

# Why the biopsychosocial model needs to be the underpinning philosophy in rehabilitation pathways for patients recovering from COVID-19

Thomas W Wainwright <sup>1,2</sup>, Matthew Low<sup>1,2</sup>

**To cite:** Wainwright TW, Low M. Why the biopsychosocial model needs to be the underpinning philosophy in rehabilitation pathways for patients recovering from COVID-19. *Integrated Healthcare Journal* 2020;2:e000043. doi:10.1136/ihj-2020-000043

Received 21 April 2020  
Accepted 04 August 2020



© Author(s) (or their employer(s)) 2020. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

<sup>1</sup>Orthopaedic Research Institute, Bournemouth University, Bournemouth, UK

<sup>2</sup>Physiotherapy Department, Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust, Bournemouth, UK

## Correspondence to

Mr Thomas W Wainwright;  
twainwright@bournemouth.ac.uk

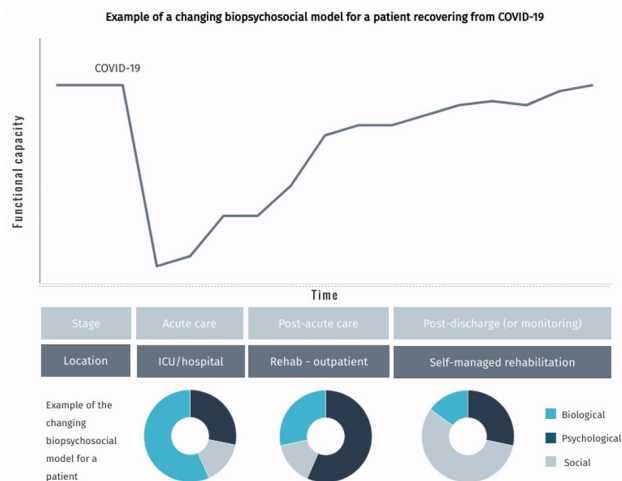
New post-acute care rehabilitation pathways will be required to treat patients following the COVID-19 pandemic. The rehabilitation needs of patients with COVID-19 will be complex. Initially, medical treatment and physical rehabilitation will be needed, but in the longer term, patients may also require psychological and social support. The biopsychosocial (BPS) model is therefore proposed as the theoretical framework to underpin the planning and implementation of COVID-19 rehabilitation pathways. The BPS model is dynamic and attempts to recognise the complex interactions between biological, psychological and social constructs of illness. It is argued that the BPS can be used to coordinate new models of rehabilitation across the health and social care systems. The need for multidisciplinary workforces to collaborate across disciplines and systems is emphasised, along with the recognised challenges to coordinate such an approach when demand for services will be high. The integration of self-management approaches to underpin the BPS is suggested, whereby patients are encouraged to manage the later stages of their rehabilitation independently. Following COVID-19 illness, it will be difficult to separate the person and their personal circumstances from COVID-19, and to regard physical, psychological and social factors as independent entities. Therefore, it is proposed that the BPS model should be the philosophy of care to underpin rehabilitation pathways for patients with COVID-19.

As our acute health service responds to the COVID-19 pandemic, post-acute services are starting to plan rehabilitation pathways. It is acknowledged that new rehabilitation models will be required.<sup>1</sup> This is especially relevant because capacity will be stretched, and there is limited evidence to support current

rehabilitation models for patients post intensive care<sup>2</sup> and pathways are often poorly coordinated.<sup>3</sup> While the rehabilitation needs of patients with COVID-19 may be similar, they will also be complex. Initially, medical treatment and physical rehabilitation will be needed to achieve discharge from hospital. Following discharge, this will continue, but in the longer term, patients may also require psychological and social support to return to normal life. We therefore propose that the biopsychosocial (BPS) model should be used in the planning and implementation of COVID-19 rehabilitation pathways.

As patients with COVID-19 recover, their rehabilitation needs will require interventions that make explicit the central tenets of the BPS model proposed by Engel 40 years ago.<sup>4</sup> The BPS model is an attempt at unifying a philosophy of care with an underlying scientific rationale while at the same time acting as a clinical guide for healthcare practitioners. By moving beyond a narrow biomedical perspective, the BPS model attempts to recognise the complex interactions between biological, psychological and social constructs. The BPS model has been praised by some for its movement beyond the biomedical model<sup>5</sup>; however, it is criticised by others for its lack of coherence, clarity and content.<sup>6</sup> The BPS model has often been interpreted so that each of the aspects are seen to be 'more or less equally, relevant, in all cases, at all times'.<sup>7</sup> However, this misinterpretation does allow for how the BPS model can evolve, change and adapt to the needs of the individual patient at any given time. The nature and impact of the COVID-19 pandemic will demonstrate how the domains of the BPS are dynamic through a patient's recovery<sup>8</sup> (figure 1).

