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## Article

# Changing Responses during the COVID-19 Pandemic: A Comparison of Psychological Wellbeing and Work-Related Quality of Life of UK Health and Social Care Workers

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**Abstract:** Aim: to explore the psychological wellbeing and work-related quality of life amongst United Kingdom (UK) health and social care workers during the COVID-19 pandemic. Subject and methods: Health and social care professionals within nursing, midwifery, allied health professions, social care and social work occupations working in the UK during the pandemic were recruited. Repeated cross-sectional online surveys were conducted during six time periods of the pandemic (May–July 2020, November–February 2021, May–July 2021, November 2021–February 2022, May–July 2022 and November 2022–February 2023). Results: Over 14,000 participants completed the surveys during the data collection periods. The findings revealed that over the pandemic, psychological wellbeing and work-related quality of life scores significantly decreased. Conclusions: The overall psychological wellbeing and work-related quality of life of health and social care workers during the COVID-19 pandemic significantly declined. Further research is warranted on the lasting impact of the pandemic on this workforce. The health and social care workforce needs support to prevent further deterioration and to rebuild its wellbeing and resilience.

**Keywords:** health care workforce; social care workforce; United Kingdom; pandemic; COVID-19; coping; wellbeing; quality of working life



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## 1. Introduction

In March 2020, the novel coronavirus (COVID-19) rapidly spread globally. Since being declared a pandemic in March 2020 [1], over 6,935,889 deaths and 766,895,075 confirmed cases were recorded by 24 May 2023 [2]. Within the UK, these numbers reportedly reached 225,852 cumulative deaths and 24,611,066 cases [3]. Initially, due to rising numbers of cases, severe restrictions were implemented in the UK affecting travel, social activity and working conditions. While cases are still occurring in the UK (July 2023), the vaccination programmes, the virus mutation, improved hygiene practices and staying at home while

sick have helped to reduce cases and enabled a return to a 'new normal' for millions of people. Nonetheless, the pandemic impacted not just health and care services but created challenges within education, politics, society and the economy [4–8].

COVID-19 had a major impact on working conditions and the style of working for millions of people worldwide, especially in its early stages. However, the health and social care (HSC) sector experienced particular pressures. The UK HSC sector [9], comprises over 3 million employees. There are many claims that the pandemic amplified pre-existing problems within the HSC sector across the UK. Problems with staff turnover, recruitment, lack of funding to keep up with rising demand and declining public satisfaction with these services were affecting staff prior to the pandemic [10–14]. HSC staff are a high-risk group for stress and mental health problems. In the UK, a research review noted that work-related stress impacted over 43.5 percent of nurses and midwives working in the National Health Service (NHS) [15]. Similarly, although with different employers, mainly the private sector and local authorities, respectively, social care and social workers face similar work-related stressors with even more pressures facing some of them from insecure job contracts, high levels of turnover, low pay, considerable stressors and poor work–life balance [16].

As the pandemic progressed, several studies highlighted that HSC workers faced new changes to their working conditions, socialisation and relationships, which further increased their levels of burnout and their stressors [17–21]. In the initial stages of the pandemic, many HSC workers limited their social interaction with patients or service users and changed their practices to limit their own exposure to the virus [17,22–24]. These conditions have been causally linked to increased work-related stressors and burnout, resulting in lower wellbeing and work-related quality of life which may also lead to a deterioration in physical health [21,25–29]. Even with a return to normality, some individuals, particularly those working within HSC, were still facing post-pandemic anxiety or trauma.

In this context, it is important to compare the impact across the broad HSC workforce to understand how to support this workforce and to enable it to deliver the services that the public needs. This current study aimed to compare results from repeated cross-sectional online surveys conducted during six time periods of the COVID-19 pandemic (May–July 2020, November–February 2021, May–July 2021, November 2021–February 2022, May–July 2022 and November 2022–February 2023). These data provide an opportunity to consider whether and how different time periods affected the HSC workforce. For context, in March 2020, across the world, governments put in place several restrictions such as national lockdowns, social distancing measures, use of personal protective equipment (PPE) and increased hygiene practices, such as mask wearing and hand washing [30–37]. Within the four devolved nations of the UK, governments developed roadmaps consisting of several phases which aimed at eventually moving out of lockdown and the cessation of other measures [38].

### *1.1. Theoretical Framework*

The current study could be placed within the job demands–resources theoretical model [39]. This model postulates that within any occupation, there are specific demands and resources. The interaction of these factors is important to consider, as the level of work demands does not always coincide with suitable and appropriate resources, which can lead to employee stress and burnout [40]. This stress and burnout cannot just impact physical health but mental health and wellbeing, employee satisfaction, employee retention and support services. The multiple levels that this model examines therefore explore how job demands and resources play a significant role in the lives of HSC workers. This present study involves the investigation of the psychological wellbeing of HSC staff with previous phases of the study indicating an association with increasing job demands and workforce pressures, changing patient/service user needs and communication pathway problems. The pandemic placed immediate pressures on a system already experiencing workforce pressures and exacerbated the situation. Therefore, it is important to examine the impact

that the pandemic has had on work-related quality of life and wellbeing and how one's coping strategies could be an important element to consider and enhance.

### *1.2. Aim of Study*

By the time of this study's Phase 6 survey (November 2022–January 2023), which was undertaken in the 'post-pandemic' era, most restrictions had ended worldwide but many HSC workplaces had still not fully returned to pre-pandemic practices. Many HSC services have not fully resumed their activities or reached their previous full capacity. Indeed, these services are facing new threats to financial systems, difficulties with logistical planning, high waiting lists and declining public satisfaction [10,41–43]. This paper specifically seeks to explore the psychological wellbeing and work-related quality of life amongst HSC workers during the COVID-19 pandemic in the UK and afterwards. The paper aims to provide an insight into how the pandemic impacted these certain variables (wellbeing, work-related quality of life and coping strategies) and how these variables are important to the wellbeing of nurses, midwives, allied health professionals (AHPs—a diverse group of health care professionals who provide a wide range of care services in a variety of settings in diagnostic, technical, therapeutic and support health care services such as Occupational Therapists), social care workers and social workers, and explores the importance and relevance of certain variables between the different phases of the COVID-19 pandemic and its aftermath. The results of the overarching study, specifically Phase 6, will be used to expand recommendations that could inform or update policies and procedures for HSC employers to help promote safe staffing, increase wellbeing, reduce burnout and improve the quality of working life. Previous publications from the wider HSC workforce study have explored earlier phases of the project [44–47], the impact on social care and social workers [48–50], the 'clapping for carers' initiative [51], the impact on health care professionals [52,53] and a comparison of UK social care workers with those in Japan [54], with future research regarding safe staffing levels currently under review.

