| Supplementary Table: Generated themes and sub-themes from the survey's free text comments (expanded table) | |
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| Theme | Sub-theme(s) |
| A collaborative effort for rehabilitation development To develop this model of rehab a collaborative effort is needed from experts within the field and around the world. We can learn from international findings, current models of rehab and the specialists that deliver them. The following staff were identified as important for the development of this new model of rehabilitation: pulmonary/cardiac/neurological rehabilitation teams, dieticians, psychologists, respiratory consultants, respiratory and muscular skeletal physiotherapists, nurses, occupational therapists, speech and language therapists. "I feel an effective service can only be designed if all specialists within the MDT are part of the development stage: physio, OT, dietitian, nurse, SLT, psychologist and any other relevant member, by contacting their professional associations directly." | Clear guidance for COVID-19 management There is an identified need for clear guidance and protocols for COVID-19 management, including COVID-19 rehabilitation. "I would love to see a nationally agreed follow-up programme rather than being trust specific as this would lead to huge variation." |
| | A campaign to promote COVID-19 rehabilitation It is important to raise awareness of the COVID-19 rehabilitation service across population (service providers, referrers, patients/carers). There are suggestions to advertise it as a health promotion programme to normalise it as part of recovery on TV, radio etc. "And/or big public health campaign to ensure people are aware about rehabilitation." |
| Continued learning from COVID-19 for service development It will be important to collate data for the development of the COVID-19 rehabilitation service, its evaluation and research into overall COVID-19 management. This theme acknowledges the iterative process of refining the rehabilitation service as new information comes to light and how this will inform future pandemics. "I think we need to understand the demographics of covid survivors, as service planning for post-covid rehab without understanding transport availability, digital literacy, ongoing psychosocial / PTSD related issues, usual working status amongst other things could result in significant oversights of what these patients are able to, and want to, engage with." | |
| COVID-19 patient management Overall patient management in COVID-19 recovery; including recommendations for inpatient and outpatient care. | Managing the acute phase Recommendations for inpatient care; including assessment of physical and psychological wellbeing to inform personalised follow up care plans, and upon discharge, the provision of a discharge bundle of assessments and advice/documentation about self-management and support for carers/family. "I think thorough assessment will highlight those patients requiring specific intervention and early treatment will minimise long term problems." "I feel patients would benefit from clear discharge booklet that explains what COVID 19 is and what to expect symptom wise for patients and families. When to contact doctor and some management advise like breathing exercises and strengthening exercises." Early phase of recovery Recommendations for continued outpatient follow up; including physical/psychological assessment, individualised advice on symptom management and/or referral to specialist services for additional support (e.g. rehabilitation, IAPT, peer support etc.) "Nutrition intervention important esp if underlying conditions prior to covid19/elderly/frail." |

Methods of rehabilitation delivery

This theme encompasses the recommendations for how rehabilitation should be delivered and when. It is felt this is an opportunity to develop upon telerehabilitation and early rehab/prehab services, including adaptations and flexibility when measuring pre and post rehabilitation outcomes.

"The 'Aftershock' isn't necessarily immediate. You can experience the euphoria of having cheated death, which may go on for some weeks/months. However, when reality hits, it can hit hard, literally overnight. Some warning that it could happen and somewhere to turn to is very important, be it professional or peer support. Long term support, the recognition that PTSD or at least anxiety/depression is a very likely outcome, is I think essential."

Flexibility in assessment

Recognising the inability to perform face to face consultations so adaptations to assessments are needed. Many psychometric measures can be delivered via telephone/video calls/online and alternative measures of exercise capacity can be done at home (e.g. grip strength, timed up and go, sit to stand etc.)

"Currently planning to use grip strength, 30s sit to stand, and probably repeated timed up and go (x5 or x10) as measures of function and outcome, as doing any sort of corridor walk test (6WT, ISWT or ESWT) not going to be practical, limited equipment to do cycle ergometry, and patient group too poor re: balance to do step tests."

Early/delayed rehabilitation

There is debate about whether rehabilitation should be delivered early/later during a patient's recovery. Some respondents felt inpatient rehabilitation was appropriate, whereas others felt this would be too early for a patient's lungs and/or psychological status to have prepared for rehabilitation.

"...acute rehabilitation phase prior to people leaving hospital. Intensive inpatient rehabilitation supports discharge, and improved outcomes of people requiring subacute rehabilitation and community rehabilitation."

