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Public Health Wales
Research and Evaluation

Health and wellbeing of the nursing and midwifery workforce in Wales during the COVID-19 pandemic.

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Suggested Citation

Gray BJ, Kyle RG, Davies AR. (2022). *Health and wellbeing of the nursing and midwifery workforce in Wales during the COVID-19 pandemic*. Cardiff: Public Health Wales.

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Acknowledgements

First and foremost, we would like to thank all the respondents who took the time to complete the survey. We also express our thanks to Professor Holly Blake (University of Nottingham), Dr Iain Atherton (Edinburgh Napier University) and the Office of the Chief Nursing Officer (Welsh Government) who peer-reviewed the report and provided comments on the content. Finally, we would like also thank Rhiannon Beaumont-Wood (Public Health Wales), Helen Rogers (formerly Royal College of Midwives Wales), Helen Whyley (Royal College of Nursing Wales) and Dr Ian Mathieson (Council of Deans of Health Wales) for their support and distribution of the survey.

Funded by Public Health Wales

Public Health Wales is an NHS organisation providing professionally independent public health advice and services to protect and improve the health and wellbeing of the population of Wales. Production of this report was funded by Public Health Wales.

ISBN 978-1-83766-042-1

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Foreword

COVID-19 is the greatest challenge that our nursing and midwifery workforce in Wales has faced. Our people rose to this challenge and through their tireless effort provided excellent care to the population of Wales. As we now enter the third year of the pandemic, with its impacts still being felt across health and social care, it is critical that we understand how the pandemic has impacted the health and wellbeing of our people. Staff wellbeing, engagement and retention are core priorities in A Healthier Wales: Our Workforce Strategy for Health and Social Care. In May this year the Chief Nursing Officer for Wales' set out her priorities for 2022 to 2024, across the areas of leadership, recruitment and retention of a multidisciplinary workforce, towards improving health and social care outcomes and addressing equity and equality in Wales. These priorities highlighted the importance of working in partnership to support the health and well-being of the profession, whilst growing and transforming the workforce.

Public Health Wales have played a key role in understanding the health and wellbeing of the nursing and midwifery workforce. This second report building on the previously published Towards a Healthy and Sustainable Workforce for the Future provides an overview of current and emerging health and wellbeing challenges of working during the COVID-19 pandemic. For the first time, this new report includes the full spectrum of the workforce from student nurses and midwives to our senior colleagues. These insights will help shape our national strategy and organisational policies to ensure we have a sustainable, able, and well workforce for the future.

This report shows that supporting staff health and wellbeing should remain at the heart of our plans to attract, value and retain our talented and dedicated health and care workforce in Wales. We are keeping a very close eye on whether people leave the NHS due to pressures brought on by the pandemic and at the same time are supporting retention through a range of policies to enhance engagement and wellbeing to support people to remain in work.

As we continue to live with the impact of the pandemic it is imperative to ensure that mechanisms are in place to provide the support our health and care workforce needs. We will continue to work closely and collaboratively with our partners across Wales to monitor the impact of the pandemic and assess the support needed. This is more important now than ever.

We finally wish to express our heartfelt gratitude to our health and care professionals in Wales for everything they have done and continue to do to support the people of Wales during the pandemic and into recovery.

Rhiannon Beaumont-Wood
Executive Director of Quality, Nursing and Allied Health Professionals, Public Health Wales

Contents

Summary

Survey delivery, uptake and content

- To capture the health and wellbeing of the Nursing and Midwifery workforce in Wales during the COVID-19 pandemic, Public Health Wales carried out a national online survey amongst registered and student nurses/ midwives and health care support workers in Wales. In consideration of service pressures the survey was open between 21 June and 9 August 2021 and at a time where COVID-19 NHS pressures were the lowest in 12 months and Wales was beginning to move to alert stage one.
- Invitations to participate were distributed through Royal College of Nursing Wales, Royal College of Midwives Wales, Executive Directors of Nursing, Welsh Higher Education Institutions and Council of Deans for Health. Online social media promotion (Facebook, Twitter and Instagram) of the survey was also undertaken by Public Health Wales Communication Team.
- The questionnaire collated data on demographics, work related information (role, pay and environmental factors) and impacts of COVID-19 on health and wellbeing from respondents.
- In total, we had 2,910 respondents (1,748 nurses; 231 midwives; 578 healthcare support workers; 308 student nurses and 45 student midwives). This response is the equivalent of just under 7.0% (6.7%) of all registered and student nursing, midwifery and health visiting staff in NHS Wales. We classified 2,880 of these respondents into a professional grouping and it is these responses that are reported in this research.