## **2. Materials and Methods**

### *2.1. Study Design*

This study forms a part of a continuous wider research programme entitled 'Health and social care workers' quality of working life and coping while working during the COVID-19 pandemic from 2019–2023'. The overall research project focuses on mental wellbeing, quality of working life, and coping strategies in nurses, midwives, allied health professionals (AHPs), social care workers and social workers from across the UK who are employed in a range of settings such as the community, day services, care homes (including nursing homes) and hospitals. The findings from this research aim to provide evidence-based recommendations for supporting the HSC workforce, not just during the COVID-19 crisis, but also during business-as-usual times. The wider study used a repeated cross-sectional design, and the data for the current study presented here were collected at six time points: Phase 1: May–July 2020, Phase 2: November–February 2021, Phase 3: May–July 2021, Phase 4: November 2021–February 2022, Phase 5: May–July 2022 and Phase 6: November 2022–February 2023. The study used an anonymous online survey containing previously validated measures alongside a small number of qualitative questions to further understand the experiences of HSC employees. All phases of the survey were hosted on the Qualtrics platform which is widely used as an anonymous online survey tool.

### *2.2. Study Sample*

Convenience sampling was used in the recruitment of participants, who chose to participate voluntarily. This is a non-probability sampling technique, which involves a sample drawn from a population close or readily available to the researchers. Using the Raosoft sample calculator (<http://www.raosoft.com/samplesize.html>, accessed on 1 October 2019) with a confidence interval of 95%, the number of HSC workers from each occupation (social care workers, social workers, AHPs, nurses and midwives) was

calculated (see full reports for more details [55]). Participants were able to access the survey through email and social media links from professional associations, workplace unions/regulators or through social media platforms (Twitter, Facebook) using electronic links and a QR code. The link provided access to the participant information sheets (which outlined the purpose of the study), the consent processes and the survey. These recruitment platforms were used to try and reach a wider population of HSC workers across the UK. Clicking on the arrow to proceed after the participant information sheet and completion of the survey indicated consent. Participants could withdraw from the study at any time by not completing the survey. Study eligibility was based on respondents self-reporting their occupation and country of work. Phase 1 received a total of 3290 responses, Phase 2 received 3499 responses, Phase 3 received 2721 responses, Phase 4 received 1758 responses, Phase 5 received 1737 responses and finally Phase 6 received 1395 responses. Demographic and work-related characteristics of the sample by study phase are presented in the table in Section 3.1.

### 2.3. Ethical Considerations

Ethical approval was obtained from the Research Ethics Filter Committee of the School of Nursing at Ulster university (Ref No: 2020/5/3.1, 23 April 2020, for all phases of the study and HSC Trust Governance approval) was from Health and Social Care Trusts (needed for Northern Ireland only was gained from Phase 2 onwards. Permission for the use of the scales used in the questionnaire was provided by the original authors who developed these scales, and consent and confidentiality were addressed in the participant information sheets provided at the start of the survey. At the end of the survey, further information was offered to all respondents to access if they felt distressed, with contacts for professional bodies and organisations also provided. Respondents were also provided with the study teams' contact information for further details if they wished to access these.

### 2.4. Measures

#### Sociodemographic and Work-Related Variables

Across all six phases of the online survey, similar questions were asked to enable comparison across the phases with some added or subtracted according to the evolving context during and after the COVID-19 pandemic. Respondents were asked about their demographic and work-related characteristics. Social demographics included sex, age, ethnicity, country of work, occupational group, disability, relationship status and years of experience. Furthermore, respondents were asked to provide information related to employment, specifically, their current employment status, place of work, sector of work, occupational group, whether they were a manager, whether they worked in the NHS, local government, for an HSC Trust or private or third sector provider, their type of job tenure/work contact, whether they were working from home and their main area of practice. Respondents were asked about other details such as full-time or part-time employment, hours worked, overtime hours, questions related to sick days, COVID-related absences and sick pay, feelings of any work-related pressures/impact, whether they considered changing their employer or occupation, what work-related supports they had used and what they thought that their employer should offer.

### 2.5. Outcome Scales

#### 2.5.1. Quality of Working Life

The 24-item Work-Related Quality of Life Scale (WRQoL) was used to assess quality of working life [56]. On the scale, 23 items contribute to the overall WRQoL score with three items reverse-scored before calculating total values. Respondents answer the questions on a five-point Likert scale ranging from 1 = *Strongly disagree* to 5 = *Strongly agree*. In this scale, respondents indicate their attitudes to the factors that have influenced their quality of working life. The scale assesses six domains: job career satisfaction (being content with one's job and career prospects), stress at work (seeing work pressures as acceptable or

excessive), working conditions (being satisfied with one's working conditions), control at work (being involved in decisions that affect one's work), general wellbeing (general psychological and physical health) and home–work interface (whether the organisation helps one with pressures outside of work), alongside providing a total WRQOL score. Higher overall scores indicate better quality of working life; in the present study, internal consistency was good in the final sample ( $\alpha = 0.89$ ).

### 2.5.2. Mental Wellbeing

The seven-item Short Warwick–Edinburgh Mental Wellbeing Scale (SWEMWBS) [57] was used to assess how often in the last two weeks respondents had been feeling what is described by the statements. A five-point Likert scale ranging from 1 = *None of the time* to 5 = *All of the time* was used to rate the statements. The scores were summed and then transformed into a metric score conversion table [54]. Total scores ranged from 7 to 35, with higher scores indicating better wellbeing. In the present study, internal consistency was good in the final sample ( $\alpha = 0.87$ ).

