

## **Measures**

The questionnaire consisted of a range of generic measures that have been evidenced to capture the three theoretical domains of the Job Demand-Resources Model (JD-R) found to influence outcomes, namely, job demands, job resources, and personal resources. The core questionnaire assessed 1) Job Demands, Job Resources and Personal Resources, 2) Mental Well-being, 3) Posttraumatic Stress Symptoms, 4) Burnout, 5) Work Engagement, 6) Patient Safety and Nursing Care Activities, 7) Demographic Information, and 8) Support Initiatives offered during the pandemic.

Details on each of these measures are provided below.

## Job Demands and Job Resources

The domains of **job demand** and **job resources** were measured using subscales from the Questionnaire on the Experience & Evaluation of Work (QEEW 2.0) **[1].**

Participants were presented with a series of short statements and asked to score on the following response categories (always, often, sometimes, never) or (strongly agree, agree, neutral, disagree, strongly disagree)

**Job demands**

Job demands were measured using 7 subscales of the QEEW (pace & amount of work: emotional load: mental load: physical effort: complexity: work organisation: role conflict)

**Job Resources**

Job resources were measured using 12 subscales (learning opportunities: job autonomy: task clarity: feedback: relationship with supervisor: relationship with colleagues: effectiveness in achieving goals: quality: well-being focus: staffing).

*Please note:* The specific items in this measure cannot be publicly displayed for copyright reasons.

## Personal Resources

The domain of personal resources was measured using the 10-item Connor Davidson Resilience Scale (CD-RISC)**[2].**

Participants were presented with a series of statements and asked to indicate how much they agreed with each statement as it applied over the last month. Responses were scored on a 0-4 scale (not true at all, rarely true, sometimes true, often true, true nearly all the time).

*Please note:* The items in this measure cannot be publicly displayed for copyright reasons.

## Contact with Relatives and Customer-Related Social Stressors

**Customer-Related Social Stressors**

As part of measures assessing specific job demands for CCNs and Re-deployed nurses, an adapted version of theCustomer-Related Social Stressors questionnaire (CSS) was administered**[3].**

Participants were presented with a series of 13 statements and asked to rate how the relatives or visitors of the patients in their care act using a 5-point scale (not at all true, rarely true, sometimes true, often true, absolutely true).

**I have to deal with relatives/visitors….**

1. \_\_\_\_\_\_\_\_\_\_ who argue all the time.
2. \_\_\_\_\_\_\_\_\_\_ who get angry at us even over minor matters.
3. \_\_\_\_\_\_\_\_\_\_ who always demand special treatment.
4. \_\_\_\_\_\_\_\_\_\_ whovent their bad moods on us.
5. \_\_\_\_\_\_\_\_\_\_ who do not recognise when we are very busy.
6. \_\_\_\_\_\_\_\_\_\_ who complain without reason.
7. \_\_\_\_\_\_\_\_\_\_ who ask us to do things they could do by themselves.
8. \_\_\_\_\_\_\_\_\_\_ who personally attack us verbally.
9. \_\_\_\_\_\_\_\_\_\_ who are always complaining about us.
10. \_\_\_\_\_\_\_\_\_\_ who often shout at us.
11. \_\_\_\_\_\_\_\_\_\_ who are pressed for time
12. \_\_\_\_\_\_\_\_\_\_ who do not understand that we have to comply with certain rules.
13. \_\_\_\_\_\_\_\_\_\_ whose demands are often unreasonable.

**Communicating with Relatives**

To assess challenges supporting and communicating with relatives, participants were presented with the following 4 statements and asked to score on a scale of 1-10 (1 = not at all challenging and 10 = extremely challenging) how challenging the following aspects were.

1. Developing a good relationship with relatives
2. Speaking with relatives remotely
3. Caring for patients in the absence of their relatives
4. Supporting relatives during end of life care

## Mental Health

The 12-item General Health Questionnaire (GHQ-12) was used to measure mental health and well-being **[4].**

The GHQ-12 is a short screening tool which assesses participants current state and then asks if this differs from usual levels of functioning. Specific response options for scoring differ across the 12 items, however scoring largely ranges from a 'more so than usual’ to a ‘much less than usual’ option.

