  
"CHRONIC OBSTRUCTIVE AIRWAY DIS\*",  
"CHRONIC LUNG DIS\*",  
"CHRONIC LUNG ILLNESS",  
"CHRONIC PULMONARY ILLNESS",  
"CHRONIC PULMONARY DIS\*",  
"CHRONIC BRONCHITIS",  
"PALLIATIVE CARE\*",  
"END OF LIFE",  
"END OF LIFE",  
"TERMINAL CARE",  
"TERMINALLY ILL\*",  
"HOSPICE CARE",  
"END-STAGE CARE",  
"CARE OF THE DYING",  
"DYING CARE",  
"DEATH",  
"DYING",  
"DISCUSS\*",  
"CONVERSAT\*",  
"COMMUNICAT\*",  
"INFORM\*",  
"BARRIERS",  
"FACILITATORS",  
"THERAPEUTIC",  
"DISCLOS\*",  
"DECISION MAKING",  
"PULMONARY EMPHYSEMA",  
"CHRONIC DISEASE",  
"LUNG DISEASE",  
"CRITICAL ILLNESS",  
"ADVANC\* ILLNESS",  
"OBSTRUCTIVE LUNG DIS\*",  
"PULMONARY DIS\*",  
"HOSPICE",  
"ADVANCE CARE PLANNING",  
"ADVANCE DIRECTIVES",  
"PROGNOSIS",  
"FAMILY",  
"PATIENT",  
"PATIENT CARE CONFERENC\*",  
"PATIENT-FAMILY CONFERENC\*",  
"PSYCHOLOGY",  
"ATTITUDE OF HEALTH PERSONNEL",  
"PATIENT SATISFACTION",  
"PHYSICIAN-PATIENT RELATIONS",  
"PHYSICIAN-PATIENT COMMUNICAT\*",  
"NURSE-PATIENT RELATIONS",  
"PROFESSIONAL-PATIENT RELATIONS",  
"HEALTH PROFESSIONAL",  
"NURSES",  
"PHYSICIANS",  
"HOSPITAL",  
"MEDICAL STAFF"

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**Table S2** –Description of the papers included in the review

REFEREN CE AND COUNTRY	AIM	STUDY DESIGN  PATIENT GROUP AND SAMPLE	FINDINGS	WEAK POINTS	STRONG POINTS
[50], USA	To model pertinent end of life care communication and discuss practical tips to incorporate goals of care and advance care planning into a primary care practice.	Case Report  • 71-year-old male patient with chronic obstructive pulmonary disease.	<ul style="list-style-type: none"> <li>• General internists and family medicine practitioners in primary care are central to eliciting patients’ goals of care and achieving optimal end of life outcomes for their patients.</li> </ul>	<ul style="list-style-type: none"> <li>• The method chosen in the study – case report;</li> <li>• Prevents generalization for other patients/cases;</li> <li>• Approach suggested to establish goals of care was not tested before and does not include patients’ opinions.</li> </ul>	<ul style="list-style-type: none"> <li>• Describes feelings, concerns and thoughts of one COPD patient and his relative about palliative care conversations.</li> </ul>
[36], USA	To improve the occurrence and quality of end of life communication with a simple communication intervention using a patient-specific feedback.	Cluster randomized trial  • 92 respiratory physicians; • 182 COPD patients in the control group and 194 in the intervention group.	<ul style="list-style-type: none"> <li>• The baseline quality of communication in both treatment and control groups was poor.</li> <li>• Participants frequently reported that they would like to discuss end of life care preferences.</li> </ul>	<ul style="list-style-type: none"> <li>• Does not provide in-depth information about patients’ and clinicians’ opinions, feelings and thoughts;</li> <li>• Study developed in one healthcare facility, generalization may be difficult;</li> <li>• Small percentage of women in the study;</li> <li>• Patients and clinicians approached during only one clinic to assess the conduction of conversations.</li> </ul>	<ul style="list-style-type: none"> <li>• Clustered randomized controlled trial – robust findings;</li> <li>• Included clinicians and patients across all backgrounds and disease stages.</li> </ul>
[18], UK	To explore the experiences of respiratory healthcare professionals in their conversations with COPD patients.	Qualitative phenomenology – Interviews  • 2 respiratory physicians; • 3 respiratory nurse	<ul style="list-style-type: none"> <li>• The timing of discussions is crucially dependent on the patient’s illness pathway.</li> <li>• Picking up on subtle visual and verbal cues were highlighted.</li> <li>• Moral and ethical dilemmas, as well as the futility of treatment,</li> </ul>	<ul style="list-style-type: none"> <li>• Small sample of clinicians used;</li> <li>• No patients were included in the study;</li> <li>• Lack of details regarding the methods used, exclusion/inclusion criteria, recruitment process and data</li> </ul>	<ul style="list-style-type: none"> <li>• Description of clinicians’ experiences and concerns regarding palliative care conversations with patients;</li> <li>• Comparison of discussions between patients with</li> </ul>

