

## Lung Foundation Australia 2022 Pulmonary Rehabilitation Survey

### Background

In 2022, through consultations with state representatives of the national PR Network, a survey was developed and sent to the 320 PR Services that are registered on the LFA database. The total number of programs that provided a complete response to the survey was 169 (52% response rate). The purpose of this national survey was to gather data on the various delivery modes, referral criteria and other relevant details including Covid impact. The survey was completed online, and the survey can be viewed in Appendix 1. LFA would like to thank all programs that took the time to respond to our questions. We would welcome any feedback that would assist us to refine our approach and make continual improvements.

### Pulmonary Rehabilitation

Pulmonary rehabilitation (PR) is a highly effective evidence-based intervention for people with chronic respiratory disease. Pulmonary rehabilitation programs have been shown to help people breathe easier, improve their quality of life and stay out of hospital.

PR is one of the most evidence-based interventions for people living with chronic respiratory disease. A Cochrane review [1] identified that PR reduces hospital admissions and average length of stay. NHMRC Level I & II [2], evidence support the following benefits of PR:

- Reduces hospital admissions and length of stay
- Reduces re-admissions post exacerbation
- Reduces mortality
- Increases quality of life and functional exercise capacity
- Improves symptoms of anxiety and depression

After completing PR many patients find that they have better health outcomes and can resume activities that they had previously given up. In Australia, there is currently a patient population of approximately 750,000 who would benefit from PR. Based on findings in Australian lung disease prevalence study [3], Lung Foundation Australia (LFA) estimates the current number of programs available only service approximately 5% of these patients.

The Covid outbreak in 2020 had a significant impact on Pulmonary Rehabilitation. Given the highly vulnerable nature of participants, many services were forced to temporarily shut down or move to an online format as a contingency measure. As a result, many services now have longer wait lists and patients' conditions have often become more complex with comorbidities by the time they are seen. It should be noted that the results from this survey will reflect this disruption to services.

## Program Assessment Metrics

### Functional exercise testing

Multiple responses were allowed

Exercise Capacity	Total	%
1 Minute Sit-to-stand (1minSTS) Test	42	25
The Six-Minute Walk Test (6MWT)	151	89
5STS Sit to Stand Test	51	30
The Incremental Shuttle Walk Test (ISWT)	1	<1
The Endurance Shuttle Walk Test (ESWT)	0	0
Other	16	9

Other:
30 sec sit to stand
Number of Bicep curls in 1 min
TUG, SPPB, 30s STS depending on functionality
Step up test, push up test
Timed Up & Go & ten Metre test
Bike Test, Chester Step Test
GST
Arm Curl Test
10 MWT

### Quality of Life (QoL) questionnaires used by programs

QoL	Total	%
St George's Respiratory Questionnaire (SGRQ)	63	37
Medical Outcomes Study Short Form 36 (MOS SF 36)	5	3
No response	55	33
Other (please specify)	46	27

Other:
CAT COPD
Promis 29 (mandatory in NSW)
PHQ9
AQOL-4D
Chronic disease self efficacy assessment by Jenkins
SF-36
Hyland and Bott Breathing problems questionnaire
CRDQ
Flinder's Partners In Health
COPD Assessment Test
EQ-5D-5L Questionnaire
Patient Specific Functional Scale
SNAPPS- health behaviours and wellbeing measure- made during predecessor's PHD (Dr Cameron-Tucker), stands for Smoking, Nutrition, Alcohol, Physical Activity, Psychosocial, Symptom Management.
HAD's

## Health Measure

	Total	%
CAT	102	60
No response	48	28
Other	19	11

Other:
MRC
MMRC
ACT (Asthma), Leicester Cough Questionnaire (when appropriate)
PROMIS-29
Asthma Control Test
PGSGA
COPD PREM9

## Depression and Anxiety

	Total	%
HADS	53	31
DAS21	24	14
Promise 29	13	8
PHQ9	10	6
Other	48	28
No response	21	12

Other:
Presence of anxiety/depression is asked during assessment and referrals made as appropriate.
GAD-7
CRDQ
Kessler-10
Patient health questionnaire - 9 (PHQ-9)
Anxiety component in Hyland and Bott questionnaire
Subjective assessment and subsequent referral to our student-led psychology clinic as appropriate.
PhQ2
PHQ4
Hospital Anxiety and Depression scale.