*Please note:* The items in this measure cannot be publicly displayed for copyright reasons.

## Posttraumatic Stress

Posttraumatic stress symptoms were measured using the Posttraumatic Stress Disorder Checklist (PCL-5) **[5].**

This 20-item measure captures the presence and severity of symptoms consistent with the diagnosis of Post-traumatic stress disorder (PTSD). Participants were presented with 20 statements and asked to rate how bothered they had been by each criterion within the past month. Responses were scored on a 5-point scale ranging from (Not at all, A little bit, Moderately, Quite a bit, Extremely).

*Please note:* The items in this measure cannot be publicly displayed for copyright reasons.

## Burnout

Burnout was measured using the 22-item Maslach Burnout Inventory for Health Services Survey (MBI-HSS) **[6].** The MBI-HSS captures three dimensions of burnout: emotional exhaustion, depersonalisation and decreased personal accomplishment.

Participants were presented with 22 statements of job-related feelings and asked to indicate if they had ever experienced these feelings in relation to their work. Responses were scored on a 6-point scale from (Never, A few times a year or less, Once a month or less, A few times a month, Once a week, A few times a week, Every day).

*Please note:* The items in this measure cannot be publicly displayed for copyright reasons.

## Work Engagement

Work engagement was measured using the 9-item Utrecht Work Engagement Scale (UWES) which captures three dimensions of engagement: vigour, dedication, and absorption **[7].**

Participants were presented with 9 statements which measured how they feel at work. Responses were scored on a 6-point scale designed to assess frequency from (Never, A few times a year or less, Once a month or less, A few times a month, Once a week, A few times a week, Every day).

*Please note:* The items in this measure cannot be publicly displayed for copyright reasons.

## Patient Safety and Nursing Care Activities

CANDID also measured nurses’ perceptions of patient safety, quality of care and a measure assessing nursing care activities.

**Patient Safety**

Participants were asked to read the following statement and indicate their perceptions of patient safety using a 5-point response scale (Failing, Poor, Acceptable, Very Good, Excellent)

*‘Thinking about the first phase of the COVID-19 pandemic, please give the unit that you work on, an overall grade on patient safety’*

**Quality of Care**

Participants were asked to read the following statement and indicate their perceptions of quality of care using a 4-point response scale (Poor, Fair, Good, Excellent)

*‘In general, how would you rate the quality of nursing care delivered to patients on your unit during the first phase of the COVID-19 pandemic?’*

**Nursing Care Activities**

To assess nursing care activities, participants were presented with a list of 13 nursing care activities and asked ‘*on your worst shift during the COVID-19 pandemic, which of the activities did you deem to be necessary but were left undone, because you lacked the time to complete them*’?

Participants were asked to indicate, whether the nursing care activity was left undone and how many times this occurred.

1. Adequate patient surveillance
2. Adequate documentation of nursing care
3. Administering medication on time
4. Comfort/talk with patients
5. Develop or update nursing care plans/care pathways
6. Educating patients and/or family
7. Frequent changing of patient’s position
8. Oral hygiene
9. Pain management
10. Planning care
11. Preparing patients & families for discharge
12. Skin care
13. Undertaking treatments/procedures

## Demographic Characteristics

The demographic characteristics measured in this study included: age, gender, ethnicity, relationship status, whether participants had any caring responsibilities, underlying physical or psychological condition and whether they lived with or had regular close contact with someone who was shielding during the pandemic.

## Working Characteristics

A range of measures were used to assess working characteristics for both Critical Care Nurses and Re-deployed Nurses. In addition, a number of COVID-19 specific questions were asked, including measures of the training received for re-deployed nurses, questions assessing availability and consequences of wearing PPE, whether staff had been directly involved in caring for COVID-19 patients, whether staff had COVID-19, and had cared for colleagues with COVID-19.

Details of the measures are provided below.