		specialists; • 2 lung cancer nurse specialists.	were raised.	collection; • Results cannot be generalized; • Clinicians interviewed regarding interviews that they recalled having had in the past.	cancer and COPD; • Description of the 5 most frequent themes regarding conversations with patients.
<b>[25], USA</b>	To review what is known about communicating with patients and their families about end of life care in ITU settings.	Narrative Review Sample - Not Applicable	<ul style="list-style-type: none"> <li>• Discussing dying with patients and their families is an extremely important part of providing good quality care for patients with chronic pulmonary diseases and families of patients in the ITU.</li> <li>• Providing sensitive and effective communication about end of life care requires training and practice as well as planning.</li> </ul>	<ul style="list-style-type: none"> <li>• Narrative review – which does not comprehend all studies published;</li> <li>• Includes data regarding all critical respiratory diseases;</li> <li>• Old review – published by the end of 2000;</li> <li>• No description of methods of data collection, analysis and synthesis;</li> <li>• No description of the limitations of the study.</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive paper about palliative care and advance care planning in the intensive care unit;</li> <li>• Clinically orientated review;</li> </ul>
<b>[22], USA</b>	To examine problems in the delivery of high-quality palliative care to patients with severe COPD and to identify ways in which to address these problems.	Narrative Review Sample - Not Applicable	<ul style="list-style-type: none"> <li>• Improving communication represents an important opportunity for the improvement of the quality of palliative and end of life care received by these patients.</li> <li>• Poor palliative care in COPD was linked to poor communication.</li> </ul>	<ul style="list-style-type: none"> <li>• Small section dedicated to palliative care discussions;</li> <li>• No description of methods of data collection, analysis and synthesis;</li> <li>• No description of the limitations of the study;</li> <li>• Narrative review – which does not comprehend all studies regarding the subject being reviewed.</li> </ul>	<ul style="list-style-type: none"> <li>• Study very much focused in patients with severe COPD;</li> <li>• Describes practice focused recommendations for clinicians and patients.</li> </ul>
<b>[49], USA</b>	To examine the interaction between the desire to have hope supported and the need to receive explicit prognostic information on the part of patients and	In-depth longitudinal qualitative interviews <ul style="list-style-type: none"> <li>• 55 patients (25 with COPD);</li> <li>• 36 family members;</li> <li>• 31 physicians;</li> <li>• 25 nurses.</li> </ul>	<ul style="list-style-type: none"> <li>• Asking patients directly how much information they wanted was not useful to identify informational needs.</li> <li>• Respondents identified two approaches to communicate prognosis: the direct and indirect approach.</li> </ul>	<ul style="list-style-type: none"> <li>• Sample chosen may have affected overall findings of study, as only physicians with good communication skills were chosen to recruit their patients into the study;</li> <li>• Findings are generated from participants in their last year of</li> </ul>	<ul style="list-style-type: none"> <li>• Interesting study looking at desire for hopeful versus prognostic information;</li> <li>• Lack of comparison between COPD and cancer;</li> <li>• In-depth information</li> </ul>

	family members.			<ul style="list-style-type: none"> <li>life, therefore conclusions can only be drawn for this specific group of COPD patients;</li> <li>• Difficult to generalize due to the type of study;</li> <li>• Small participation rate of physicians.</li> </ul>	<ul style="list-style-type: none"> <li>about the views of patients with COPD and cancer about 4 diagrams describing communication in the last year of life.</li> </ul>
<b>[62], USA</b>	To identify specific areas of communication about end of life care that patients report are not occurring and to identify specific areas of good and poor quality communication.	Questionnaires and Interviews <ul style="list-style-type: none"> <li>• 115 COPD patients;</li> <li>• 55 respiratory physicians.</li> </ul>	<ul style="list-style-type: none"> <li>• Poorly discussed topics: talking about how long the patient has to live, talking about what dying might be like, talking with loved ones about what dying might be like and asking about the patient's spiritual or religious beliefs.</li> <li>• Depression symptoms was associated with quality of communication scores.</li> </ul>	<ul style="list-style-type: none"> <li>• Somehow old study, with data collected from 1999-2002;</li> <li>• Authors chosen a sample of patients with severe/advanced disease, therefore data can only be compared with patients in the same disease severity stage;</li> <li>• Lack of fully detailed description of inclusion criteria;</li> <li>• Difficult to generalize, due to type of study;</li> <li>• Small participation rate of patients;</li> <li>• Questionnaire used to ascertain the quality of communication;</li> <li>• Small interaction between qualitative and quantitative research.</li> </ul>	<ul style="list-style-type: none"> <li>• In-depth information about palliative care communication with patients with severe COPD;</li> <li>• Large participation rate of physicians;</li> <li>• Thorough description of the quality of palliative care communication, however one cannot understand the true quality of discussions as most items were not discussed with patients.</li> </ul>
<b>[21], USA</b>	To provide a narrative review of recent research regarding patient-physician communication about palliative care for COPD patients and to summarize	Narrative Review Sample - Not Applicable	<ul style="list-style-type: none"> <li>• One reason for poor palliative care delivery in COPD was the lack of patient-physician communication about end of life care.</li> <li>• Patients and physicians identify many barriers to start conversations.</li> <li>• Depression has an important</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of descriptions of the methods used to complete the narrative review;</li> <li>• Lack of discussion, limitations and strengths sections in the review;</li> <li>• Some information is based in studies done with patients with different conditions.</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive review about palliative care communication with COPD patients;</li> <li>• Offers several recommendations to healthcare professionals;</li> <li>• Focused in the development of further</li> </ul>

