

Patient Perceptions of the Adequacy of Supplemental Oxygen Therapy: Results of the American Thoracic Society Nursing Assembly Oxygen Working Group Survey

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Methods:

- An online, 20-minute, 60-item, “Patient Supplemental Oxygen Survey” was developed by the ATS Nursing Assembly OWG
- Multiple survey revisions incorporated feedback from patients, professionals, and advocacy group representatives
- Study approved with waiver of consent by the Stanford University Institutional Review Board



Methods:

- Posted 9/1/16 for six weeks on ATS Public Advisory Roundtable and on multiple patient and healthcare-affiliated websites
- Analysis used descriptive statistics, paired t-tests and Chi Square. ANOVA and Sheffe post hoc analysis used to identify differences between groups



Purpose:

- To describe the frequency and types of problems experienced by adult supplemental oxygen users in the United States

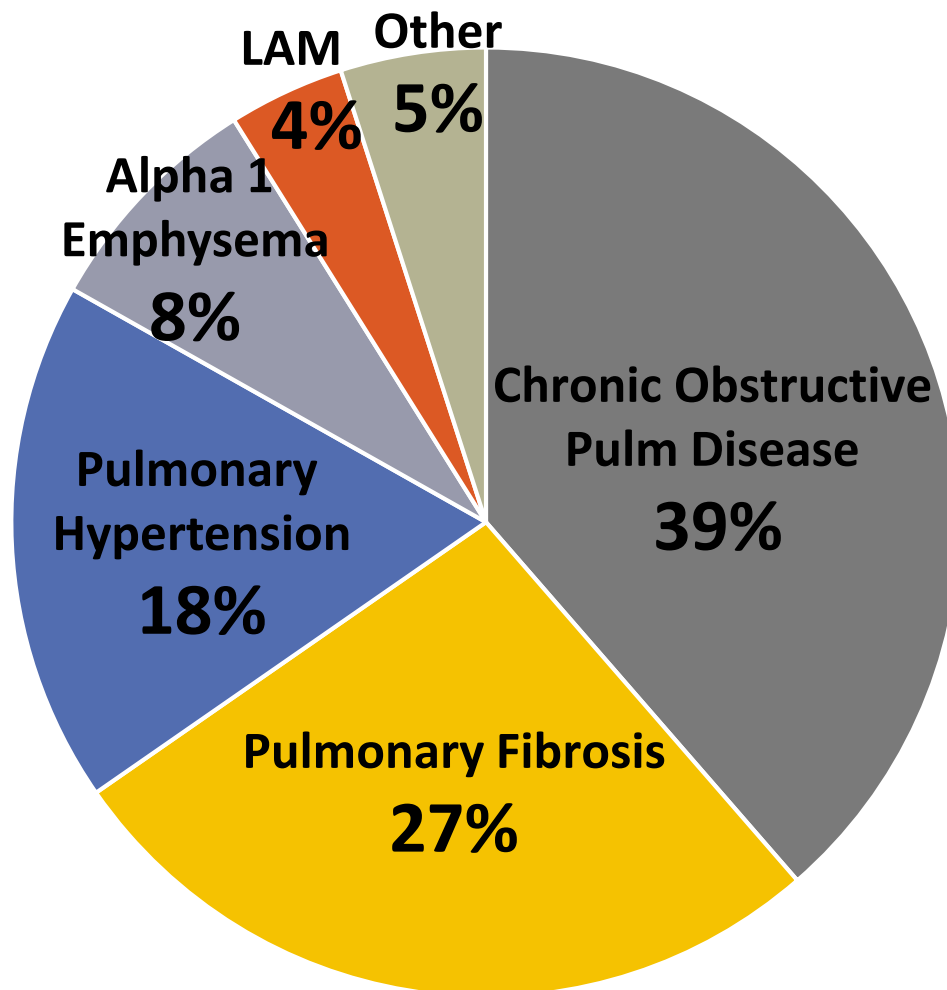


Results:

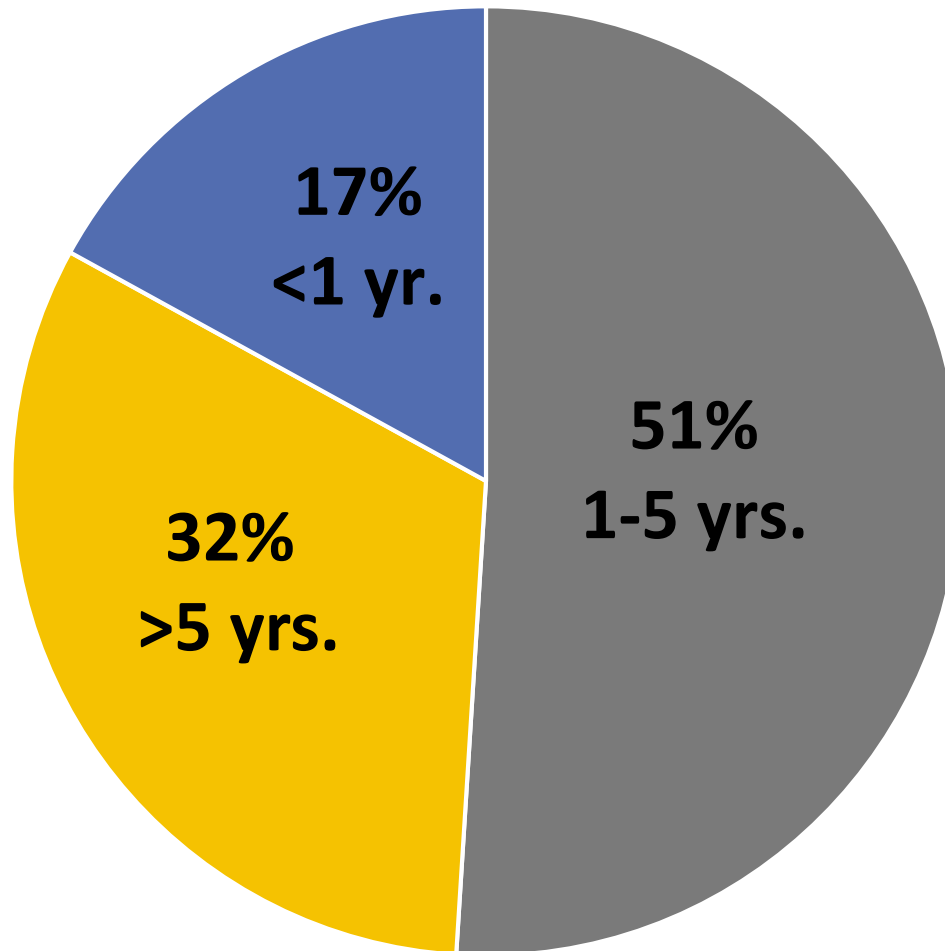
- 1926 respondents, age 64 ± 11 yrs, 72% female, representing all 50 states
- 47% Retired, 41% disabled, 8% working full time
- 51% suburban areas, 28% rural, 21% urban
- 44% lived in competitive bidding areas, 11% did not, and 45% were unsure