Key Findings

Mental health and wellbeing

- Overall, 71% of respondents reported worsening mental health since the start of the pandemic and this was higher amongst those early in their nursing careers.
- Half of our respondents had mental wellbeing scores indicative of either probable clinical depression (31.0%) or possible mild depression (27.3%), probable clinical depression was highest amongst healthcare support workers (37.0%) and newly qualified nurses (36.3%).
- Nearly 8 in 10 respondents reported that they experience work-related stress.

Physical health

- Overall 51% of respondents reported that their physical health worsened since the start of the pandemic. The majority of respondents reported no change in alcohol consumption (60.0%), but over half of respondents reported worsening diet (58.5%) and, worsening levels of physical activity (54.2%).
- There were differences by professional roles, for example senior managerial nurses were most likely to report worsening alcohol consumption, and healthcare support workers were most likely to report worsening diet.
- Amongst respondents, 29.4% had had COVID-19, and of these half reported experiencing ill-effects of the virus up to 16 months post infection.

Working environment, practice and culture

- Attending work when unwell (presenteeism) was common. Overall, 8 in 10 respondents had attended work at least once in the past year when unwell, with 2 in 10 attending five or more times in the past year. Newly qualified nurses, mid-career nurses and healthcare support workers were the professional groups who reported frequently attending work when unwell (on more than 5 occasions in the last 12 months).
- The most common reasons for presenteeism were stress (75.7%), anxiety, depression or other mental health issues (60.6%) and musculoskeletal conditions (37.1%).

Intention to leave

- Overall, almost 6 in 10 respondents considered leaving the profession since the beginning of the COVID-19 pandemic. Intention to leave was highest among early career nurses (67.4%) and mid-career nurses (62.9%). Evidence demonstrates that feeling undervalued is the most common reason for considering leaving the profession. Overall, only 37.7% of respondents expressed feeling valued by senior staff. 38.5% reported they did not feel valued and this was lowest in students, midwives, entry level and mid-career level nurses.
- Whereas, the majority of our respondents indicated that they felt valued by patients' (72.2%) and patients family members (64.0%) and this was highest amongst students, healthcare support workers and midwives.

Key Considerations

- Our survey provides valuable insights into the health and wellbeing of student and registered nurses, midwives and healthcare support workers in Wales, and their reflections of the impact of the COVID-19 pandemic on their health. These findings are consistent with the growing body of evidence from other data sources across the UK.

- The levels of poor mental health reported amongst the nursing and midwifery workforce is a concern, both within the current COVID-19 response and the potential impact on both the health and wellbeing of the workforce and recruitment and retention in the longer term. Mental health should therefore remain a priority for any health and wellbeing workforce strategies.

- There are many interventions to support the mental health of frontline staff, but the quality of evidence on effectiveness is weak. An immediate priority is to strengthen the evaluation of what works for workforce wellbeing, considering context and differences across professional groups.