	the authors' perspective on the research agenda.		impact in end of life care communication.		research in this area.
[51], USA	To elucidate the important aspects of physician skill at providing end of life care.	Focus Groups and Content Analysis <ul style="list-style-type: none"> <li>• 24 COPD patients;</li> <li>• 36 AIDS patients;</li> <li>• 19 Cancer patients.</li> </ul>	<ul style="list-style-type: none"> <li>• Remarkable similarities were found in the perspectives of all patients including the importance of emotional support, communication, and accessibility and continuity.</li> <li>• For patients with COPD, the most concerning domain was the physicians' ability to provide patient education.</li> <li>• Patients with COPD desired education in: diagnosis and disease process, treatment, prognosis, what dying might be like, and advance care planning.</li> </ul>	<ul style="list-style-type: none"> <li>• Somehow old study using data from 2001;</li> <li>• Difficult to generalize the findings due to the type of study;</li> <li>• Findings are generated from patients with severe/terminal disease.</li> </ul>	<ul style="list-style-type: none"> <li>• Interesting study looking at the skills of healthcare professionals discussing palliative care;</li> <li>• In-depth information gathered using interviews with patients;</li> <li>• Thorough description of methods used in the study.</li> </ul>
[43], USA	To test the hypothesis that reminding primary care physicians to discuss advance directives would stimulate such conversations and lead to the establishment of more advance directives.	Randomized Controlled Trial <ul style="list-style-type: none"> <li>• 1009 patients (46% with a COPD diagnosis);</li> <li>• 147 primary care physicians.</li> </ul>	<ul style="list-style-type: none"> <li>• Physicians who did not receive reminders discussed advance directives with 4% of the patients compared with 24% for physicians who received both types of reminders.</li> <li>• Physicians who did not receive reminders completed advance directive forms with only 4% of their patients compared with 15% for physicians who received both types of reminders.</li> <li>• Overall, 45% of patients with whom advance directives were discussed completed at least one type of advance directive.</li> </ul>	<ul style="list-style-type: none"> <li>• Old study, used data from 1997;</li> <li>• Computer literacy may have changed the overall results if the study was to be repeated nowadays;</li> <li>• Physicians were encouraged to discuss advance directives with patients prior the study, this may have influenced the final results;</li> <li>• Majority of participating physicians were faculty members who had larger knowledge about research and physiopathology, which may have influenced results;</li> <li>• Lack of data concerning</li> </ul>	<ul style="list-style-type: none"> <li>• Robust study, which used a randomized controlled trial;</li> <li>• Used an innovative computer-based programme to encourage palliative care conversations with patients;</li> <li>• Large participation rate in study;</li> <li>• Comprehensive description of the methods used in the study.</li> </ul>

<p><b>[40], UK</b></p>	<p>To investigate the role that conversations of prognosis play in GPs' management of patients with severe COPD and the factors that influence those discussions.</p>	<p>Survey  <ul style="list-style-type: none"> <li>• 214 General Practitioners</li> </ul> </p>	<ul style="list-style-type: none"> <li>• 72.5% thought that conversations of prognosis were often necessary or essential in severe COPD.</li> <li>• 82% felt that GPs have an important role in these discussions.</li> <li>• 50% of GPs were undecided as to whether patients with COPD wanted to know about their prognosis.</li> <li>• The majority of GPs that reported not discussing end of life with patients stated several reasons.</li> </ul>	<p>patients' thoughts about discussions and about the appropriateness of the methods used.</p> <ul style="list-style-type: none"> <li>• Old study, which used information from 1999;</li> <li>• Lack of in-depth information of GP's regarding conversations about prognosis;</li> <li>• Small participations rate;</li> <li>• Lack of thorough information regarding the development of the survey.</li> </ul>	<ul style="list-style-type: none"> <li>• Robust study with a large sample of participants;</li> <li>• Survey piloted with small sample and based in previous interviews and literature review.</li> </ul>
<p><b>[48], USA</b></p>	<p>To describe the domain structure and the construct validity of the Quality of Communication Questionnaire.</p>	<p>Questionnaire  <ul style="list-style-type: none"> <li>• 113 COPD patients;</li> <li>• 83 hospice patients.</li> </ul> </p>	<ul style="list-style-type: none"> <li>• Findings support the construction of two scales: a "general communication skills" scale and a "communication about end of life care" scale;</li> <li>• The two scales met standards of scale measurement;</li> <li>• This questionnaire represents an important step towards providing a measure of the quality of end of life communication.</li> </ul>	<ul style="list-style-type: none"> <li>• Small amount of information regarding the quality of discussions in clinical practice;</li> <li>• Somehow old study, used findings from 1998-2002;</li> <li>• Sample only included patients with very severe disease;</li> <li>• Questionnaire not used before, therefore may have not generated accurate results;</li> <li>• Lack of information from patients and physicians regarding their perspectives about the use of the questionnaire.</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive description of the development of the Quality of Communication Questionnaire;</li> <li>• Large sample of patients;</li> <li>• Hypothesis were supported by findings.</li> </ul>
<p><b>[42], UK</b></p>	<p>To evaluate the understanding of</p>	<p>Questionnaire</p>	<ul style="list-style-type: none"> <li>• Thirteen patients understood the term non-invasive ventilation,</li> </ul>	<ul style="list-style-type: none"> <li>• Questionnaire developed by the study authors without</li> </ul>	<ul style="list-style-type: none"> <li>• Study developed in the United Kingdom;</li> </ul>