"Thus far it seems that people need time to recover from the acute effects before starting more of a resp rehab programme."

Group-based rehabilitation

Safety issues inhibit group-based rehabilitation as an option currently, however there is the option for virtual group sessions, or the delivery of these once social distancing measures have relaxed. These are important for social support, especially when people are feeling isolated and alone in their recovery.

"I consider face to face and group support essential not only for fitness but to manage the psychological impact of this illness."

Referral and re-referral

The ability for anyone to refer to rehabilitation (e.g. self-referral and re-referral as per patient request). This needs to be a simple process which is widely known.

"Ensure pathway for referral is documented is essential as some of these clients will go home and be ok initially but 6 plus months down the track will not be back at baseline and require pulmonary rehab."

Telerehabilitation

This is a popular and viable option for home-rehabilitation. This circumstance offers an opportunity to grow home-based rehabilitation services.

Supplemental material

| | "programmes could be run online BUT need to ensure there is a supervised element and that access to, willingness to use and actual use are measured." |
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| | Personalised rehabilitation The need for patient-centred rehabilitation and not a one size fits all approach. There may be an opportunity to develop a multi-module rehabilitation service where modules can be selected if they are important to the patient's needs. "I feel that post COVID-19 support needs to be person-centred and tailored to the individual. All the components listed are important but some may be more relevant for some people than others. In order not to overwhelm survivors, undertake unnecessary assessment/interventions and make best use of resources, a specific and MDT recovery plan made in partnership with the person is key." |
| Components for COVID-19 rehabilitation The components highlighted as important to a COVID-19 rehabilitation model. | Take guidance from established rehabilitation models We should look to use/adapt/learn from current models of rehabilitation and/or holistic care services. Suggestions include pulmonary/cardiac/neurological/palliative/post-intensive care rehabilitation, psychological support (e.g. IAPT, CBT), occupational therapy, music therapy, yoga/tai chi, speech & language therapy, community gyms, pastoral support, acupuncture, hydrotherapy. "I feel that we have enough resources to sign post and or refer on as necessary, ie Cardiac and pulmonary mental health, SOHAS etc." |
| | "Yes - feel strongly pts will struggle with post COVID standard exercise prog. For example look at problems recruiting to post AECOPD PR. Feel should be replaced by physical activity prog plus something like yoga / tai chi or similar. If we disproportionately focus on the exercise - like we do in standard PR - only most motivated pts will complete and they will probably be the ones who would have gone away and exercised anyway." |
| | Education, exercise and social support Proposed components for the new rehabilitation model, separated by education, exercise and social support: 1. Education for self-management with topics to include: cough, sputum clearance, breathlessness, fatigue, frailty, pain, psych wellbeing, behaviour change, impact of comorbidities, energy conservation, falls, improving function for daily activities, nutrition, inhaler technique, signposting, skin integrity, swallowing and voice care |
| | Exercises (physical/psychological): - cognitive function, exercise programme, inspiratory muscle training, neurorehabilitation Social support: - caregiver support, guidance in line with government recommendations, group activities to facilitate peer engagement |
| A team of specialist COVID-19 rehabilitation staff The need for an interdisciplinary team to deliver rehabilitation. They need to have been trained appropriately/have specialist skills for this patient population. | Keep our staff physically safe The need to maintain the physical health of staff who deliver rehabilitation (e.g. COVID-19 testing for staff and patients, appropriate supply of PPE). |

| We will need a "trained and expert team in rehabilitation medicine" | "Please make sure staff who work in any settings have appropriate PPE for doing any face to face consultations with patients." |
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| | Keep our staff psychologically safe |
| | The monitoring of staff psychological wellbeing and the provision of psychological support to support their mental health. |
| | "We should also, and I feel this very strongly indeed, should be assessed ourselves for signs of any signs of distress or psychological trauma, and rapidly be offered help and support to |
| | allow us, the members of the society, to survive this experience in ways which allow us to heal as individuals, and grow as clinicians." |
| The reassurance of financial support | near as marviadais, and grow as clinicians. |
| Recognition of the financial input and service support needed to develop, deliver and | |
| sustain this programme. It will need considerable financial engagement to ensure it can be | |
| rolled out nationally/internationally. | |
| "The reality of available funding and staffing post covid19 pandemic should be taken into | |
| account when creating rehabilitation programs for patients. Most services were stretched | |
| prior to the outbreak and will struggle afterwards to deliver comprehensive services for | |
| patients who are being discharged." | |