### 2.5.3. Coping

Coping was assessed through the use of two different scales to examine coping with COVID-19-related occupational demands and work-related stressors. The Clark, Michel, Early and Baltes' [58] 15-item scale assesses five different coping strategies (family–work segmentation, work–family segmentation, working to improve skills/efficiency, recreation and relaxation, exercise). A six-point Likert scale ranging from 1 = *'Never have done this'* to 6 = *'Almost always do this'* was used to indicate how often respondents had been doing what is described by the statements of the scale to cope with work stressors. A mean score ranging from 1 to 6 for each coping strategy was computed. In the present study, internal consistency was good in the final sample ( $\alpha = 0.83$ ).

The Brief COPE scale [59] assessed ten different coping strategies through 20 items (active coping, planning, positive reframing, acceptance, use of emotional support, use of instrumental support, venting, substance use, behavioural disengagement, self-blame). Respondents were asked to indicate how often they had been using the strategies using a four-point Likert scale ranging from 1 = *'I haven't been doing this at all'* to 4 = *'I've been doing this a lot'*. Scores for each coping strategy ranged from 2 to 8, with higher scores indicating that respondents used the specific coping strategy more often. Each coping strategy was assessed with two items, which were summed to give a total score. Cronbach's alpha for the 20-item scale was acceptable in the present study ( $\alpha = 0.83$ ).

## 2.6. Data Analysis

All six datasets from the respective phases were recoded and merged into SPSS. Data analyses were conducted using SPSS 28 and any missing data were addressed prior to beginning the analysis. Respondents who did not complete all items on one or more of the scales (SWEMWBS, WRQOL, Brief COPE and Clark et al.'s [58] coping) were excluded from the merged dataset for all six phases ( $n = 2634$ ). Those who indicated gender as neither or missing ( $n = 48$ , 0.4%) were excluded as the subgroup sample was so low. The remaining missing data on the variables relevant to the analyses were minimal (0.23%). The SWEMWBS, WRQOL and the coping items were treated as continuous variables and missing data on these items were estimated using the EM algorithm for single imputation in SPSS. Missing values on the demographic and work-related variables were minimal (0.1%) and they were not estimated. Instead, listwise deletion was used in the analyses. After the missing data were reduced, this left a final sample of 11,573.

Preliminary analyses using descriptive statistics were conducted to provide basic information regarding the variables included in the study. Mean and standard deviation were calculated for the sample as a whole and at each time point, as well as separated by occupation for examining wellbeing and WRQoL. As the data were not normally distributed, multivariate statistics using Mann–Whitney U and Kruskal–Wallis tests were used to exam-

ine the difference in the outcome variables across the various scales for wellbeing, WRQoL and coping strategies, across the six study phases as well as separated by occupation. To account for the different distribution of occupational groups and countries across the study phases, descriptive statistics for the outcome variables (wellbeing, quality of working life and coping strategies) were weighted by occupation and country. Unweighted findings can be found within the Supplementary Material (Supplementary File S1). As the great majority of the sample were female and of White ethnicity, sub-group comparisons by gender and ethnicity were not performed.

### 3. Results

#### 3.1. Sample Characteristics

The final sample across all six phases consisted of 11,573 respondents from the UK HSC sectors (Phase 1:  $n = 2546$ ; Phase 2:  $n = 2766$ ; Phase 3:  $n = 2233$ ; Phase 4:  $n = 1432$ ; Phase 5:  $n = 1358$ ; Phase 6:  $n = 1238$ ). Just under half of the respondents were working in Northern Ireland (47.9%). Over two thirds of the sample were working in social care (33.1%) and social work (31.1%), with midwives being the smallest group of respondents (4.7%). The sample was predominately female (87.3%), the majority were of White ethnicity (96.2%), one third were in the 50–59 age category (31.7%) and half of the sample had between 11 and 30 years' experience in their job (50.5%). Over half the respondents were married/partnered (54.1%), and a majority stated that they did not consider themselves to have a disability (86.1%). Just under half of the respondents worked in the community (48.5%), with the main areas of practice being with older people, children and adults (62.7%). A full breakdown of the demographics is reported in Table 1.

#### 3.2. Descriptive Statistics

Weighted descriptive statistics of the outcome variables for each phase are shown in Tables 2 and 3. The results showed that respondents' wellbeing and work-related quality of life decreased between Phases 1 and 6 with a slight increase in the middle phases. A Spearman rank-order correlation was run to determine the relationship between wellbeing and WRQoL scores. There was a strong, positive correlation between wellbeing and WRQoL scores, which was statistically significant ( $r_s(1) = 0.651$ ,  $p < 0.001$ ). Wellbeing and WRQoL variables both demonstrated a weak positive relationship with the following coping strategies ( $p < 0.001$ ): active coping, planning, positive reframing, acceptance, emotional support and instrumental support. Substance use and venting showed a weak negative relationship with both of the main variables, while behavioural disengagement and self-blame had moderate negative relationships with wellbeing and WRQoL variables. Respondents appeared to be using several positive coping strategies less frequently from Phase 1 to Phase 6 (active coping, positive reframing, acceptance, use of emotional support and use of instrumental support, work–family segmentation, working to improve skills/efficiency, recreation and relaxation and exercise). However, many of the negative coping strategies were more frequently used as the phases of the study progressed (substance use, behavioural disengagement and self-blame). The coping strategies revealed substantial variation and fluctuation as the phases progressed.

**Table 1.** Unweighted demographics and work-related characteristics of sample (Phase 1:  $n = 2546$ ; Phase 2:  $n = 2766$ ; Phase 3:  $n = 2233$ ; Phase 4:  $n = 1432$ ; Phase 5:  $n = 1358$ ; Phase 6:  $n = 1238$ ).