	<p>palliative care as an option in COPD and to identify any barriers to resuscitation conversations in this group of patients.</p>	<ul style="list-style-type: none"> <li>• 30 COPD patients.</li> </ul>	<p>and 11 of those would consider it again if needed.</p> <ul style="list-style-type: none"> <li>• Only 13% of patients knew that palliative care is an option in COPD.</li> <li>• Eleven patients understood the term cardiopulmonary resuscitation, and only five ever had a conversation regarding resuscitation.</li> </ul>	<p>previous piloting;</p> <ul style="list-style-type: none"> <li>• Lack of description of the methods and data used to develop the questionnaire;</li> <li>• Lack of information stating the validity and reliability of the questionnaire, which may have biased the results;</li> <li>• Lack of clinicians and patients' feedback regarding the use and feasibility of the study;</li> <li>• Small sample size;</li> <li>• Recruitment process may have influenced results, due to the recruitment of patients immediately after an acute exacerbation of their disease.</li> </ul>	<ul style="list-style-type: none"> <li>• Several different assessment tools were used and their results were compared with the results of questionnaires.</li> </ul>
<p><b>[44], PORTUGAL</b></p>	<p>To evaluate the practice of Portuguese respiratory physicians in end of life communication and palliative care in COPD.</p>	<p>On-line Survey</p> <ul style="list-style-type: none"> <li>• 136 respiratory physicians.</li> </ul>	<ul style="list-style-type: none"> <li>• 48.5% of physicians reported that they have rarely introduced end of life care conversations.</li> <li>• 68% had never/rarely suggested decision-making on the use of invasive mechanical ventilation;</li> <li>• Discussions were described as occurring mostly during/after a major exacerbation.</li> <li>• Most participants perceive the discussion of end of life issues as being difficult/very difficult.</li> <li>• The most common reasons given were the feeling that patients were not prepared for this conversation, fear of taking away the patient's hope and lack of training.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of detailed information about the perspectives of the participants included in the study;</li> <li>• Small participation rate;</li> <li>• Lack of information regarding the patients' opinions about these discussions.</li> </ul>	<ul style="list-style-type: none"> <li>• Robust study, showing data from another European country;</li> <li>• Comprehensive descriptions of the methods used in the study;</li> <li>• Only clinicians who looked after patients with COPD were included;</li> <li>• Recent study.</li> </ul>
<p><b>[30],</b></p>	<p>To identify strategies</p>	<p>Telephone interviews</p>	<ul style="list-style-type: none"> <li>• Seven strategies were identified</li> </ul>	<ul style="list-style-type: none"> <li>• Somehow old study, done in</li> </ul>	<ul style="list-style-type: none"> <li>• Showed in-depth</li> </ul>

<b>NEW ZEALAND</b>	that general practitioners can use to facilitate conversation of prognosis with patients who have COPD.	<ul style="list-style-type: none"> <li>• 15 General Practitioners;</li> <li>• 5 Respiratory Consultants.</li> </ul>	to facilitate discussion of prognosis: be aware of implications of diagnosis; use uncertainty to ease conversation; build relationship with patients; be caring and respectful; begin conversation early in disease course; identify and use opportunities to discuss prognosis; and work as a team.	2003; <ul style="list-style-type: none"> <li>• Telephonic interviews used;</li> <li>• Exclusion of patients with COPD and other healthcare professionals;</li> <li>• Small sample of respiratory physicians;</li> <li>• Criteria of the questionnaire/questions of interview may have confused the participants.</li> </ul>	perspectives of clinicians looking after COPD patents; <ul style="list-style-type: none"> <li>• Data analysis and data synthesis.</li> </ul>
<b>[39], THE NETHERLANDS</b>	To examine the quality of end of life care communication during one year follow-up of patients with advanced chronic organ failure.	Questionnaires during home visits <ul style="list-style-type: none"> <li>• 265 patients, of whom 105 had COPD.</li> </ul>	<ul style="list-style-type: none"> <li>• Quality of end of life care communication was rated low at baseline and did not change over one year.</li> <li>• Quality of end of life care communication was comparable for patients who completed two-year follow-up and patients who died during the study.</li> <li>• The correlation between quality of end of life care communication and satisfaction with medical treatment was weak.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of detailed information about the quality of communication;</li> <li>• Inclusion only of patients with advanced/terminal disease;</li> <li>• Questionnaire used to assess quality of communication was not piloted or tested before, therefore the validity and reliability of the tool remains unknown;</li> <li>• Lack of detailed information about the perspectives of clinicians.</li> </ul>	<ul style="list-style-type: none"> <li>• Very recent study;</li> <li>• Inclusion and comparison of patients with COPD with patients with other chronic illnesses;</li> <li>• Longitudinal study of a cohort of patients;</li> <li>• Large sample size.</li> </ul>
<b>[46], USA AND THE NETHERLANDS</b>	To compare quality of patient–clinician communication about end of life care, and endorsement of barriers and facilitators to this communication in the Netherlands and the USA.	Comparison Study <ul style="list-style-type: none"> <li>• 122 Dutch patients with COPD;</li> <li>• 391 North American patients with COPD.</li> </ul>	<ul style="list-style-type: none"> <li>• Dutch patients reported lower quality of communication about end of life care.</li> <li>• Clinicians in both countries rarely discussed life-sustaining treatment preferences, prognoses, dying processes or spiritual issues.</li> </ul>	<ul style="list-style-type: none"> <li>• Data gathered from patients in different time periods, using different methods, and patients with different disease stages and comorbidities;</li> <li>• Difficult to generalize due to regional differences;</li> <li>• Lack of objective measures to assess the quality of communication.</li> </ul>	<ul style="list-style-type: none"> <li>• Interesting comparison between patients with COPD living in the US and in The Netherlands;</li> <li>• Comprehensive description of the methods used to compare the two cohort of patients.</li> </ul>