In the acute stage, the focus will be biomedical, with interventions such as ventilation, medication and other acute medical therapies and



**Figure 1** Example of a changing biopsychosocial model for a patient recovering from COVID-19. ICU, intensive care unit.

diagnostic tests. This is essential and is currently being delivered by expert multidisciplinary teams. However, as patients recover, the emphasis of need within their rehabilitation will shift from the biomedical and physical, to psychological,<sup>9</sup> social and economic influences.<sup>10</sup> Crucially, the effects at a personal and societal level will mean that as we move past this pandemic stage, and society returns to ‘normal’, we must acknowledge that the world for many will not be the same again. This unique circumstance will provide the conditions where the BPS model will be needed, if we are to appropriately manage the widespread effects of the COVID-19 virus.

The organisational and structural changes needed, and the type of interventions required within rehabilitation services for COVID-19 have been identified.<sup>11</sup> However, while the interventions suggested to date are both appropriate and necessary, they focus on biomedical and physical interventions, with a brief signpost to psychological needs. They do not articulate an underlying cohesive philosophy of care that adapts to the patient’s needs. Instead, they largely suggest the upscaling of current models of care concentrating on physical rehabilitation and the achievement of activities of daily living. While this is important, we will not be able to assume that when a patient is medically ‘well’ and physically ‘fit and independent’ that they will have recovered. The pandemic will deliver an unprecedented societal change and the severe acuity of illness, will mean that there will inevitably be psychological and social consequences. These may present at different times, but most likely at the later stage of a patient’s recovery, and so will need coordination across the health, social and welfare sectors.

As such, there is now the opportunity and need for the BPS model to frame health and social care practice in a coherent way that has previously been slow to develop.<sup>12</sup> We argue that the BPS model should be used as a far-reaching lens by which the health and social care systems can coordinate new models of care. In order to deliver such an approach, more than ever, multidisciplinary workforces will need to collaborate across

disciplines and systems. Coordination and leadership will be challenging, and this will be amplified at a time when capacity is fraught. Therefore, the promotion of self-management approaches that underpin the BPS will need to be used, so that where appropriate and possible, patients can direct and manage their own care.

In summary, for patients recovering from COVID-19, it will be impossible to separate the person and their personal circumstances from COVID-19, and to regard physical, psychological and social factors as independent entities. For this reason, we argue that the BPS model is needed with even more reason than before, and that it should be the philosophy of care to underpin rehabilitation in the recovery from COVID-19.

**Twitter** Thomas W Wainwright @twainwright and Matthew Low @MattLowPT

**Contributors** All authors contributed equally to the manuscript.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Not required.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Open access** This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

**ORCID ID**

Thomas W Wainwright <http://orcid.org/0000-0001-7860-2990>

## REFERENCES

- Murray A, Gerada C, Morris J. We need a Nightingale model for rehab after covid-19, 2020. Available: <https://www.hsj.co.uk/commissioning/we-need-a-nightingale-model-for-rehab-after-covid-19-/7027335.article> [Accessed 9 Apr 2020].
- Taito S, Yamauchi K, Tsujimoto Y, et al. Does enhanced physical rehabilitation following intensive care unit discharge improve outcomes in patients who received mechanical ventilation? A systematic review and meta-analysis. *BMJ Open* 2019;9:e026075.
- Rattray J. Life after critical illness: an overview. *J Clin Nurs* 2014;23:623–33.
- Engel GL. The need for a new medical model: a challenge for biomedicine. *Science* 1977;196:129–36.
- Havelka M, Lučanin K, Lučanin D. Biopsychosocial model--the integrated approach to health and disease. *Coll Antropol* 2009;33:303–10.
- Bolton D, Gillett G. *The biopsychosocial model of health and disease: new philosophical and scientific developments*. Palgrave Pivot, Cham, 2019: p6.
- Ghaemi SN. The rise and fall of the biopsychosocial model. *Br J Psychiatry* 2009;195:3–4.
- Jull G. Biopsychosocial model of disease: 40 years on Which way is the pendulum swinging? *Br J Sports Med* 2017;51:1187–8.
- Xiang Y-T, Yang Y, Li W, et al. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *Lancet Psychiatry* 2020;7:228–9.
- Sadati AK, Lankarani M H B, Bagheri Lankarani K, et al. Risk Society, global vulnerability and fragile resilience; sociological view on the coronavirus outbreak. *Shiraz E-Med J* 2020;21:e102263.
- Khan F, Amatya B. Medical rehabilitation in pandemics: towards a new perspective. *J Rehabil Med* 2020;52:jrm00043.
- Kusnanto H, Agustian D, Hilmanto D. Biopsychosocial model of illnesses in primary care: a hermeneutic literature review. *J Family Med Prim Care* 2018;7:497–500.