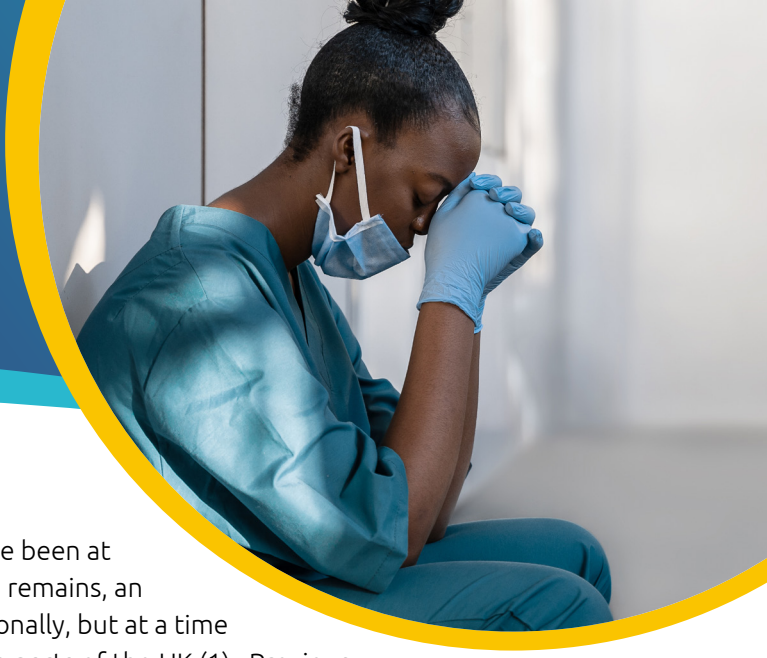
- Understanding the longer term direct and indirect impact of responding to COVID-19 on the physical and mental health of the nursing and midwifery workforce in Wales, and differences between professional groups, is needed to better direct support.

- The factors contributing to not taking breaks are complex and likely to be different by workplace, time, staffing pressures, level of activity, culture and somewhere to go. A better understanding why can help address localised actions to support.

- The number of those considering leaving the profession is a concern, particularity the sharp increase observed in the transition phase from newly qualified to early career nurse. Increasing opportunities to demonstrate collective and compassionate leadership, together with an emphasis on a sense of belonging can help to address the imbalance in feelings of value which recent evidence found to be a key contributing factor to the rise in those considering leaving the profession.

- Targeted and consistent evidence informed actions to improve NHS staff health and wellbeing remain a key priority. Poor mental health underpins many of the health and wellbeing challenges of the nursing and midwifery workforce in Wales today. The COVID-19 recovery phase and beyond provides an opportunity to comprehensively address these challenges.

1.0 Introduction



Since March 2020, the nursing and midwifery workforce have been at the frontline tackling the COVID-19 pandemic. This was, and remains, an exceptionally challenging time not just physically and emotionally, but at a time where staff vacancies in the profession are at record highs in parts of the UK (1). Previous research, including our own, has highlighted the substantial burden of poor mental health within the nursing and midwifery profession and emphasised the importance of strategies to address this prevalence (2–5). During the early months of the pandemic (June 2020), research undertaken by the Royal College of Nursing (RCN) Wales indicated that staff were worried about their own mental health and felt less valued by government and senior executive-level management (6). Furthermore, the latest UK wide RCN Employment Survey has highlighted an increase in stress and other mental health issues as reasons for presenteeism between 2019 and 2021 (7).

Nursing and midwifery staff represent 40% of the NHS workforce. Improving the wellbeing of the health and social care workforce in Wales remains of strategic importance to both Welsh Government and Public Health Wales. The flagship policy for health and social care in Wales, A Healthier Wales is based on the principles of the Quadruple Aims; one of which contains improving the wellbeing in the health and social care workforce (8). These aspirations were again echoed in the accompanying workforce strategy which sets out to achieve a workforce that is valued, fairly treated and wellbeing needs are supported (9). The Welsh Government COVID-19 pandemic recovery plans further emphasise the continued need to support and build resilience in the workforce, whilst also recognising their continued efforts (10).

The new Welsh Government Chief Nursing Officer has outlined two early priorities since taking office: (i) supporting the health and wellbeing of the Welsh nursing workforce and (ii) increasing staff recruitment and retention (11). Furthermore, in Wales, we have the growing momentum of our Nursing Now movement (12). Whereas, in 2020, we (Public Health Wales) published our report, Towards a healthy and sustainable workforce for the future: The current health and wellbeing of the nursing and midwifery workforce in Wales, (2) which proposed five key considerations for future action (Box 1).