Results: Diagnosis



Results: Length of Oxygen Use

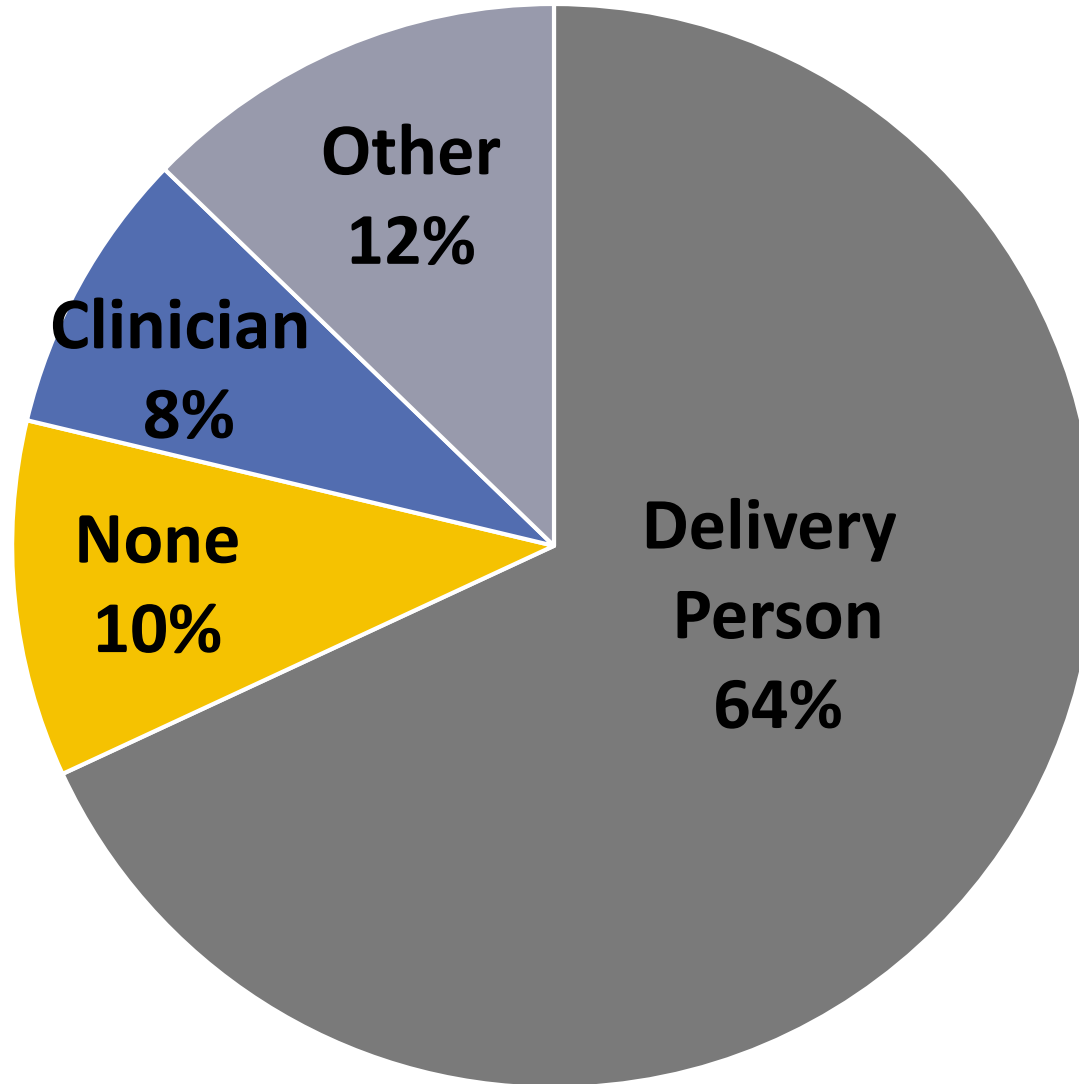


Results (cont'd):

- Oxygen Needs:
 - 60% used continuous oxygen
 - 31% used flow/settings of ≥ 5
- 63% attended Pulmonary Rehabilitation
- 65% did not have their saturations checked on equipment delivered



Results: Source of Oxygen Education



Results (cont'd):

- 51% answered “Yes” to: “Do you have any problems with your oxygen?”
- 70% were unaware of a number or person to call to file a complaint about their oxygen problems