Variable	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
Sex						
Female	2221 (87.2%)	2441 (88.3%)	1970 (88.2%)	1280 (89.4%)	1150 (84.7%)	1040 (84.0%)
Male	325 (12.8%)	325 (11.7%)	263 (11.8%)	152 (10.6%)	208 (15.3%)	198 (16.0%)
Age						
16–29	303 (11.9%)	307 (11.9%)	190 (8.5%)	136 (9.5%)	150 (11.0%)	82 (6.6%)
30–39	539 (21.2%)	639 (23.1%)	415 (18.6%)	295 (20.6%)	287 (21.1%)	233 (18.8%)
40–49	753 (29.6%)	729 (26.4%)	602 (27.0%)	426 (29.7%)	377 (27.8%)	348 (28.1%)
50–59	755 (29.7%)	825 (29.9%)	790 (35.4%)	454 (31.7%)	421 (31.0%)	425 (34.3%)
60+	195 (7.7%)	265 (9.6%)	234 (10.5%)	121 (8.4%)	123 (9.1%)	150 (12.1%)
Ethnic background						
White	2395 (94.2%)	2654 (96.1%)	2150 (96.4%)	1386 (96.9%)	1319 (97.3%)	1207 (97.7%)
Black	74 (2.9%)	40 (1.4%)	30 (1.3%)	13 (0.9%)	18 (1.3%)	12 (1.0%)
Asian	29 (1.1%)	26 (0.9%)	19 (0.9%)	11 (0.8%)	6 (0.4%)	8 (0.6%)
Mixed	44 (1.7%)	41 (1.5%)	31 (1.4%)	20 (1.4%)	13 (1.0%)	9 (0.7%)
Country of work						
England	908 (35.7%)	641 (23.2%)	439 (19.7%)	306 (21.4%)	168 (12.4%)	171 (13.8%)
Scotland	109 (4.3%)	358 (12.9%)	615 (27.5%)	414 (28.9%)	111 (8.2%)	286 (23.1%)
Wales	145 (5.7%)	856 (30.9%)	77 (5.4%)	77 (5.4%)	72 (5.3%)	85 (6.9%)
Northern Ireland	1384 (54.4%)	911 (32.9%)	635 (44.3%)	635 (44.3%)	1007 (74.2%)	696 (56.2%)
Occupational group						
Nursing	142 (5.6%)	290 (10.5%)	464 (20.8%)	304 (21.2%)	182 (13.4%)	183 (14.8%)
Midwifery	139 (5.5%)	59 (2.1%)	137 (6.1%)	111 (7.8%)	70 (5.2%)	25 (2.0%)
Allied health professionals	311 (12.2%)	500 (18.1%)	314 (14.1%)	474 (33.1%)	241 (17.7%)	200 (16.2%)
Social care workers	919 (36.1%)	961 (34.7%)	681 (30.5%)	256 (17.9%)	552 (40.6%)	461 (37.2%)
Social workers	1035 (40.7%)	956 (34.6%)	637 (28.5%)	287 (20.0%)	313 (23.0%)	369 (29.8%)
Number of years of work experience						
Less than 2 years	211 (8.3%)	184 (6.7%)	117 (5.2%)	60 (4.2%)	60 (4.4%)	20 (1.6%)
2–5 years	373 (14.7%)	379 (13.7%)	286 (12.8%)	159 (11.1%)	198 (14.6%)	142 (11.5%)
6–10 years	407 (16.0%)	453 (16.4%)	307 (13.8%)	193 (13.5%)	208 (15.3%)	212 (17.1%)
11–20 years	688 (27.0%)	842 (30.4%)	601 (26.9%)	393 (27.5%)	383 (28.2%)	356 (28.8%)
21–30 years	572 (22.5%)	557 (20.1%)	491 (22.0%)	347 (24.3%)	322 (23.7%)	291 (23.5%)
More than 30 years	295 (11.6%)	350 (12.7%)	429 (19.2%)	278 (19.4%)	187 (13.8%)	217 (17.5%)
Place of work						
Hospital	250 (9.8%)	310 (11.2%)	462 (20.7%)	414 (28.9%)	198 (14.6%)	228 (18.4%)
Community	1446 (56.9%)	1296 (47.0%)	1000 (44.8%)	511 (35.7%)	704 (51.9%)	648 (52.3%)
General-practice-based	12 (0.5%)	46 (1.7%)	31 (1.4%)	40 (2.8%)	34 (2.5%)	28 (2.3%)
Care home	303 (11.9%)	271 (9.8%)	201 (9.0%)	94 (6.6%)	158 (11.6%)	117 (9.5%)
Day care	47 (1.8%)	97 (3.5%)	62 (2.8%)	45 (3.1%)	50 (3.7%)	47 (3.8%)
Other	484 (19.0%)	739 (26.8%)	473 (21.2%)	328 (22.9%)	213 (15.7%)	170 (13.7%)
Main area of practice						
Children	531 (20.9%)	724 (26.2%)	391 (17.5%)	242 (16.9%)	242 (17.8%)	255 (20.6%)
Midwifery	138 (5.4%)	57 (2.1%)	138 (6.2%)	108 (7.5%)	67 (4.9%)	25 (2.0%)
Adults	485 (19.1%)	607 (21.9%)	561 (25.1%)	216 (15.1%)	135 (9.9%)	138 (10.3%)
Physical disability	50 (2.0%)	51 (1.8%)	36 (1.6%)	43 (3.0%)	22 (1.6%)	33 (2.7%)
Learning disability	285 (11.2%)	300 (10.8%)	236 (10.6%)	110 (7.7%)	157 (11.6%)	145 (11.7%)
Older people	602 (23.7%)	543 (19.6%)	473 (21.2%)	353 (24.7%)	433 (31.9%)	339 (27.4%)
Mental health	216 (8.5%)	276 (10.0%)	221 (9.9%)	106 (7.4%)	113 (8.3%)	111 (9.0%)
Other	238 (9.4%)	208 (7.5%)	177 (7.9%)	254 (17.7%)	189 (13.9%)	202 (16.3%)
Disability status						
Yes	222 (8.7%)	275 (9.9%)	287 (12.9%)	151 (10.5%)	164 (12.1%)	192 (15.5%)
No	2268 (89.1%)	2428 (87.8%)	1882 (84.3%)	1253 (87.5%)	1145 (84.3%)	992 (80.1%)
Unsure	56 (2.2%)	62 (2.2%)	63 (2.8%)	28 (2.0%)	49 (3.6%)	54 (4.4%)

Note. Presented are column percentages, which are valid percentages to account for missing data.