**Working Characteristics - Critical Care Nurses**

1. How many years have you been a registered nurse?

2. How many years have you worked in critical care?

3. How many years have you worked on your current unit?

4*.* How stressful did you find supporting new or redeployed or non-ICU nurses during the pandemic? *(Not at all stressful A bit stressful Very stressful Extremely stressful)*

**Working Characteristics - Re-deployed Nurses**

1.In which specialty do you normally work e.g. operating theatre, anaesthetics?

2. How many years have you been a registered nurse?

3. How many years have you worked in your current specialty?

**Training - Re-deployed Nurses**

1. What preparation did you receive prior to being redeployed to critical care (*None, Online training, Shadow shifts, In-service training)*

2. How many days of training did you receive *(None, 1 day, 2 days, 3 days, More than 3 days)*

3. How prepared did the training make you feel? (*Not at all prepared, Partly prepared, Reasonably well prepared, Well prepared)*

4. What additional training would you have liked to receive?

5. What words would you use to describe your feelings if you are asked to return to critical care during subsequent waves of the pandemic?

**Working Characteristics - For all**

1. What is your current banding? *(5, 6, 7, 8a, 8b)*

2. Did you directly care for COVID-19 patients? *(Yes - 1st wave only, Yes -2nd wave only, Yes -Both waves, No)*

3. Please select the category that best describes your working arrangements *(Full-time Part-time)*

4. How many contracted hours do you work per week?

5. Do you work *(Both Day and Night Shifts, Day shifts only, Night shifts only)*

6. In the last 12 months how many days have you been off work for:

*a. physical health reasons? b. psychological health reasons?*

7. Do you think you have had increased days off work since the COVID-19 pandemic?

8. Have you had COVID-19?

9. Have you had to care for a colleague with COVID-19?

10. Have any of your colleagues died from COVID-19?

**PPE – For all**

1. When was PPE made available to you? *(From the start of the pandemic, Shortly after the start of the pandemic, Significant delay in PPE being available)*

2. Did you have sufficient PPE? *(None of the time, Rarely, Some of the time, Most of the time, Always)*

3. Was the PPE you had of the correct standard? *(None of the time, Rarely, Some of the time, Most of the time, Always)*

4. As a consequence of wearing PPE did you: (select all that apply)

Develop skin problems

Reduce your fluid intake

Not take regular breaks

Have communication problems

5. Please add any other consequences for you of wearing PPE

## Support Services

Staff were then asked to identify, using a free-text response option, supportive measures or initiatives provided by their Health Board during the pandemic. For the measures identified, staff were asked to indicate how accessible these measures were, where they were accessed, how often they were accessed and how useful they found each measure.

The following free-text response questions were then asked:

**1.** What supportive measures would you like to have access to in future waves of the pandemic?

**2.** What words would you use to describe the worst shift you experienced during the COVID-19 pandemic?

**3.** What words would you use to describe the best shift you experienced during the COVID-19 pandemic?

**4.** Is there anything else you would like to tell us about your experience of working in critical care during COVID-19?

# References

1. Van Veldhoven, M. J. P. M., Prins, J., Van der Laken, P. A., & Dijkstra, L. (2015). QEEW 2.0: 42 short scales for survey research on work, well-being and performance. SKB, Amsterdam. Available at: <https://www.skb.nl/qeew>
2. Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor‐Davidson resilience scale (CD‐RISC). *Depression and Anxiety*, *18*(2), 76-82. <https://doi.org/10.1002/da.10113>
3. Dormann, C., & Zapf, D. (2004). Customer-related social stressors and burnout. *Journal of occupational health psychology*, *9*(1), 61. <https://psycnet.apa.org/doi/10.1037/1076-8998.9.1.61>
4. GHQ-12 <https://www.gl-assessment.co.uk/products/general-health-questionnaire-ghq/>
5. Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The posttraumatic stress disorder checklist for DSM‐5 (PCL‐5): Development and initial psychometric evaluation. *Journal of traumatic stress*, *28*(6), 489-498. <https://doi.org/10.1002/jts.22059>
6. Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of organizational behavior*, *2*(2), 99-113. <https://doi.org/10.1002/job.4030020205>
7. Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and psychological measurement*, *66*(4), 701-716. <https://doi.org/10.1177%2F0013164405282471>