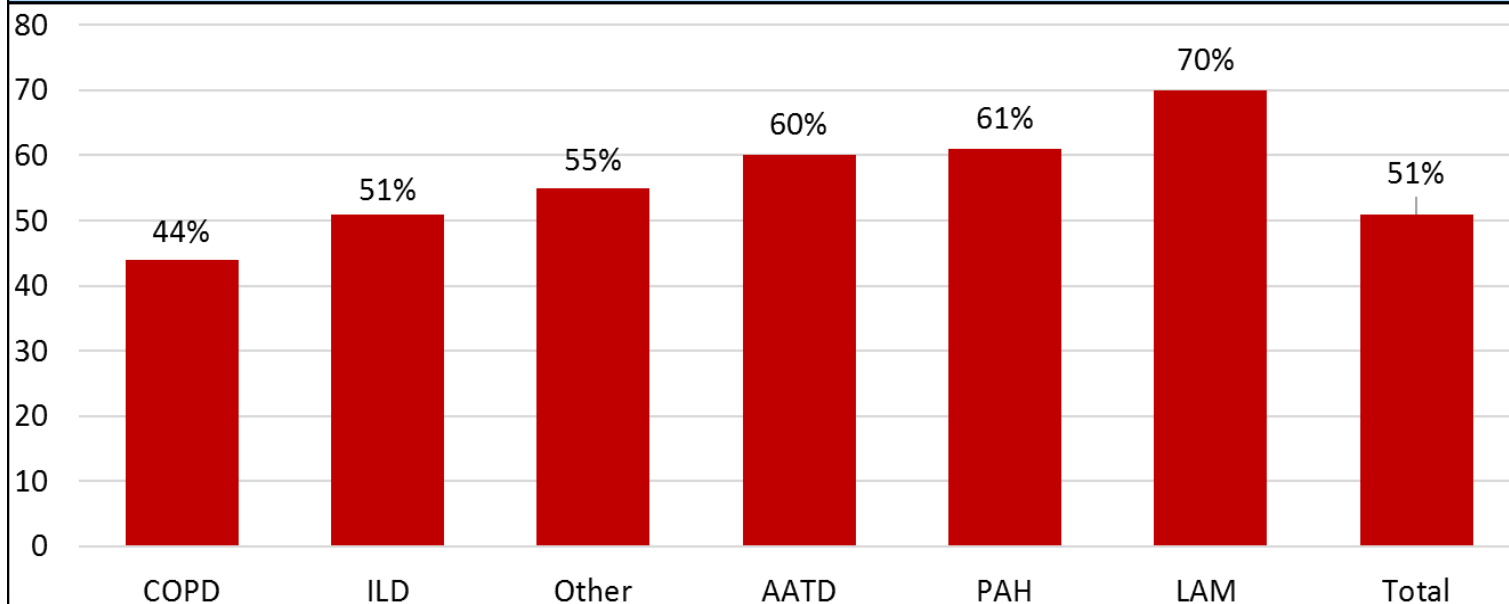
Results:

Characteristic	Total Sample,%	Reported Problems, %		
		Yes	No	P Value
Live in Competitive Bidding Area				0.016
Yes	44	55	45	
No	11	49	51	
Unsure	45	48	52	



Results:

% Respondents Reporting Oxygen Problems by Diagnosis (n=887)



(Chronic Obstructive Lung Disease)

(Pulmonary Fibrosis-lung scarring)

(Heart Prob, Infection, Transplant)

(Alpha 1 Anti-Trypsin Disease-genetic emphysema)

(Pulmonary Hypertension)

(Lymphangiomyomatosis-cystic lung disease in women)



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Jacobs SS, Lindell KO, Collins EG, et al. Patient perceptions of the adequacy of supplemental oxygen therapy: Results of the American Thoracic Society Nursing Assembly Oxygen Working Group Survey. *Ann Am Thorac Soc* 2017 Oct 19. doi: 10.1513/AnnalsATS.201703-209OC. Used by permission of the American Thoracic Society www.thoracic.org. Copyright © 2017 American Thoracic Society. <http://www.atsjournals.org/doi/abs/10.1513/AnnalsATS.201703-209OC>