**Table 2.** Weighted means and standard deviations (in brackets) for wellbeing and work-related quality of life (WRQoL) by occupation and across phases.

Variables	Occupation				
	Social Work	Social Care	AHP	Midwifery	Nursing
	WRQoL				
Phase 1	80.66 (13.58)	79.15 (15.63)	82.06 (12.42)	77.43 (15.28)	75.11 (18.64)
Phase 2	73.77 (15.29)	73.37 (16.33)	74.34 (16.12)	66.82 (16.17)	71.20 (14.42)
Phase 3	69.87 (15.90)	70.69 (15.73)	75.03 (18.19)	64.81 (12.82)	73.54 (15.24)
Phase 4	69.79 (15.64)	72.96 (18.47)	74.01 (16.50)	65.36 (15.25)	78.80 (14.55)
Phase 5	66.73 (16.20)	75.51 (16.30)	74.92 (16.59)	65.53 (19.10)	73.76 (19.32)
Phase 6	68.56 (15.98)	72.25 (16.45)	75.31 (14.30)	72.16 (11.28)	>78.82 (17.03)
	Wellbeing				
Phase 1	21.32 (3.34)	20.90 (3.92)	21.32 (3.32)	20.87 (3.24)	21.15 (3.68)
Phase 2	20.07 (3.19)	20.05 (3.60)	20.64 (3.36)	19.87 (2.46)	20.42 (3.16)
Phase 3	19.83 (3.23)	19.82 (3.89)	20.73 (3.36)	19.28 (3.08)	20.58 (3.46)
Phase 4	19.80 (3.36)	20.36 (3.04)	20.73 (3.52)	19.60 (3.43)	21.69 (4.11)
Phase 5	20.31 (3.60)	21.20 (3.40)	21.49 (3.73)	19.67 (2.78)	20.37 (4.46)
Phase 6	19.65 (3.19)	20.68 (3.58)	20.66 (2.97)	19.83 (2.15)	21.63 (4.04)

**Table 3.** Weighted means and standard deviations (in brackets) for wellbeing, work-related quality of life (WRQoL), coping strategies and burnout across study phases.

Variable	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase Comparison
	M (SD)						<i>p</i> -Value
Wellbeing	20.96 (3.78)	20.21 (3.36)	20.18 (3.79)	20.91 (3.55)	20.81 (3.76)	20.34 (3.43)	<0.001
Quality of working life	78.09 (17.51)	72.56 (15.93)	71.98 (15.79)	75.64 (16.26)	74.39 (17.52)	71.99 (16.64)	<0.001
	Coping strategies						
Active coping	6.00 (1.64)	5.48 (1.71)	5.29 (1.84)	5.39 (1.77)	5.59 (1.62)	5.27 (1.89)	
Planning	5.81 (1.81)	5.52 (1.86)	5.53 (1.77)	5.41 (1.82)	5.54 (1.72)	5.34 (1.97)	<0.001
Positive reframing	5.85 (1.65)	5.57 (1.70)	5.35 (1.69)	5.60 (1.65)	5.52 (1.69)	5.23 (1.86)	<0.001
Acceptance	6.39 (1.53)	6.18 (1.51)	5.99 (1.48)	6.08 (1.47)	5.90 (1.51)	5.86 (1.67)	<0.001
Use of emotional support	4.93 (1.76)	4.74 (1.83)	4.67 (1.77)	5.03 (1.71)	4.95 (1.73)	4.46 (1.84)	<0.001
Use of instrumental support	4.34 (1.83)	4.29 (1.79)	4.09 (1.74)	4.80 (1.77)	4.39 (1.75)	4.20 (1.71)	<0.001
Venting	3.51 (1.43)	4.15 (1.64)	4.06 (1.60)	4.24 (1.68)	4.17 (1.50)	4.03 (1.73)	<0.001
Substance use	2.75 (1.41)	2.81 (1.44)	2.97 (1.56)	2.97 (1.46)	2.99 (1.50)	2.89 (1.52)	<0.001
Behavioural disengagement	2.72 (1.25)	2.72 (1.25)	3.00 (1.38)	2.82 (1.41)	3.02 (1.58)	3.00 (1.39)	<0.001
Self-blame	3.42 (1.81)	4.00 (1.87)	4.22 (1.87)	4.00 (1.62)	4.24 (1.72)	4.07 (2.03)	<0.001
Family–work segmentation	5.13 (0.83)	5.12 (0.84)	5.12 (0.86)	4.97 (0.82)	4.74 (1.00)	5.07 (0.88)	<0.001
Work–family segmentation	4.66 (1.05)	4.58 (1.06)	4.43 (1.25)	4.44 (1.02)	4.37 (1.13)	4.53 (1.13)	<0.001
Working to improve skills/efficiency	4.49 (1.09)	4.18 (1.15)	4.19 (1.14)	4.36 (1.11)	4.30 (1.07)	4.13 (1.23)	<0.001
Recreation and relaxation	3.75 (1.23)	3.55 (1.31)	3.45 (1.23)	3.49 (1.27)	3.47 (1.23)	3.40 (1.20)	<0.001
Exercise	3.98 (1.41)	3.65 (1.38)	3.34 (1.40)	3.62 (1.35)	3.41 (1.40)	3.48 (1.45)	<0.001

### 3.3. Multivariate Analysis

Data were not normally distributed and therefore Kruskal–Wallis H tests were used to compare the scores related to wellbeing, work-related quality of life and the domains of coping. The weighted results showed that wellbeing significantly differed across the

occupation groups in Phase 1 ( $p = 0.08$ ) and in Phases 2, 3, 4, 5 and 6 ( $p < 0.01$ ). Overall, WRQoL significantly differed across the occupation groups in Phase 1 ( $p = 0.02$ ), Phase 2 ( $p = 0.03$ ) and Phases 3, 4, 5 and 6 ( $p < 0.01$ ). Within the occupational groups examined, significant differences were evident. The results showed that wellbeing, within each individual occupation examined, for nurses ( $\chi^2(5) = 34.15, p < 0.001$ ), AHPs ( $\chi^2(5) = 20.95, p < 0.001$ ), midwives ( $\chi^2(5) = 38.62, p < 0.001$ ), social care workers ( $\chi^2(5) = 62.82, p < 0.001$ ) and social workers ( $\chi^2(5) = 271.56, p < 0.001$ ) significantly changed across the phases. Similar results were found for WRQoL scores, nurses ( $\chi^2(5) = 61.84, p < 0.001$ ), AHPs ( $\chi^2(5) = 96.09, p < 0.001$ ), midwives ( $\chi^2(5) = 102.58, p < 0.001$ ), social care workers ( $\chi^2(5) = 112.70, p < 0.001$ ) and social workers ( $\chi^2(5) = 611.69, p < 0.001$ ).