<b>[35], THE NETHERLANDS</b>	To assess life-sustaining treatment preferences, advance care planning, and the quality of end of life care communication in Dutch outpatients with clinically stable but severe COPD or Chronic Heart Failure (CHF).	Prospective and Observational study  • 105 patients with severe COPD; • 80 patients with severe CHF.	<ul style="list-style-type: none"> <li>• Advance directives were discussed with the physician specialist by 5.9% of patients with COPD and 3.9% of patients with CHF.</li> <li>• Patients rated quality of patient-physician end of life care communication as poor.</li> <li>• Physicians rarely discussed prognosis, dying and palliative care.</li> </ul>	<ul style="list-style-type: none"> <li>• Small amount of information dedicated to communication about end of life care;</li> <li>• Large differences between the two cohorts of patients;</li> <li>• Small participation rate;</li> <li>• Exclusion of clinicians from the study;</li> <li>• Use of cross-sectional study;</li> <li>• Inclusion of patients with severe disease, may have prevented future comparisons with patients in different stages.</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive description of the methods used in the study;</li> <li>• Comparison between patients with COPD and patients with heart failure.</li> </ul>
<b>[24], USA</b>	To show how physicians and other health care professionals can help their patients with advance care planning and assess patient preferences for care at the end of life.	Narrative Review  Sample - Not Applicable	<ul style="list-style-type: none"> <li>• Most patients did not participate in advance care planning, yet many were willing to discuss end of life care.</li> <li>• One way to determine patients' preferences for end of life care was to discuss hypothetical situations.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of information regarding the methods used in the report;</li> <li>• Lack of the discussion and limitations sections;</li> <li>• Somehow old study;</li> <li>• Report generated for the general patient regardless of their disease, therefore there is a lack of specific guidance for COPD.</li> </ul>	<ul style="list-style-type: none"> <li>• Report focused in clinical practice and in clinicians;</li> <li>• Presentation of a practical guide to discuss palliative care with patients.</li> </ul>
<b>[37], USA</b>	To identify the barriers and facilitators to end of life care communication as a first step to overcoming barriers and capitalizing on facilitators.	Focus groups and Cross Sectional Study  • 115 oxygen-dependent COPD patients; • 56 respiratory physicians.	<ul style="list-style-type: none"> <li>• 32% of patients reported having had a discussion about end of life care.</li> <li>• The most commonly endorsed barriers were "I'd rather concentrate on staying alive," and "I'm not sure which doctor will be taking care of me".</li> <li>• The greater the number of barriers endorsed by patients, the less likely they were to have</li> </ul>	<ul style="list-style-type: none"> <li>• Somehow old study, used findings collected in 1999-2002;</li> <li>• Inclusion of patients with only severe disease;</li> <li>• Small information regarding the development of the questionnaire used in the study;</li> <li>• Prospective cross-sectional study;</li> </ul>	<ul style="list-style-type: none"> <li>• Robust study with large number of participants;</li> <li>• Large participation rate of patients;</li> <li>• First study considering the barriers and facilitators of palliative care discussions with patients with COPD;</li> <li>• Comprehensive study detailing the methods used in the study.</li> </ul>

[19], USA	To determine whether patients who reported having end of life conversations also reported higher perceived markers of quality of care and health status.	Cross-sectional study • 376 patients with COPD	discussed end of life care with physicians.  • 14.6% of patients reported having end of life discussions. • Individuals who reported having end of life conversations with their physicians were significantly more likely to rate their quality of care as the best imaginable and to be very satisfied with their medical care. • Discussions were more likely to have occurred among patients with worse health status.	<ul style="list-style-type: none"> <li>• Lack of detailed information regarding the barriers and facilitators of the conversations collected;</li> <li>• Small participation rate of physicians.</li> <li>• Cross-sectional study;</li> <li>• Patients may have been excluded, if they did not acknowledge a discussion about palliative care that they actually had in the past;</li> <li>• Lack of detailed information about the effects of conversations in the patients' healthcare delivery and in their condition;</li> <li>• Exclusion of clinicians;</li> <li>• Lack of information regarding the content of conversations with patients and its consequent effect;</li> <li>• Somehow old, used data collected from 2004-2007;</li> <li>• Small number of women included in the study.</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive description of the methods used during the study;</li> <li>• First study looking at the effects of discussions in the lives and wellbeing of patients with COPD;</li> <li>• Large sample size.</li> </ul>
[47], CANADA	To determine when respiratory physicians approach patients with end-stage COPD to decide about the use of mechanical ventilation, what information they provide to patients	Questionnaire • 279 respiratory physicians	<ul style="list-style-type: none"> <li>• Conversations were reported to occur most often at advanced stages of COPD.</li> <li>• 43% stated that they discuss mechanical ventilation with 40% or less of their COPD patients before an exacerbation necessitates ventilatory support.</li> <li>• 55.2% described the decision-making process as a</li> </ul>	<ul style="list-style-type: none"> <li>• Old study, used data collected in 1996 or before;</li> <li>• Lack of detailed information regarding the topic from patients or physicians;</li> <li>• Exclusion of patients;</li> <li>• Only respiratory physicians were included in the study.</li> </ul>	<ul style="list-style-type: none"> <li>• Large sample size and large participation rate;</li> <li>• Comprehensive description of the methods used during the study;</li> <li>• Detailed information regarding the development, piloting and administration of the survey.</li> </ul>