Box 1 . Considerations for Action (Proposed in 2020)

1. **Support the mental wellbeing of the workforce**
2. **Strengthen prevention of ill health**
3. **Recognise and value the nursing and midwifery workforce**
4. **Understand the root cause of financial pressures**
5. **Focus on supporting 'at risk' populations**
    a) Younger workforce (18-39 years old)
    b) NHS Pay Bands 5 and 6

There are examples of ongoing or completed UK research on the impacts of COVID-19 on the nursing and midwifery workforce such as The Impact of COVID-19 on the Nursing and Midwifery workforce (ICON) and COV-ed Nurse studies (13,14). However, the key limitation is that there is a distinct lack of Welsh specific evidence in this topic area, more specifically on mental health impacts (15). It is therefore important to gain a more up-to-date picture of the health and wellbeing of the nursing and midwifery workforce in Wales, whilst also additionally considering the ongoing impacts on the student workforce. This study provides a large national sample for Wales. Building on our previous report, this analysis will focus on differences by professional groups. Focusing the analysis in this way will build on some of the emerging research (6,7,13,14) and help to enable targeted actions from a supportive workforce perspective. The additional purpose of this survey is to determine if actions proposed previously (Box 1) remain relevant given the seismic shift in the context due to COVID-19.

To enable us to provide recommendations for targeted action, we are seeking to answer the following research questions is this report.

- What have been the individual health and wellbeing impacts of COVID-19?
- Which professional groups were more or less vulnerable to adverse health impacts of COVID-19?
- Which professional groups experienced more adverse environmental (work) factors during COVID-19?
- Which professional groups are at greatest risk of premature workforce exit after COVID-19?

2.0 Methods

Study Design and Data Collection

In consideration of service pressures the survey was open at a time where COVID-19 NHS pressures were the lowest in 12 months and Wales was beginning to move to alert stage one. The cross-sectional data presented in this report was collected between 21 June and 9 August 2021 and delivered as an online survey by Quality Health Ltd, commissioned by Public Health Wales. The bilingual questionnaire was open to all of the nursing and midwifery workforce in Wales (registered/student nurses, registered/student midwives, health care support workers). Bilingual invitations to participate were distributed through Royal College of Nursing Wales, Royal College of Midwives Wales, Executive Directors of Nursing, Welsh Higher Education Institutions and Council of Deans for Health. Online social media promotion (Facebook, Twitter and Instagram) of the survey was also undertaken by Public Health Wales Communication Team. Telephone or paper completion of the survey was available on request.

Questionnaire Measures

The questionnaire collated data on demographics, work-related information (role, pay and environmental factors) and impacts of COVID-19 on health and wellbeing from respondents. Questions used validated tools where possible or were adapted from similar national surveys or surveys within the topic area. Box 2 shows some of the key measures and categories included in this report. Full methodological details and sources of questionnaire measures are in Box A1, Appendix 1.

Box 2. Overview of measures, questions and categories used in this report.

Measure	Question(s)	**Categories**
Mental Wellbeing	Short version of the Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS).	Raw scores converted to metric scores. Score of 18 or less indicative of **probable clinical depression.** Score of >18-20 indicative of **possible mild depression.**
COVID-19 Infection	Since the beginning of the pandemic, have you tested positive or experienced Covid-19 symptoms?	**Yes,** I tested positive **Yes,** I experienced COVID-19 symptoms but didn't get tested **Yes**, I experienced COVID-19 symptoms but tested negative **No**
	Do you still experience effects from COVID-19 (often called 'Long COVID') that impact on your day-to-day life?	**Yes** **No**
Intention to Leave	Have you seriously considered any of the following in the past 12 months?	Leaving the nursing / midwifery / health care support worker profession Not registering with the profession at the end of my studies – Students Only **Yes to either**

Determination of Mental Wellbeing

Mental wellbeing was assessed using the short version of the Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS). Recently, the SWEMWBS has been aligned with more recognised clinical measures such as the Patient Health Questionnaire-9 (PHQ-9), with cut-off points for possible mild depression and probable clinical depression also now provided (16,17) (Box 2).