In comparing the occupations' WRQoL scores to the other results, all of the phases showed significant differences across the occupations: Phase 1 ( $\chi^2(5) = 16.88, p = 0.002$ ), Phase 2 ( $\chi^2(5) = 15.95, p = 0.003$ ), Phase 3 ( $\chi^2(5) = 91.91, p = 0.003$ ), Phase 4 ( $\chi^2(5) = 127.58, p < 0.001$ ), Phase 5 ( $\chi^2(5) = 76.10, p < 0.001$ ) and Phase 6 ( $\chi^2(5) = 59.48, p < 0.001$ ). In particular, there were major differences in wellbeing scores across the occupations: Phase 1 ( $\chi^2(5) = 13.90, p = 0.008$ ), Phase 2 ( $\chi^2(5) = 18.35, p < 0.001$ ), Phase 3 ( $\chi^2(5) = 47.32, p < 0.001$ ), Phase 4 ( $\chi^2(5) = 56.63, p < 0.001$ ), Phase 5 ( $\chi^2(5) = 47.07, p < 0.001$ ) and Phase 6 ( $\chi^2(5) = 59.81, p < 0.001$ ). Findings for unweighted statistics can be found online (Supplementary File S1).

The results showed that wellbeing, ( $\chi^2(5) = 152.755, p < 0.001$ ), significantly declined across the phases. Phase 1 respondents reported the highest wellbeing (20.96) compared to Phase 2 (20.21) and Phase 3 (20.18). However, wellbeing rose again in Phase 4 (20.91) but alongside Phase 5 (20.81), and Phase 6 (20.34) was still lower than Phase 1. Dunn's pairwise comparison (adjusted using Bonferroni correction) revealed a significant difference between wellbeing in Phases 1 and 2, ( $p < 0.001$ ), Phases 1 and 3 ( $p < 0.001$ ), and Phases 1 and 6 ( $p < 0.001$ ). There were also significant differences between Phases 2 and 3 ( $p = 0.026$ ), Phases 2 and 4 ( $p < 0.001$ ), Phases 2 and 5 ( $p < 0.001$ ), Phases 3 and Phase 6 ( $p = 0.008$ ), Phases 3 and 4 ( $p < 0.001$ ), Phases 3 and 5 ( $p < 0.001$ ), Phases 6 and 4 ( $p < 0.001$ ), and Phases 6 and 5 ( $p < 0.001$ ).

The overall WRQoL ( $\chi^2(5) = 344.55, p < 0.001$ ) significantly decreased across the six phases. Across the first three phases, there was a decrease in scores with a mean rank WRQoL score of 78.09 for Phase 1, 72.53 for Phase 2 and 71.98 for Phase 3. While Phase 4 showed a slight increase with a score of 75.65, it then decreased with a score of 73.38 in Phase 5 and 71.99 in Phase 6. Dunn's pairwise comparison revealed a significant difference in overall WRQoL between all of the individual phases ( $p < 0.05$ ), except for between Phases 2 and 3 ( $p = 0.098$ ), Phases 3 and 6 ( $p = 0.464$ ) and Phases 6 and 2 ( $p = 0.550$ ), which showed no significant differences.

Family-work segmentation ( $\chi^2(5) = 236.23, p < 0.001$ ), work-family segmentation ( $\chi^2(5) = 114.12, p < 0.001$ ), working to improve skills/efficiency ( $\chi^2(5) = 172.02, p < 0.001$ ), recreation and relaxation ( $\chi^2(5) = 117.03, p < 0.001$ ) and exercise ( $\chi^2(5) = 357.16, p < 0.001$ ) all significantly changed across the phases. Active coping ( $\chi^2(5) = 309.36, p < 0.001$ ), planning ( $\chi^2(5) = 94.35, p < 0.001$ ), positive reframing ( $\chi^2(5) = 166.72, p < 0.001$ ), acceptance ( $\chi^2(5) = 198.40, p < 0.001$ ), emotional support ( $\chi^2(5) = 119.02, p < 0.001$ ), instrumental support ( $\chi^2(5) = 177.15, p < 0.001$ ), venting ( $\chi^2(5) = 372.82, p < 0.001$ ), substance use ( $\chi^2(5) = 75.71, p < 0.001$ ), behavioural disengagement ( $\chi^2(5) = 240.07, p < 0.001$ ) and self-blame ( $\chi^2(5) = 463.46, p < 0.001$ ) all showed significant differences between the six phases. As shown in Table 2, most of the positive coping strategies (active coping, positive reframing, acceptance, use of emotional support, instrumental support) showed decreases over the first three phases, while they increased in Phase 4 before decreasing again across Phase 5. The negative more avoidant strategies (venting, substance use, behavioural disengagement and self-blame) initially showed increases between Phases 1 and 3, while they decreased in Phase 4 before showing signs of increasing in Phases 5 and 6. While there are significant differences, the results show fluctuations between increases and decreases in the use of positive or negative coping strategies.

## 4. Discussion

### 4.1. Main Messages

The aim of the present paper was to compare cross-sectional data collected in the UK at six different time points (May–July 2020, November–February 2021, May–July 2021, November 2021–February 2022, May–July 2022 and November 2022–February 2023). The study explored the differences in overall wellbeing and work-related quality of life across the phases before showing differences across the five examined occupations (nurses, midwives, AHPs, social care workers and social workers) during the COVID-19 pandemic.