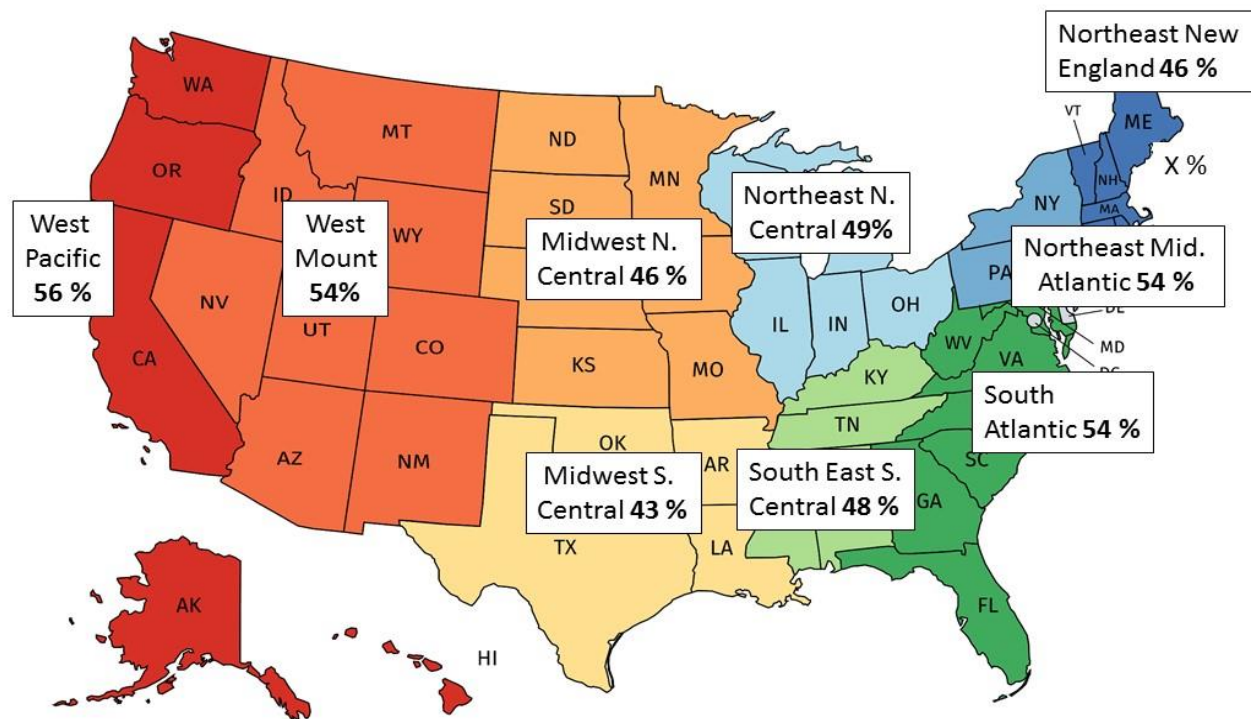
Results:

Characteristic	Total Sample,%	Reported Problems, %		
		Yes	No	P Value
Duration of oxygen use				<0.001
< 1 year	17	41	59	
1-5 years	51	51	49	
>5 years	32	57	43	
Oxygen requirement				
Continuous (24 hrs/day)	60	54	46	0.006
≥5 LPM exertion (pulse/ cont)	31	56	44	0.004



Results:

Percent of respondents by geographic region answering “YES” to having oxygen problems



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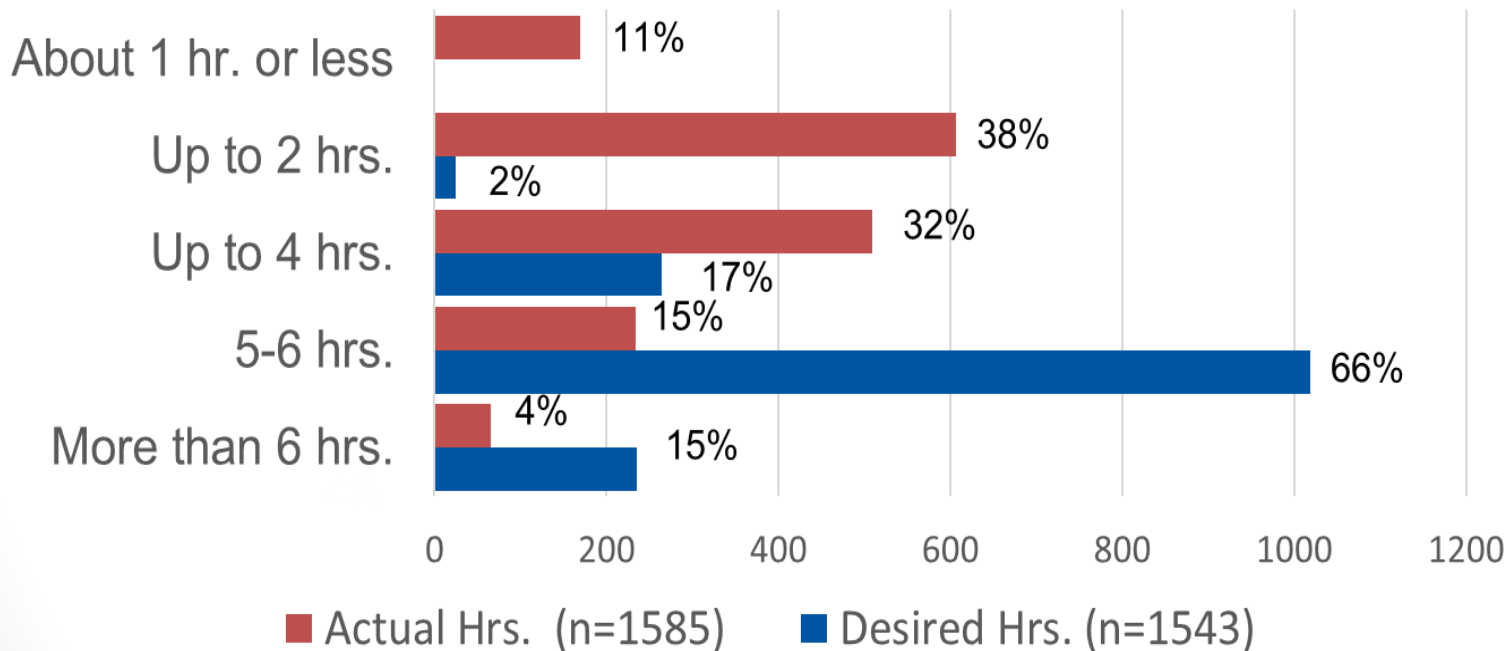
Results:

Characteristic	Total Sample,%	Reported Problems, %		
		Yes	No	P Value
Health care utilization				
Hospital admission past year	29	57	43	0.005
Emergency Room visit past yr.	34	56	44	0.006
Education				
Attended pulmonary rehab	63	53	47	0.165
Education re home oxygen				<0.001
Oxygen delivery personnel	64	51	49	
Healthcare personnel	8	43	57	
None	10	64	36	



Results:

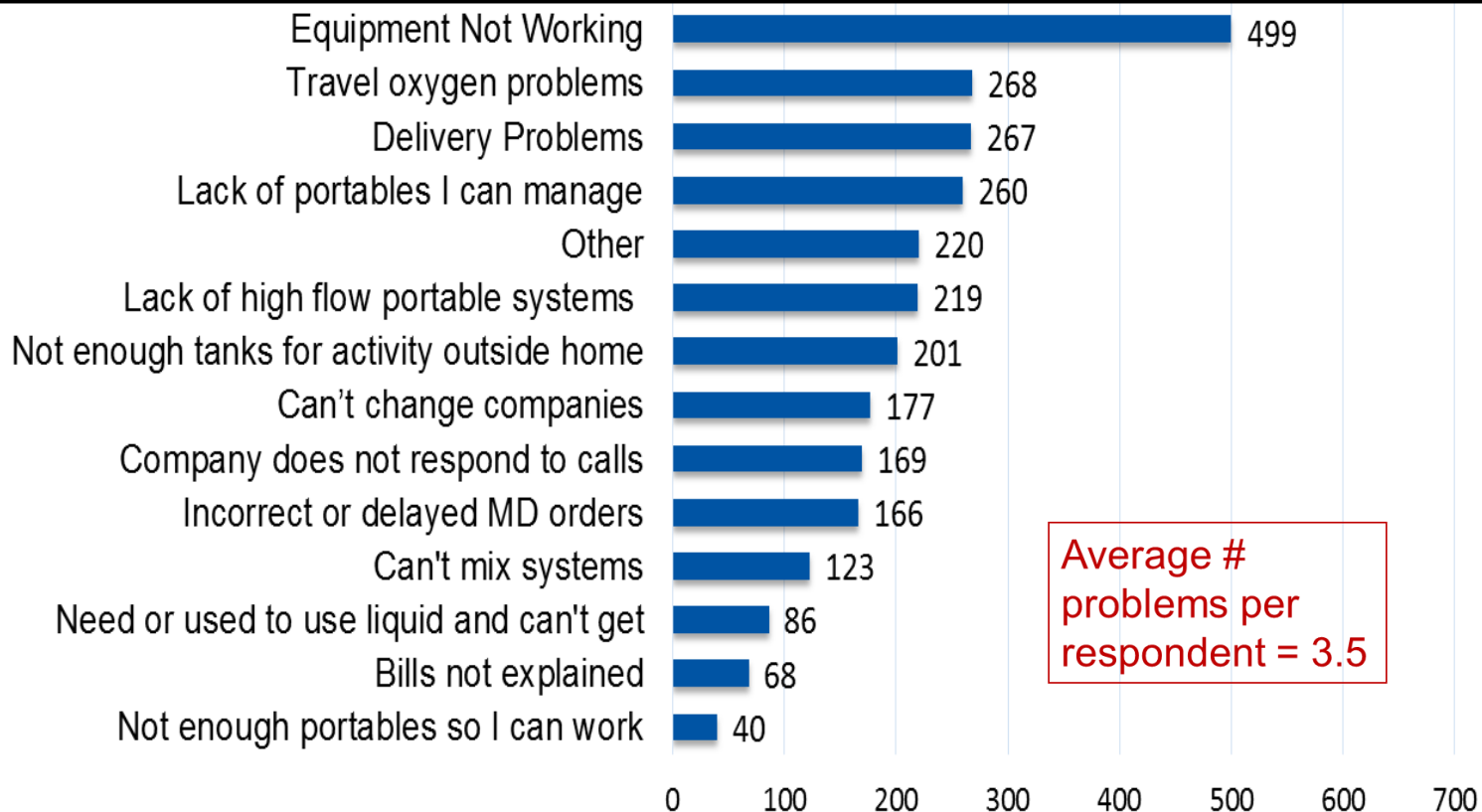
Actual vs Desired Hours That Portable Oxygen Lasts