## Breathlessness

Multiple responses were allowed

Test	Total	%
MMRC Dyspnea scale	72	43
Borg breathlessness	133	79

## Program Delivery Mode and Inclusions

### Health Professionals Involved

Multiple responses were allowed

	Total Count	%
Physiotherapist	149	87
Nurse	106	62
Allied Health Assistant	87	51
Dietitian	73	42
Occupational Therapist	71	41
Other	56	33
Exercise Physiologist	56	33
Psychologist	27	16
Fitness Instructor/Personal Trainer	5	3

### Referral Types Accepted

Multiple responses were allowed

Referral	Total	%
GP	146	84
Specialist	88	51
Self Referral	80	46
Other	103	60

### Education Offered

Multiple responses were allowed

Education	Total	%
Physical exercise	146	84
Information on diseases (e.g. what the lungs do)	143	83
Coping with chronic lung disease and management of depression, anxiety and panic attacks	131	76
The role and correct use of medications	129	75
Nutrition / healthy eating	124	72
Other	79	46

## Program Location

Multiple responses were allowed

Program Location	Total	%
Hospital outpatient/community health program	151	89
Other	67	39
Home program/telehealth	40	23
Virtual/online service	26	15
Non hospital/community health location ie community hall, gym	12	7
Private practice	10	6
Water-based	7	4

## Staff to Patient Ratio

81 responses to this question

Staff	Patients	%
1	4	43
1	5	19
1	8	10
2	8	7
1	10	4
2	10	4
1	3	2
2	4	2
2	12	2
1	6	2
1	7	1
3	10	1
3	15	1

## Conditions Accepted

Conditions	%
All conditions accepted	89%
All conditions except Lung Cancer	4%
Other	8%

## Cost

	Total	%
No cost	132	78
Health fund dependent	8	5
Under \$10	20	12
\$10 - \$50	5	3
Over \$50	1	<1
Other	3	2

## Program Data Management

	Total	%
Excel Spreadsheet	89	53
Special Software	8	5
MARS Process	12	7
CHOC	15	9
None	17	10
Other	28	16

## Program Format

	Total	%
Block	40	24
Rolling	121	71
Other	8	5

## Follow on Referrals

Multiple responses were allowed

	Total	%
Lungs in Action	55	33
Other Miantenance Class	49	29
Community Exercise Class or Gym	91	54
Smoking Cessation (If required)	116	68
Support Group	29	17

## Covid Impact

Has your program location/type changed as a result of Covid?

	Total	%
Yes	93	55
No	76	45

Does your service support patients who have been in hospital due to Covid?

	%
Yes	69
No / Other	29

Does your service support patients who have Long Covid?

	%
Yes	59
No / Other	41



## Glossary

6MWT – Six minute walk test

AQOL - Assessment of Quality of Life

BODE – Body-mass index, airflow Obstruction, Dyspnoea, and Exercise

BSQ – Body sensation questionnaire

CAT – COPD assessment tool

CRDQ – Chronic respiratory disease questionnaire

DASS – Depression anxiety stress scales

HADS – Hospital anxiety and depression scale

H.E.I.Q- Health Education Impact Questionnaire

Hyland & Bott – Breathing problems questionnaire

GAD – Generalised anxiety disorder questionnaire

GST- Grocery stacking test

ISWT- Incremental shuttle walk test

K10 – Kessler psychological stress scale

MLHFQ - Minnesota Living with Heart Failure Questionnaire

MOS SF 36 – Medical outcomes survey short form 36

MRC – Medical research council dyspnoea scale

PHQ 2 – Patient Health Questionnaire 2

PHQ 7 – Refers to generalised anxiety disorder questionnaire (GAD-7)

PHQ 9 – Patient Health Questionnaire 9

PR – Pulmonary rehabilitation

PROM – Patient reported outcome measure

QOL – Quality of Life

SGRQ – St George respiratory questionnaire

SOLDQ - Seattle Obstruction Lung Disease Question

## Appendix 1: 2022 PR Survey Questions

### Your Program Details

\* 1. Please provide the name and address of your program

Program department

or building (if applicable)

Company (Hospital, community program, etc)

Street Address

Suburb

State

Postcode

2. Is your program currently listed on the Lung Foundation Australia web site directory?

- Yes  
 No  
 Not sure

3. If no, would you like us to add your program to the Lung Foundation Australia web site directory?

- Yes  
 No  
 Other (please specify)

4. If you already have a listing, does any of your program detail need updating on the Lung Foundation Australia web site directory?

- Yes  
 No  
 Not sure  
 If yes, what needs to be updated

**5. Program location setting (select all that apply)**

- Hospital in-patient
- Hospital outpatient/community health program
- Non hospital/community health location ie community hall, gym
- Home program/telehealth
- Water-based
- Private practice
- Virtual/online service
- Other (please specify)

**6. Has your program location/type changed as a result of the COVID-19 pandemic?**

eg you now permanently offer virtual or home based services in addition to centre-based services?

- Yes
- No
- Not sure

If yes, please let us know how

**\* 7. Please provide the primary contact name and position title (Eg. John Smith, Senior Physiotherapist)**

**\* 8. Please provide the contact phone number for the program**

**\* 9. Please provide the contact email address for the program**

**\* 10. What are the usual days and times the classes run at?**

**11. How many times per week are patients expected to attend?**

\* 12. Is it a rolling program or a block program?

- Block
- Rolling
- Other (please specify)

13. If it is a block program how long are the blocks and how many per year?

\* 14. How much do you charge per session?

eg no cost, \$10 per session or \$110 per term

15. What type of health professionals are involved in your program? (please tick all that apply)

- Physiotherapist
- Nurse
- Exercise Physiologist
- Occupational Therapist
- Psychologist
- Allied Health Assistant
- Dietitian
- Fitness Instructor/Personal Trainer
- Other (please specify)

16. Does your program have staff to patient ratio limits for exercise training?

- Yes
- No
- If yes please specify

17. Approximately how many patients did your program assist in 2021?

18. What equipment does your program use for exercise?

eg theraband, weights, treadmill

19. Do you feel that your program meets the need of the area? If resources were available, would an increase in provision either by your program or another service be justified?