Decreases in wellbeing and work-related quality of life between Phases 1 and 6 are the key finding of this study. At the start of the pandemic in the UK, with death tolls rising in the public and in the HSC workforce, the wellbeing of the workforce, though low in comparison to the population norms for wellbeing [60], retained some buoyancy, possibly due to popular support [51]. However, as the pandemic progressed, many experienced increased pressures stemming from changes to practice and services, a lack of resources to cope with increased and new workloads, staffing problems from sickness and other absences and feeling unsupported with a skewed home/work balance and lack of equipment, whereby all of which may have contributed to lower levels of wellbeing. Generally, wellbeing through all phases of this study was lower than the UK population average of 23.6 [60,61]. This is an important point to remember, as it highlights how the pandemic amplified pre-existing problems as well as adding new ones. The UK HSC system was ill-equipped to face the pandemic in many ways, being reliant on a workforce that was already tolerating high turnover and vacancies, and normalising low wellbeing [62]. Indeed, by enabling comparison between the HSC sectors, we found that social care and social workers were experiencing lower wellbeing and WRQoL than health care respondents [63].

The decrease in wellbeing can be associated with the decrease in work-related quality of life. In comparing the findings of this study to a pre-pandemic UK NHS workforce study [56] which reported a mean normative score of 3.44, the findings from this study are lower across the phases (Phase 1:  $78.09/23 = 3.40$ ; Phase 2:  $72.56/23 = 3.13$ ; Phase 3:  $71.98/23 = 3.13$ ; Phase 4:  $78.64/23 = 3.29$ ; Phase 5:  $74.39/23 = 3.23$  and Phase 6:  $71.99/23 = 3.13$ ). A COVID-19 study in the United States reported a mean score of 3.3 [64], similar to Phases 3 and 4 of this study, where the study highlighted that COVID-19 had an impact on burnout and on HSC workers' WRQoL. This finding was also reported in our wider HSC workforce study [65]. The fluctuations in WRQoL within this six-phase study could be due to an imbalance in work and home life situations, which Makabe et al. [66] noted decreases job satisfaction and WRQoL.

We need to highlight the risk of depression and anxiety as being prevalent in HSC staff, and possibly lasting beyond our data collection period. Indeed, our data about the use of negative strategies used by individuals to manage these risks provides important warning signs of a growth in negative coping strategies, such as the use of alcohol and expressions of anger and distress through venting. The implications of these are for the individuals themselves but also for team and collegiate working, their social networks and patient or user outcomes. In several professional groups there are, as of yet, little baseline data on such activities to enable comparisons or guidance for employers that is relevant to the specific professional activity (see, for example, Pezaro et al.'s review on midwives' use of problematic substances) [67]. The overall challenges related to NHS funding by recent successive UK governments underpin the many failings evident in declining workforce morale, with industrial action and action short of strikes in health, education and many other sectors. This provides further evidence of systemic failings and the necessity for policy and legislative reform for pandemic recovery. Certainly, a different approach is needed to improve working conditions more widely.

### 4.2. Limitations and Strengths

As with any research study, several limitations existed within this project. The wider study used a repeated cross-sectional design, and the data presented for the current study

were collected at six time points. A limitation of cross-sectional research designs is that they only provide a snapshot of the outcomes for that population at a specific time and therefore are not able to assess incidence or infer causality [68]. This limits the evaluation of any association within each examined outcome [69,70]. Nevertheless, a benefit of repeated cross-sectional studies is that they can provide information over several timepoints and, as in this study, use this to develop recommendations to improve practices and policies for the HSC workforce. Additionally, the study examined the HSC workforce in a way that few other studies did during the COVID-19 pandemic by spanning the sector across multiple service settings and locations. While we did not include medical practitioners in this study, we included a wide variety of vital frontline professionals. This research has examined their combined and different experiences at six data collection periods from the start of the pandemic in 2020 to its declared end in 2023 [71].

A convenience sampling method was used by sharing the survey link through social media platforms such as Twitter and Facebook, alongside emails to HSC organisations. While this method of non-probability sampling is a simple way to collect large amounts of data, it offers a large proportion of those working in HSC settings an equal chance of participating in the study if they are connected and confident with technology. Convenience sampling may have less clearer generalisability and an increased risk of selection bias [72–76]. However, this method of sampling helped to provide access to the widest sample within the HSC population during the pandemic period [73]. Recruitment and sample attrition proved to be a challenge; obtaining a sample which resembled the overall HSC workforce was difficult to achieve, with most respondents within the study identifying as being of White ethnicity (96.2%) and/or female (87.3%). The UK parliament [77] highlighted that women hold 77 percent of jobs within the HSC sector, far higher than in any other sector (education, construction, manufacturing, retail trade, transportation); so, gender representation in the present study may be considered to be reasonable, unlike ethnic diversity.

Another limitation is the self-report nature of the online survey. While the survey was anonymous, self-report questions can be subject to recall bias or social desirability bias [74,78,79]. To overcome this challenge and provide the most honest, unbiased answers, questions were kept clear and concise. Within this study, over two thirds of the sample were working in social care and social work (64.2%), which have substantial differences from the health sector. At the time of the present surveys, other NHS-directed surveys were examining the impact of COVID-19 in hospital settings, which would have targeted respondents from nurses, midwives and AHPs; therefore, they may have completed other surveys. Additionally, survey fatigue could play a role [80–82] in the sample size within each phase of the present study, as there was a decrease in numbers by the last phase. Given the uneven representation of participants from across the four UK countries and five occupational disciplines in the study sample, a two-factor weighting procedure by occupation and region (i.e., country of work) was utilised. By weighing the data, this helped to account for the different distribution of occupational groups and countries across the six study phases, which may have diminished the possible effects of inherent biases, while addressing sampling and non-response bias. Evidence suggests that this will help to provide a more accurate representation of the population under examination [83,84].