Results:

What types of oxygen problems do you have? (n=899)

(Able to select more than one choice)



Average #
problems per
respondent = 3.5



Results:

Characteristic	COPD n (%)	ILD n (%)	PAH n (%)	AATD n (%)	LAM n (%)	
Home oxygen educ						0.696
Oxygen deliverer	463 (64)	310 (63)	219 (67)	86 (60)	40 (60)	
Healthcare prof.	56 (8)	36 (8)	29 (9)	10 (7)	3 (4)	
None	76 (10)	55 (11)	26 (8)	18 (12)	6 (9)	
Other	129 (18)	89 (18)	53 (16)	30 (21)	18 (27)	
System limits activ.						0.430
Not at all	92 (14)	56 (13)	42 (15)	16 (12)	8 (13)	
Sometimes	237 (37)	165 (38)	122 (45)	53 (39)	30 (48)	
Frequently	166 (26)	112 (26)	49 (18)	37 (27)	15 (24)	
All the time	149 (23)	105 (24)	59 (22)	29 (22)	9 (15)	



Qualitative Results:

The last question asked “Is there anything else you would like us to know? 745 respondents answered

- “Not being able to change oxygen suppliers, not being able to get a POC with the company I have, having all sorts of problems with the supplier for the past 2 years and being stuck with them. My life is just existence at home right now, with no hope of change for at least 3 yrs. and I hate it.”
- “While we were trying to find a way for me to return to work, we kept calling (DME) to explain what we needed. They told me I would need to carry two 1 hour cylinders with me daily, which each took 10 hours to fill, along with another two or three 4 hour cylinders. Then I would need to stop by their office EACH day to refill the cylinders. Impossible with a full time job.”
- “Because of the limits of my current oxygen, I am mostly homebound. The oxygen available to me is too heavy to carry or too bulky to wheel, so an outing is more trouble than it’s worth.”



Discussion:

1. These findings document persistent and nationwide problems for patients who use supplemental oxygen. Similar problems were found in all regions of the U.S. and across all disease types. This data stands in stark contrast to CMS's position that they only received 2-3 complaint regarding supplemental oxygen per month.
2. Experiencing problems with oxygen was associated with greater use of health care resources (ER visits and hospital admissions)



Discussion (cont'd):

3. Respondents' number of hours outside the home was limited by lack of access to functioning, physically manageable, high flow, portable oxygen systems
4. Completing Pulmonary Rehabilitation made no difference in experiencing oxygen problems highlighting the issue of equipment, service, and reimbursement that are not mitigated by education



Limitations:

1. Survey accessible online only
2. Only available in English
3. 63% of this cohort attended Pulmonary Rehabilitation programs, which is significantly higher than that of the general population.



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Thank you