Classification of Professional Groups

As noted in the introduction, the focus of this report was to understand impacts of the COVID-19 pandemic on health and wellbeing by different professional groups. In total we had 2,910 respondents (1,748 nurses; 231 midwives; 578 healthcare support workers; 308 student nurses and 45 student midwives). This response is the equivalent of just under 7.0% (6.7%) of all registered and student nursing, midwifery and health visiting staff in NHS Wales (18,19). Box 3 shows how we defined the professional groups in this report. Midwives and healthcare support workers remained as separate professional groups, student midwives and student nurses were combined together into one student professional group. Nurses were categorised depending on their NHS Pay Band and years of experience (where applicable). Of our respondents, we were unable to classify 30 individuals into a professional group leaving a total of 2,880 included in our analysis.

Box 3. Criteria and definitions of professional groups.

Professional Group	Definition
Midwives	Midwives
Healthcare support workers	Healthcare support workers
Students	Student Midwives and Student Nurses
Newly Qualified Nurses	Nurses with under 1 year or 1-2 years since registration
Entry Level/Early Career Nurses	Nurses on NHS Pay Band 5 with 3 or more years since registration
Mid-Career Nurses	Nurses on NHS Pay Band 6
Senior Managerial Nurses	Nurses on NHS Pay Band 7

Statistical Analysis

Descriptive analysis was undertaken to explore the impacts of COVID-19 on health and wellbeing in the nursing and midwifery workforce in Wales. Differences between professional groups were explored using Chi-squared analyses and by multinomial and binary logistic regression models, adjusted for age and gender. Unless stated these associations are statistically significant ($P<0.05$). The data is presented as proportion of respondents or adjusted odds ratios (aORs) and 95% confidence intervals (CI) following logistic regression. Unless specified, aORs are calculated from multinomial logistic regression models.

3.0 Results

3.1 Study Participants

Table 1 provides an overview of the gender, age and professional groupings of the respondents included in this report. Broadly representative of the nursing and midwifery workforce in Wales (20), the majority of the respondents were female (n=2,683, 93.1%) and all age groups were represented. One fifth of respondents were healthcare support workers (n=578, 20.1%), 8.0% (n=231) were midwives, and 12.3% (n=353) were students. Nurses from across all career stages were also well represented in our study participants.

Table 1. Characteristics of Respondents (n=2,880)

Gender	n (%)
Female	2683 (93.1%)
Male	173 (6.0%)
In another way/Not provided	24 (0.9%)
Age Group	**n (%)**
18-29 years	546 (19.0%)
30-39 years	723 (25.1%)
40-49 years	728 (25.3%)
50-59 years	726 (25.2%)
60 years and older	153 (5.3%)
Not provided	4 (0.1%)
Professional Group	**n (%)**
Mid-Career Nurses	579 (20.1%)
Healthcare Support Workers	578 (20.1%)
Senior Managerial or Higher Nurses	503 (17.5%)
Entry Level/Early Career Nurses	472 (16.4%)
Students	353 (12.3%)
Midwives	231 (8.0%)
Newly Qualified Nurses	164 (5.6%)

3.2 Perceived Impact of COVID-19 Pandemic on Health

Our survey asked respondents to reflect on many different aspects of their health that they thought had got better, worse or stayed the same since the start of the pandemic. Figure 1 illustrates reflections from respondents on the impact of COVID-19 on many different aspects of health and wellbeing.

Mental health

Overall, 70.6% of respondents reported worse mental health, 27.8% reported no change and 1.6% reported improved mental health since the beginning of the pandemic. The highest proportions of worsening mental health were observed in students (79.0%) and newly qualified nurses (80.2%). After adjusting for age and gender, early career nurses were 1.37 [95% CI 1.02-1.83] times more likely than senior managerial nurses to report worsening mental health (Table B1, Appendix 2). We explored mental wellbeing further in Section 3.3.

Health-related behaviours

Respondents were also asked about the impact the COVID-19 pandemic had on a number of health related behaviours. Diet had worsened in over half (58.5%) of respondents, stayed the same in 30.8% and got better in 10.7%. Healthcare support workers (64.7%) and students (60.9%) were the two professional groups with the highest proportions reporting their diet had got worse. After adjusting for age and gender, healthcare support workers were 1.55 [95% CI 1.17-2.06] times more likely than senior managerial nurses to report worsening diet (Table B1, Appendix 2).

