

**Online Supplement**  
**Clinical Practices Surrounding the Prescription of Home Oxygen in Patients with COPD and Desaturation**

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## Supplement 1. Interview Guide.

Preamble: Thank you for taking the time to speak to me today. I know that you reviewed the oral consent form previously and want to see if you have any questions prior to beginning the interview?

Within this interview, we are trying to understand how clinicians approach the prescription of home oxygen both for: 1. Patients with COPD who have low oxygen saturations at rest; and 2. Patients with COPD who have low oxygen saturations when walking. We will be asking you open-ended questions to help facilitate a discussion about these topics.

### Questions:

1. What is your current position?
  - a. *[if needed]* What are your main responsibilities?
2. Think about a patient with COPD whose oxygen saturation is <88% at rest. What would your recommendations and treatment plan for that patient be?
  - a. Now think about a patient with COPD whose oxygen saturation is <88% with activity. What would your recommendations and treatment plan for that patient be? (*Topic 3*)
3. Tell me about the current home oxygen therapy guidelines for adults with COPD. (*Topic 1*)
  - a. *[if needed]* How do you use these guidelines with your patients?
4. What is your impression of the evidence behind the guidelines? (*Topic 1*)
5. In your practice, how do you determine that a patient with COPD requires home oxygen? (*Topic 3*)
6. What potential risks of oxygen use do you discuss with your patients before prescribing oxygen? (*Topic 2, Topic 3*)
7. How do you discuss the benefits of oxygen use with patients prior to prescribing home oxygen? (*Topic 3*)
  - a. *[if needed]* What about for patients who desaturate only with exercise...
8. Other than risks and benefits of oxygen use, do you provide any other counseling for patients with COPD prior to initiation of home oxygen?
9. Have you ever had a patient that desaturated with exercise that you did not prescribe oxygen for? How did you discuss this with the patient? (*Topic 4*)
10. What attitudes do patients express to you regarding oxygen therapy? (*Topic 4*)
  - a). What are common questions that you hear from patients?

11. Have you ever had a patient with COPD on oxygen that you felt no longer needed it?  
(*Topic 5*)

If yes: Could you tell me about the last time that happened?

- a. How did you determine that?
- b. At what point did it come up in the appointment?
- c. Was the topic of discontinuation introduced to your patient?
- d. Who initiated the conversation?
- e. How did your patient respond when you told them it might be possible to discontinue their oxygen?
- f. What do patients like about using oxygen?
- g. What do patients dislike about using oxygen?
- h. How long was the discussion? Over one visit or multiple visits?
- i. Do you have any materials or tools you use to support the conversation?
- j. Was there any decision made?

If no: Could you tell me about the last time you talked about changing a treatment with a patient who had COPD?

Similar follow-up questions to above.

If the person describes a positive interaction above: Have you ever had a challenging clinical experience with a patient with COPD on oxygen that you felt no longer needed it?

Similar follow-up questions to above.

- k. How did patients explain their belief that oxygen helped them?

12. What things do you think might make it easier to stop oxygen in a patient who you determine no longer needs it? (*Topic 5*)

13. What things do you think might make it harder to stop oxygen in a patient who you determine no longer needs it? (*Topic 5*)

14. What information do you wish patients had prior to conversations about home oxygen use?

- a. What would help facilitate these conversations?
- b. What information have patients expressed that they want to know?

15. What are options available to treat a patient's dyspnea?

Shared decision making is an approach where patients and clinicians together decide on a course of treatment or testing, based on "clinical evidence that balances the risks and expected outcomes with patients' preferences and values."

16. How do you approach conversations with patients surrounding topics that involve shared decision making or where there is no clear best option?

- a. Can you give me an example of a time when you used shared decision making in a conversation with patients?

## Supplement 2: Codebook.

Clinician position & responsibilities

Clinical practice

- Clinical practice desaturate at rest

- Clinical practice desaturate with exertion

  - Equipment or practice used to test

  - Test not using home medical equipment

- Clinician preference for oxygen type

- Oxygen as a comfort measure

- Practices around oxygen following hospitalization

- Regarding smokers who require oxygen

- Role of DME company

- Telemedicine

- Use of multidisciplinary team in testing or obtaining oxygen for patient

Evidence

- ATS Guidelines

- Concern about methodology

- Desaturate at rest

- Desaturate with exertion

- Does not know evidence

- LOTT trial

- Medicare guidelines

- Physician states their practice is concurrent with guidelines

Patient education

- About switching inhalers

- Additional education about practicalities of oxygen beyond risks and benefits

- Benefits of oxygen therapy

  - Less benefit for people who desaturate only with exertion

- Challenges with patient education

- Dyspnea

  - Refer to pulmonary rehabilitation

Flying or altitude and oxygen therapy  
In clinic oxygen demonstration  
Information clinicians wish patients had prior to starting oxygen  
Patient questions or concerns with oxygen therapy  
Regarding oxygen delivery  
Risks of oxygen therapy  
Use of multidisciplinary team in education