## Referrals

20. How do you accept referrals to the program?

- GP
- Specialist only
- Self referral
- Other (please specify)

21. Do you accept referrals for all lung conditions and/or lung cancer?

22. Do you accept re referral for someone who has completed a program in the last year (from a GP as well as a hospital?)

23. Do you have any other comments to make on the referral process?

24. Do you refer to any of the following maintenance programs after completion of the pulmonary rehabilitation course? (select all that apply)

- Lungs In Action
- Maintenance program that follows on from Pulmonary Rehabilitation at same centre
- Community Classes (eg. gym classes)
- None available in area
- Other (please specify)

25. Do you feel there is a need to establish a maintenance program in your area? Please provide details and any recommendations for the maintenance programs (If applicable)

26. Does your program refer to smoking cessation programs?

27. Do you refer to any patient support groups in the area?

- Yes (Please enter the name of the support group in the text box below)
- No - there is no support group available in area
- No - the support group available isn't suitable in this area
- No - I don't have the details of the support group in my area
- Name of support group

28. Does your service support patients who have been in hospital due to Covid?

- Yes
- No

Other (please specify)

29. Does your service support patients who have Long Covid?

- Yes
- No

Other (please specify)

## Patient Assessments

30. Do you do a functional exercise test?

- 1 Minute Sit-to-stand (1minSTS) Test
- 5STS Sit to Stand Test
- The Six-Minute Walk Test (6MWT)
- The Incremental Shuttle Walk Test (ISWT)
- The Endurance Shuttle Walk Test (ESWT)
- Other (please specify)

31. Do you test for Quality of life, and if so, which metrics does your program predominately use?

- Chronic Respiratory Disease Questionnaire (CRDQ or CRQ)
- St George's Respiratory Questionnaire (SGRQ)
- Medical Outcomes Study Short Form 36 (MOS SF 36)
- Other (please specify)

32. Do you do a health status measure eg CAT? If yes, please specify

33. Do you assess for depression and anxiety, and if so, which assessment does your program predominately use?

- HADS
- DASS-21
- Other (please specify)

34. Do you test for breathlessness, and if so, which metrics does your program predominately use?

- MMRC Dyspnea scale
- Borg breathlessness
- Dyspnea 12 TDI
- Other (please specify)

35. Do you collect program data, and if so, how is the data collected? (Please select all that apply)

- Excel Spreadsheet
- Special Software
- MARS Process
- CHOC
- None
- Other (please specify)



## Patient Education

36. Do you offer any patient education as part of your service?

- Yes
- No
- Other (please specify)

37. What type of education does your program offer?

- Nutrition / healthy eating
- The role and correct use of medications
- Physical exercise
- Information on diseases (e.g. what the lungs do)
- Coping with chronic lung disease and management of depression, anxiety and panic attacks
- Other (please specify)

38. Which education topics are most commonly sought after?

eg nutrition-focused education, condition management, breathing techniques / managing breathlessness, medication etc etc

39. Are you a member of the Lung Foundation [Australia Pulmonary Rehabilitation Network](#)?

- Yes
- No
- Other (please specify)

40. If you are not a member of the Pulmonary Rehabilitation Network, would you like to join?

- Yes
- No
- Please enter your contact email if you wish to join the network

**41. If a national PR registry was developed, would you be willing to share your program data?**

- Yes
- No
- Other (please specify)

**42. Which Lung Foundation Australia patient resources do you utilise?**

- Better Living with COPD, A Patient Guide
- C.O.P.E
- Better Living with Exercise
- Other (please specify)

**43. Please let us know if you have any comments, suggestions or other queries for Lung Foundation Australia about Pulmonary Rehabilitation or other matters.**

## References

1. 1. Cochrane Database Syst Rev.2016Dec 8;(10):CD005305. doi: 0.1002/14651858.CD005305.pub4. Pulmonary rehabilitation following exacerbations of chronic obstructive pulmonary disease  
<https://www.ncbi.nlm.nih.gov/pubmed/27930803>
2. O'Donnell DE, Bourbeau J, Hernandez P, Marciniuk DD, BalterM, et al. Canadian Thoracic Society recommendations for management of chronic obstructive pulmonary disease –2007 update. Canadian Respiratory Journal 2007;14(Suppl B):5B-32B.
3. Toelle B, Xuan W, Bird T, Abramson M, Atkinson D, Burton D, James A, Jenkins C, Johns D, Maguire G, Musk A, Walters E, Wood-Baker R, Hunter M, Graham B, Southwell P, Vollmer W, Buist A, Marks G. Respiratory symptoms and illness in older Australians: The Burden of Obstructive Lung Disease (BOLD) study. Med J Aust 2013;198:144-148