Over half of respondents (54.2%) reported that their physical activity levels had worsened since the start of the pandemic, whereas 28.1% reported no change and 17.7% reported an improvement. Apart from midwives, over half of all other staff groups reported worsening physical activity. However, over one in five newly qualified nurses (21.5%) and students (20.5%) felt that their levels of physical activity had got better.

The majority of respondents (60.0%) reported no change in alcohol consumption since the beginning of the COVID-19 pandemic, 29.6% and 10.4% reported their alcohol consumption had got worse and improved, respectively. One in three senior managerial nurses (37.3%) reported worsening alcohol consumption. After adjusting for age and gender, midwives, healthcare support workers, students and mid-career nurses were all less likely to report worsening alcohol consumption than senior managerial nurses (Table B1, Appendix 2).

Physical health

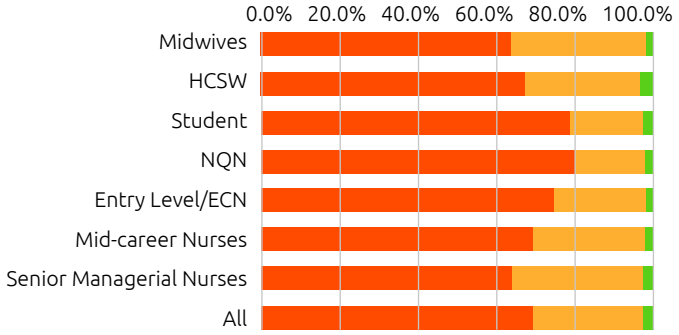
Over half (51.2%) of respondents reported that their physical health had become worse since the pandemic started, 41.0% reported no change and 7.8% reported better physical health. Early career nurses (58.1%), mid-career nurses (52.3%) and senior managerial nurses (53.6%) were the professional groups who reported the highest proportions of worsening physical health. After adjusting for age and gender, healthcare support workers were less likely to report improvements in physical health and midwives less likely to report worsening physical health compared to those in senior managerial positions (Table B1, Appendix 2).

Relationships at home

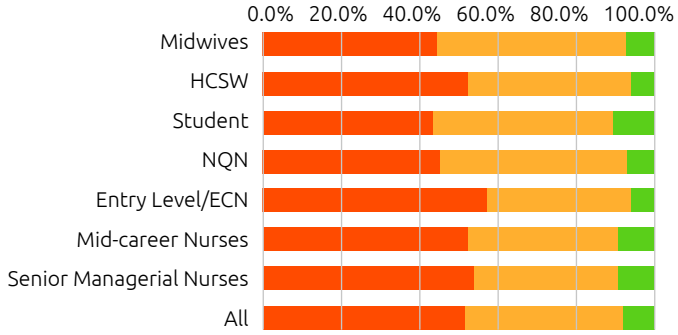
The COVID-19 pandemic has also had a perceived impact on the home relationships of the workforce. Home relationships had remained the same in over half (56.8%) of respondents, improved in 13.0%, and worsened in 30.1%. The staff groups reporting the highest proportions of worsening home relationships were newly qualified nurses (36.4%), students (33.8%) and healthcare support workers (32.7%). After adjusting for age and gender, early career nurses were 1.51 [95% CI 1.02-2.25] times more likely to report an improvement in home relationships than senior managerial nurses (Table B1, Appendix 2).

Figure 1. Self reported perception of the impacts of COVID-19 on different aspects of health and wellbeing amongst the nursing and midwifery respondents.