	and how they provide it.			collaboration between patient and physician.		
				<ul style="list-style-type: none"> <li>• 53% of the respondents indicated that they occasionally, often or always modify the information provided to patients in order to influence their decision.</li> </ul>		
<b>[5], UK</b>	To show the results of a literature review about end of life care conversations COPD.	Systematic Review Sample - Not Applicable	Literature	<ul style="list-style-type: none"> <li>• Most patients reported that they have not had end of life conversations with healthcare professionals.</li> <li>• Many patients would like these conversations, a potentially large minority would not.</li> <li>• Healthcare professionals find these discussions difficult and many prefer patients to initiate them.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of detailed methods used in the development of the review;</li> <li>• Small overall review, more details would benefit review;</li> <li>• Small number of databases searched;</li> <li>• Exclusion of grey and unpublished literature.</li> </ul>	<ul style="list-style-type: none"> <li>• Robust systematic review, which used a large and diverse number of references;</li> <li>• Recent review;</li> <li>• Presentation and synthesis of the review when compared with the large number of papers included.</li> </ul>
<b>[53], USA</b>	To explore the responses of patients living with serious illness to the question “what is your understanding of your illness?” and to identify similarities and differences in themes and language used by cancer and non-cancer patients to discuss their illness.	Qualitative Analysis <ul style="list-style-type: none"> <li>• 209 patients, of whom 70 had a diagnosis of COPD.</li> </ul>		<ul style="list-style-type: none"> <li>• 5 major themes were identified: naming the diagnosis or describing the pathophysiology, illness history, prognosis, symptoms, and causality.</li> <li>• Responses varied by diagnosis. Cancer patients’ responses more often included specific diagnostic details and prognosis, while non-cancer patients referenced symptoms and causality.</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to generalize findings because of the heterogeneity of the participants included;</li> <li>• Exclusion of clinicians;</li> <li>• Inclusion of patients with only severe disease;</li> <li>• Somehow old study, findings from 2004-2007;</li> <li>• Lack of detailed information from patients and clinicians.</li> </ul>	<ul style="list-style-type: none"> <li>• Inclusion and comparison of patients with different diseases and demographics;</li> <li>• Evenly distribution of patients with different diseases;</li> <li>• Comprehensive description of the methods used in the study.</li> </ul>
<b>[45], NEW ZEALAND</b>	To compare the views of GPs in Auckland, New	Questionnaire <ul style="list-style-type: none"> <li>• General Practitioners</li> </ul>		<ul style="list-style-type: none"> <li>• Most GPs in both samples stated that discussions on prognosis are necessary in severe COPD and</li> </ul>	<ul style="list-style-type: none"> <li>• Somehow old study, used data gathered in 2003;</li> <li>• Comparison study;</li> </ul>	<ul style="list-style-type: none"> <li>• Interesting comparison between 2 different groups of GP’s in London</li> </ul>

<p><b>AND UK</b></p>	<p>Zealand (NZ) and London, United Kingdom (UK) on conversations of prognosis in severe COPD.</p>	<p>from London;  <ul style="list-style-type: none"> <li>• General Practitioners from New Zealand.</li> </ul> </p>	<p>that GPs have an important role in discussing prognosis.</p> <ul style="list-style-type: none"> <li>• Smaller proportions of both samples reported usually having such conversations, although Auckland GPs (55.6%) were more likely to hold the discussions.</li> <li>• Auckland GPs were more likely to agree that patients with severe COPD wanted to discuss prognosis and that patients valued these conversations.</li> <li>• One-third of the Auckland GPs and nearly half the London GPs believe that some patients with severe COPD who want to discuss prognosis are not given the opportunity to do so.</li> </ul>	<ul style="list-style-type: none"> <li>• May not be representative and generalizations may not be possible because of the heterogeneity of the sample;</li> <li>• Small response rate.</li> </ul>	<p>and New Zealand;</p> <ul style="list-style-type: none"> <li>• Identical questions were asked to the two groups of GP's.</li> </ul>
<p><b>[29], AUSTRALIA</b></p>	<p>To explore the views of patients with COPD and healthcare professionals, focusing upon information needs and treatment preferences.</p>	<p>Interviews and focus groups</p> <ul style="list-style-type: none"> <li>• 10 COPD patients;</li> <li>• 18 nurses;</li> <li>• 7 respiratory doctors;</li> <li>• 6 allied healthcare professionals.</li> </ul>	<ul style="list-style-type: none"> <li>• The theme underpinning all discussions was of tension between maintaining hope and negotiating the reality of the illness and its consequences.</li> <li>• Patients tended to be optimistic, viewed acute exacerbations as separate from their underlying chronic illness, and were keen for intensive treatments, including intubation if acutely unwell.</li> <li>• Both patients and healthcare workers believed that information around end of life should be offered routinely.</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to generalize due to the type of study – qualitative study;</li> <li>• Small participation rate and small sample size;</li> <li>• Particular inclusion criteria for the recruitment of patients, patients included if severe disease.</li> </ul>	<ul style="list-style-type: none"> <li>• In-depth perspectives of patients and clinicians regarding the information needs and end of life decisions;</li> <li>• Presentation of most discussed themes during interviews and focus groups;</li> <li>• Recent study.</li> </ul>