#### 4.3. Implications

At the time of writing this article (July 2023), it has been over three years since the COVID-19 pandemic changed the world and the HSC workforce as we knew it. Even with the World Health Organization [71] indicating that COVID-19 is no longer an international public health emergency but an ongoing health matter, the HSC workforce is faced with an uphill task to return to some normality. Initially, the UK rallied around the HSC workforce with the Clap for Carers initiative [51], but public dissatisfaction is growing. Prior to the pandemic, this workforce was already facing serious pressures, but now as we navigate this 'new normal', waiting lists are at all-time highs, staff turnovers have increased and

public support for these services is waning [10,42,43,85–87]. A recent review [88] noted that six key components are important in terms of WRQoL, which fluctuated over the course of the six phases in this study. It noted that organisational components, mental wellbeing and health, job characteristics, professional identity, physical wellbeing and health and work to home spillover are important factors for organisations, regulators and the government to consider when moving forward.

In social care alone, staff turnover increased from 13.6% to 15% [89]. Towers et al. [90] highlighted that within the adult social care workforce, time pressures and limited resources, low rates of pay, training and development opportunities and working schedules impacted workers' quality of working life. These high-pressure workloads have taken their toll, particularly within the social care sector as challenges are continuing post-pandemic. Similarly, research within the health service has noted that systematic challenges, high levels of stress, emotional exhaustion and a lack of beneficial support have played a part in increasing staff turnover and other problems with staffing levels within this sector [91,92]. Regarding NHS turnover, rates have increased from 9.6% in 2020 to 12.5% in 2022, with no signs of reducing in 2023 [85]. This evidence coincides with the results of this study, which indicate that wellbeing and WRQoL scores were on the decline again by the end of the Phase 6 data collection (February 2023). These levels cannot afford to decrease much further for the overall health of this workforce. Improving wellbeing support must become a priority.

Based on our good-practice recommendations, as set out in the Phase 6 report [65], which emerged from the findings, sustained support and two-way communication are essential across three system levels (individual, organisational and policy) in order to improve the wellbeing and quality of the working life of the HSC workforce. Evidence suggests that the COVID-19 pandemic has had a drastic impact on the HSC workforce, with many experiencing trauma and other mental-health-related challenges [93]. The authors suggested a stepped pathway with the integration of psychological first aid. Another Northern Ireland study [94] noted that regular communication was important to help protect HSC staff's psychological wellbeing. There is a need to provide a safe working environment with a meaningful but manageable workload to ensure that the wellbeing of staff is prioritised. Communication, teamwork and recognition of skills could be important factors moving forward. The pandemic has led to some relationships in the workplace becoming fractured at times, and communication within organisational hierarchies needs to be clearer and assist in promoting the value and recognition of all workers.

Specifically, there are three sets of implications from this study's findings. The first are for human resource (HR) professionals who face urgent problems of recruitment, high staff turnover and vacancy management. Alongside these pressing concerns are the need to support existing staff who may still be being affected by the pandemic's legacy. Our data reveal the importance of mental health problems such as anxiety and depression, meaning that HR professionals need to take a system-wide approach, from early recognition and response to effective responses when problems become acute. In larger organisations, this means working with occupational health service providers to assist individuals to accept early help and encouraging colleagues and managers to offer support to those with symptoms or behaviour suggesting that help might be needed. For staff whose symptoms have become severe, HR strategies to support access to help and recovery will need to be effective and possibly revised.

Secondly, the value of our study lies in thinking about responses needed by the wider HSC sector in countries such as the UK where there are many small- and medium-sized employers, as well as large corporations, local government and the NHS. The inter-reliance of the HSC sector is strong, since people often need support from care services to prevent them from accessing health services unnecessarily or to promote a better quality of life at home rather than in clinical settings. This means that there is strong synergy between employers and much movement between sectors, as well as similar locally shared problems. Our study suggests that employers have problems in common affecting their workforces,

and could therefore work together to share good practice, resources and mutual aid. While deployment to other parts of an organisation, with consent and relevant training, may be one way of assisting an individual, it may also be helpful for people to learn of other opportunities in HSC, perhaps regarding less intensive work or work that is differently orientated. Rotating contracts is one suggestion in this regard.

The third set of implications is employee-focused and includes groups such as trades unions and professional organisations. They have a real and potentially more important role in advising their members of employee-related entitlements and in advocating for improved terms and conditions of work. The implications of our study are that the serious nature of workforce problems is likely to be unable to be resolved by employers alone, but needs creative thinking and problem solving from all those invested in HSC and who want the best outcomes for patients and service users. Within the UK, for example, the Royal College of Nursing (RCN) published testimonies such as ‘Facing COVID-19: RCN reps share stories of the pandemic’ [95] and has indicated its interest in providing evidence to the statutory UK COVID-19 Inquiry which has been set up to examine the UK’s preparedness for and responses to the COVID-19 pandemic, and to learn lessons for the future. The RCN has also sponsored research into nurses’ experiences of disregard and silence during the pandemic when drawing attention to employers’ sub-optimal practices [96], suggesting the importance of rebuilding services that are more open to learning from frontline practitioners and research on wellbeing and retention problems. Safe staffing levels apply in all HSC settings and some promise is being shown in this regard, becoming a legislative requirement in the UK, with Scotland leading here with the introduction of the Health and Care (Staffing) (Scotland) Act 2019. At the time of writing, Northern Ireland is examining safe staffing in social work, and research in this area is ongoing in preparation for legislation expected in the coming years [97].

## 5. Conclusions

To conclude this paper, the emphasis must be placed on the evidence presented and the findings reported. The overall psychological wellbeing and work-related quality of life of HSC workers during the COVID-19 pandemic significantly declined and this decline coincided with an increase in workers’ ‘intention to leave the profession’ [97]. The findings suggest that wellbeing and work-related quality of life scores continue to fluctuate and showed a decrease from the start of the pandemic in 2020 to the end of the pandemic in 2023. Any further decline could prove detrimental to the retention of staff in the HSC sector; therefore, more support is warranted. Further research is needed on the lasting impact of burnout and events of the pandemic that have affected this workforce. Furthermore, a qualitative study is essential with this workforce to uncover the most suitable level of support that works for them. This support is key to prevent any further deterioration of mental wellbeing, quality of working life and even physical health. This holistic support for HSC workforce wellbeing, sustainability and retention should be a government priority.

**Supplementary Materials:** The following supporting information can be downloaded at <https://www.mdpi.com/article/10.3390/biomed3030030/s1>: File S1: Unweighted data analysis.

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