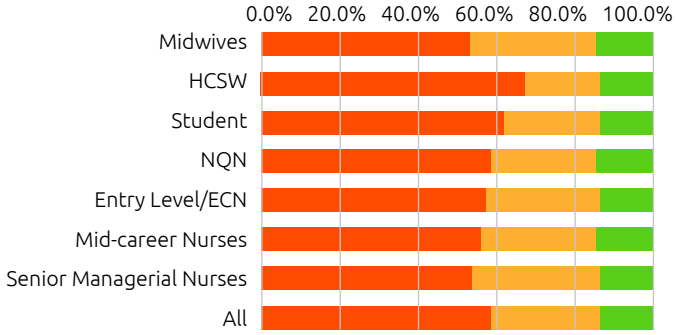
Mental health



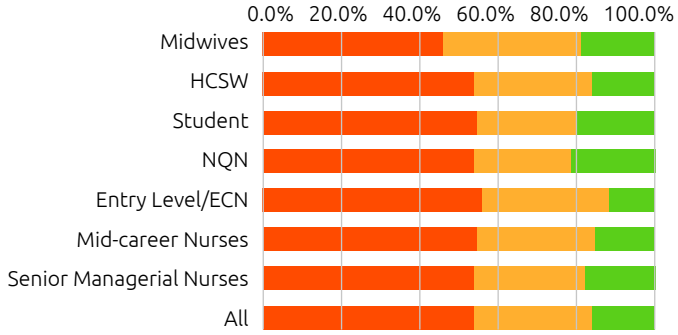
Physical Health



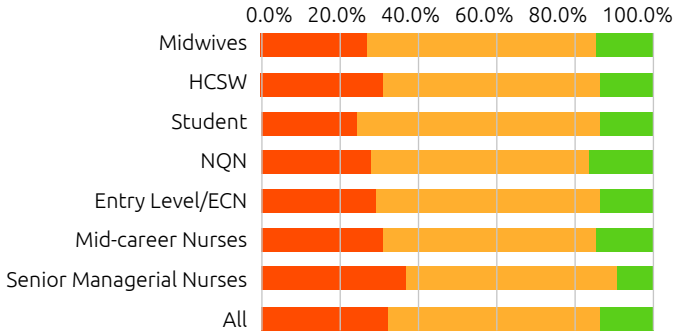
Diet



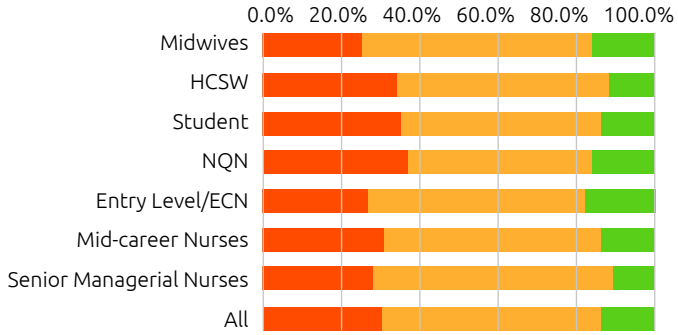
Physical Activity



Alcohol Consumption



Home Relationships



Got Worse No Change Got Better

Associations between professional groups assessed by Chi-squared analyses were all statistically significant (P<0.05). HCSW: Healthcare support workers, NQN: Newly Qualified Nurses, ECN: Early Career Nurses.

3.3 Mental Wellbeing

To ascertain levels of mental wellbeing in the nursing and midwifery workforce at the point of the survey we used the short version of the Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS). The most prevalent markers of poorer mental wellbeing were never or rarely feeling relaxed which was reported in over half (57.6%) of respondents, never or rarely feeling optimistic about the future (29.7% of respondents) and never or rarely feeling close to others (29.2% of respondents) (Table 2). Those staff groups who reported the highest proportions of never or rarely feeling optimistic about the future were healthcare support workers (31.9%), early career (37.6%) and mid-career nurses (35.3%). Over 60% of healthcare support workers, students and newly qualified nurses reported never or rarely feeling relaxed. These staff groups (healthcare support workers, students and newly qualified nurses) also reported the highest proportions of not feeling close to others, which is likely to reflect the reporting of a worsening in home relationships in these groups (Section 3.2).

Recent developments of the SWEMWBS scale enable calculation of the proportion of respondents with probable clinical depression or possible mild depression. Taken together, half of the respondents (58.3%) had scores indicative of probable clinical depression (31.0%) or possible mild depression (27.3%). Over 60% of healthcare support workers, newly qualified nurses and early career nurses were observed to have probable clinical depression or possible mild depression (Table 2). The highest proportions of probable clinical depression were observed in healthcare support workers (37.0%) and newly qualified nurses (36.3%). After adjusting for age and gender, healthcare support workers were 2.30 [95% CI 1.69-3.12] times and all other grades of nursing (newly qualified: 1.86 [95% CI 1.18-2.94; early career: 1.98 [95% CI 1.44-2.74]; and mid-career: 1.63 [95% CI 1.21-2.19]) more likely to report scores indicative of probable clinic depression than senior managerial nurses (Table B2, Appendix 2).