<b>[55], USA</b>	To review the approach to requests for “everything” and to provide examples of how physicians can manage some aspects of the conversation.	Narrative Review/Expert Opinion  • 75-year-old man with oxygen dependent COPD	<ul style="list-style-type: none"> <li>• Clinicians should not take the request for “everything” at face value, but should instead use it as a basis for broader conversation.</li> <li>• The clinician should propose a philosophy of treatment and make recommendations that capture the patient’s values.</li> <li>• Clinicians should respond to emotional reactions, negotiate disagreements, and use harm-reduction strategies.</li> </ul>	<ul style="list-style-type: none"> <li>• Methodology and methods of study not presented;</li> <li>• Study used as an example a COPD patients, however the language and general information is dedicated to patients with all sorts of diseases;</li> <li>• Lack of description of the discussion and limitations/strengths sections.</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive information focused in clinical practice, with practical information given to clinicians;</li> <li>• Step-by-step approach to hold conversations with patients/relatives who want everything.</li> </ul>
<b>[15], USA</b>	To provide a brief narrative review of recent research regarding patient-physician communication about palliative care for patients with COPD.	Narrative Review  Sample - Not Applicable	<ul style="list-style-type: none"> <li>• One reason these patients may receive poor quality palliative care is that patient-physician communication about palliative and end of life care is unlikely to occur.</li> <li>• Understanding the barriers to this communication may be an important step to improve communication about end of life care and improve patient-centred outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of the following sections: methods, discussion and limitations/strengths;</li> <li>• May have missed important studies due to narrative review character;</li> <li>• Somehow old review;</li> <li>• Unable to understand the criteria, databases, data analysis and data synthesis methods used.</li> </ul>	<ul style="list-style-type: none"> <li>• Succinct and focused review in discussions about palliative care.</li> </ul>
<b>[52], USA</b>	To explore whether educating patients via web conferencing would equip them with knowledge and skills to engage in conversations about end of life care.	Feasibility Study  • 7 patients with severe to very severe COPD.	<ul style="list-style-type: none"> <li>• 6 patients had completed advanced care planning forms but only half had shared these with their clinicians.</li> <li>• Most patients felt confident about discussing end of life care preferences.</li> <li>• Five felt the webinar was an acceptable option.</li> <li>• At 3 months, all participants had taken further action on end of</li> </ul>	<ul style="list-style-type: none"> <li>• Small sample size and sample not representative of the majority of the COPD population;</li> <li>• Very difficult to generalize and to draw conclusions from the sample used;</li> <li>• Lack of a control group;</li> <li>• Intervention presented in the study cannot be used with the general COPD patient due to</li> </ul>	<ul style="list-style-type: none"> <li>• Interventional research study to improve conversations about end of life care wishes;</li> <li>• Comprehensive description of methods and of steps used during the study;</li> <li>• Description of implications of the study in future research.</li> </ul>

			life planning.	high technology and education skills required.
<b>[54], USA</b>	To describe patient- clinician communication practices about end of life care in patients with COPD using self- reported questionnaires.	Cross-Sectional Study  • 376 patients with COPD	<ul style="list-style-type: none"> <li>• All end of life care topics were under-addressed.</li> <li>• Four topics were not addressed 77-94% of the time.</li> <li>• None of the quality of communication items varied significantly by clinician type.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of in-depth information regarding end of life care topics;</li> <li>• Use of a cross-sectional study of data collected previously;</li> <li>• Small number of female patients included.</li> </ul>
<b>[41], FRANCE</b>	To provide a description of the information provided by respiratory physicians to their COPD patients at regular follow-up visits and of the information received by COPD patients and their relative about COPD-related ICU stays.	Interviews  • 126 COPD patients; • 102 relatives; • 173 respiratory physicians; • 135 ICU physicians.	<ul style="list-style-type: none"> <li>• For 41% of patients and 54% of relatives, ITU admission had never been expected prior to admission.</li> <li>• One half of patients were not routinely informed by their respiratory physicians about possible ITU admission.</li> <li>• Treatment options were not explained to COPD patients during regular respiratory visits.</li> <li>• Respiratory physicians and ITU physicians have different perceptions of the decision-making process pertaining to ITU admission and intubation.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of in-depth information about the perspectives of patients and clinicians;</li> <li>• Lack of information regarding the patients who died during their stay in the intensive care unit;</li> <li>• Clinicians who participated in the study did not look after the patients who were also included.</li> </ul>
<b>[38], UK</b>	To examine whether an admission to hospital for an exacerbation of COPD is an	Interviews  • 16 COPD patients; • 15 Relatives.	<ul style="list-style-type: none"> <li>• No patients recalled conversations about resuscitation or planning for the future.</li> <li>• Hospital admission and discharge</li> </ul>	<ul style="list-style-type: none"> <li>• Small number of female participants;</li> <li>• Difficult to generalize information due to qualitative character of the study;</li> </ul>