#### Patient preferences

Association of needed oxygen with terminal COPD  
Compliance with home oxygen  
Cost of oxygen therapy  
In decision to change therapy  
In decision to use home oxygen  
    Cultural preference  
Insurance limits ability to get oxygen  
Patient attitudes towards oxygen  
Regarding type of oxygen prescribed  
Self-management or self-titration of oxygen

#### Shared Decision Making

Approach to a SDM conversation  
Benefit of tool for SDM use  
Does not use SDM for oxygen  
Lack of benefit to SDM tool  
Practical example of SDM  
Recommendation for a SDM tool regarding home oxygen use

### Supplement 3: COREQ Checklist<sup>15</sup>

No. item	Guide Question/Description	Considered (Yes/No)	Answer
<b>Domain 1: Research team and reflexivity</b>			
1. Interviewer	Which author conducted interviews?	Yes	Sandra Zaeh
2. Credentials	What were the researcher's credentials?	Yes	MD, MS and prior expertise with qualitative research
3. Occupation	What was their occupation at the time of the study?	Yes	Fellow in PCCM
4. Gender	Was the researcher male or female?	Yes	Female
5. Experience and training	What experience or training did the researcher have?	Yes	Master's level course work in qualitative research, training in coding and thematic analysis, interviewer for prior qualitative studies
6. Relationship established	Was a relationship established prior to study commencement?	Yes	A relationship between investigators was established before the study began.
7. Participant knowledge of the interviewer	What did the participants know about the researchers?	Yes	They knew the credentials of the researchers and the motivations for doing the study. They were informed of the study goal and the benefits and risks of participating.
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator?	Yes	The interviewer was described as a current PCCM fellow trained in qualitative research methods.
<b>Domain 2: Study Design</b>			

9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study?	Yes	Thematic analysis
10. Sampling of participants	How were participants selected?	Yes	PIs from the ACRC who expressed interest in the study were approached regarding participation.
11. Method of approach	How were participants approached?	Yes	PIs agreed to recruit additional participants.
12. Sample size	How many participants were in the study?	Yes	PIs were given information about the study during ACRC meetings and were ultimately approached via e-mail.
13. Non-participants	How many people refused to participate or dropped out?	Yes	18
14. Setting of data collection	Where was the data collected?	Yes	PIs were given information about the study during ACRC meetings and were ultimately approached via e-mail.
15. Presence of non-participants	How many people refused to participate or dropped out?	Yes	1 participant expressed interest but did not schedule their interview.
16. Description of the sample	Where was the data collected?	Yes	Interviews were conducted via videoconference interviews.
17. Interview guide	Was anyone else present besides the participants and researchers?	Yes	To maintain confidentiality, only the researcher and the study participant were present during the interview.
18. Repeat interviews	What are the important characteristics of the sample?	Yes	Please see description of the sample within the Results section.
19. Audio/visual recording	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes	Interview questions and prompts were provided to participants. The topic guide was pilot tested.
20. Field Notes	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes	Interview questions and prompts were provided to participants. The topic guide was pilot tested.
21. Duration	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes	Interview questions and prompts were provided to participants. The topic guide was pilot tested.
22. Data saturation	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Yes	Interview questions and prompts were provided to participants. The topic guide was pilot tested.

23. Transcripts returned	<p>Were repeat interviews carried out? If so, how many?</p> <p>Did the research use audio or visual recording to collect the data?</p> <p>Were field notes made during and/or after the interview?</p> <p>What was the duration of the interviews?</p> <p>Was data saturation discussed?</p> <p>Were transcripts returned to participants for comment and/or correction?</p>	<p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p>	<p>No</p> <p>The videoconferences were audio recorded.</p> <p>Interview notes were written after the interview.</p> <p>The mean length of time of the interviews was 34.4 minutes with a standard deviation of 6.05 minutes.</p> <p>It was determined that thematic saturation occurred when no new codes emerged for at least three interviews.</p> <p>Study transcripts were not returned to participants.</p>
<b>Domain 3: Analysis and Findings</b>			
24. Number of data coders	How many data coders coded the data?	Yes	Two coders.
25. Description of the coding tree	Did authors provide a description of the coding tree?	Yes	Please see the codebook provided in the supplement.
26. Derivation of themes			
27. Software	Were themes identified in advance or derived from the data?	Yes	Themes were derived from the data.
28. Participant checking	What software was used to manage the data?	Yes	NVivo was used to manage the data.
29. Quotations presented			



30. Data and findings consistent	Did participants provide feedback on the findings?	No	Participants did not provide feedback on the findings.
31. Clarity of major themes	Were participate quotations presented to illustrate the findings?	Yes	Quotations are presented throughout the manuscript and in the Tables to illustrate the findings.
32. Clarity of minor themes	Were there consistency between the data presented and the findings?	Yes	There was consistency between the data presented and the findings.
	Were major themes clearly presented in the findings?	Yes	Major themes are listed within the Results section with quotations supporting them.
	Is there a description of diverse cases or a discussion of minor themes?	Yes	Yes within the text of the results and the tables.