	<p>opportunity for Advance Care Planning (ACP) and to understand, from the patient perspective, the optimum circumstances for ACP.</p>			<p>was seen as chaotic and lacking in continuity.</p> <ul style="list-style-type: none"> <li>• Some patients welcomed the opportunity to discuss ACP and felt that their GP would be the best person for this.</li> <li>• Others wished to avoid end of life care conversations but there was evidence that, with empathetic and knowledgeable support, these discussions could be initiated.</li> </ul>	<ul style="list-style-type: none"> <li>• Exclusion of clinicians in the study.</li> </ul>	<p>hospital admissions to initiate conversations about resuscitation, ventilation and advance care planning;</p> <ul style="list-style-type: none"> <li>• Inclusion of patients in different stages of their disease.</li> </ul>
<b>[56], CANADA</b>	<p>To offer some preliminary observations from a qualitative doctoral study to explore the question: What is required for meaningful, acceptable ACP in the context of advanced COPD?</p>	<p>Interventional Study</p> <ul style="list-style-type: none"> <li>• 8 patients with COPD;</li> <li>• 7 informal carers.</li> </ul>		<ul style="list-style-type: none"> <li>• Despite initial resistance on the part of six out of eight patients, all were able to discuss end of life care concerns and appreciate some aspects of doing so.</li> <li>• The sessions were an opportunity to: (1) learn more about end of life care options; (2) consider/document end of life care preferences; (3) counter the silence around the subject; and/or (4) have their illness concerns and experiences heard.</li> </ul>	<ul style="list-style-type: none"> <li>• May have included some leading questions, which may have biased some of the findings;</li> <li>• Lack of details regarding exclusion and inclusion criteria, limitations and strengths and final conclusion;</li> <li>• Only patients with severe disease were included;</li> <li>• Small sample size.</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive description of methods used in the study;</li> <li>• Very much focused on the patient with COPD;</li> <li>• Well-structured interventional study.</li> </ul>
<b>[23], UK</b>	<p>To highlight the key components and challenges for patients and health professionals discussing end of life care in non-malignant respiratory disease.</p>	<p>Systematic Literature Review</p> <p>Sample - Not Applicable</p>		<ul style="list-style-type: none"> <li>• Three themes involving components and challenges in end of life conversations were identified: the conversation, the health professional/patient relationship, and patient perceptions.</li> </ul>	<ul style="list-style-type: none"> <li>• Inclusion of patients with several non-malignant respiratory diseases;</li> <li>• Small number of databases and papers included;</li> <li>• 11-year window for the publication of papers;</li> <li>• Exclusion of other reviews in the study;</li> <li>• PICO framework used, therefore it led into a</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive description of the methods used during the review;</li> <li>• Well-structured systematic review;</li> <li>• Succinct, yet comprehensive review;</li> <li>• Somehow recent review, used data published from 1999 to 2010.</li> </ul>

<b>[3], CANADA</b>	To examine how the physician perceives the decision-making process.	Interviews • 15 respiratory physicians.	<ul style="list-style-type: none"> <li>• Narratives were very similar in content and seemed well rehearsed.</li> <li>• Fourteen respiratory physicians emphasized the importance of knowing patients as individuals prior to initiating this conversation.</li> <li>• Individual physician comfort also appeared to affect the timing of the conversation.</li> <li>• Physicians discussed the many elements that make the mechanical ventilation discussion difficult for physicians and patients.</li> </ul>	<p>quantitative based review.</p> <ul style="list-style-type: none"> <li>• Old study, findings dating from 1995;</li> <li>• Exclusion of patients from the study;</li> <li>• Difficult to generalize due to qualitative and regional character of the study;</li> <li>• Small number of female participants included;</li> <li>• Findings may only reflect what physicians perceive as ideal communication and not what physicians actually perform in practice.</li> </ul>	<ul style="list-style-type: none"> <li>• In-depth details of the physicians' thoughts regarding communication about intubation and ventilation;</li> <li>• Large participation rate in the study;</li> <li>• Majority of clinicians included had large clinical experience;</li> <li>• Comprehensive description of the methods used during the study.</li> </ul>
<b>[57], USA</b>	To study whether a day-long communication skills training retreat would lead to enhanced performance of and confidence with specific end of life care conversations.	Randomized Controlled Trial • 23 medical residents in retreat group; • 26 medical residents in control group.	<ul style="list-style-type: none"> <li>• Retreat participants demonstrated higher T2 scores for breaking bad news, discussing direction of care, and responding to emotion.</li> <li>• Comparing T2 to T1, the retreat group's improvement in responding to emotion was statistically significant.</li> <li>• The retreat group's confidence improved significantly only for the breaking bad news construct.</li> </ul>	<ul style="list-style-type: none"> <li>• May have included medical trainees who do not provide care to patients with COPD;</li> <li>• Lack of in-depth information about the communication skills of clinicians;</li> <li>• Exclusion of patients from the study;</li> <li>• Small sample size;</li> <li>• Results may have been biased somehow, because control group received feedback about their communication skills after being assessed.</li> </ul>	<ul style="list-style-type: none"> <li>• Robust information from a randomized controlled trial;</li> <li>• Large response rate;</li> <li>• Comprehensive description of the methods used during the study.</li> </ul>
<b>[26], CANADA</b>	To provide guidance for advance care planning as it pertains to the inpatient setting.	Narrative Review Sample - Not Applicable	<ul style="list-style-type: none"> <li>• Clinicians can use the "surprise" question or more detailed clinical criteria to identify high-risk patients.</li> <li>• When discussing goals of care</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of methods, discussion and limitations sections in the study;</li> <li>• Inclusion of information and suggestion for patients with</li> </ul>	<ul style="list-style-type: none"> <li>• Recent Study;</li> <li>• Practical review, very much focused in clinical practice;</li> <li>• Important and interesting</li> </ul>

with patients, clinicians should ask patients which family members they would like present and involve them.

- Discussions about goals of care and any decisions made should be clearly documented in the patient's medical record.

serious illnesses, therefore information was not specific tailored for patients with COPD.

suggestions made by the authors.