Table 2. Exploration of most prevalent markers of poorer mental wellbeing in the nursing and midwifery workforce in Wales.

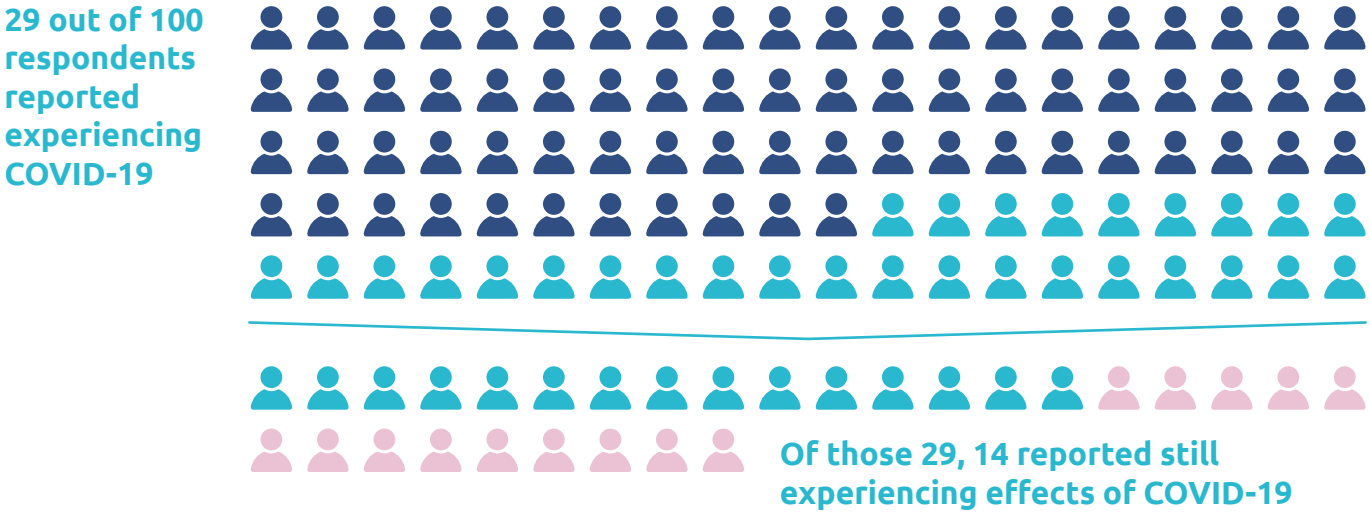
(Never/Rarely)	Midwives	Healthcare Support Workers	Students	Newly Qualified Nurses	Entry Level/ Early Career Nurses	Mid-Career Nurses	Senior Managerial Nurses	All	p-value
Feeling optimistic about future	25.3%	31.9%	18.5%	25.0%	37.6%	35.3%	25.4%	29.7%	**<0.001**
Feeling useful	8.6%	18.1%	14.7%	16.9%	19.6%	15.7%	12.3%	15.6%	**0.002**
Feeling relaxed	57.5%	61.4%	63.6%	66.3%	55.2%	54.8%	51.5%	57.6%	**0.001**
Dealing with problems well	11.3%	21.1%	23.1%	23.8%	19.1%	17.0%	14.5%	18.4%	**0.001**
Thinking clearly	10.4%	23.4%	19.1%	16.9%	16.2%	17.9%	13.5%	17.4%	**<0.001**
Feeling close to other people	21.3%	33.7%	33.5%	33.8%	29.7%	28.4%	23.7%	29.2%	**<0.001**
Able to make up own mind about things	6.3%	15.4%	13.3%	13.1%	9.2%	13.0%	10.0%	11.9%	**0.004**
Probable Clinical Depression	22.6%	37.0%	30.9%	36.3%	32.0%	32.4%	23.9%	31.0%	**<0.001**
Possible Mild Depression	29.0%	29.7%	28.3%	27.5%	31.5%	24.1%	23.1%	27.3%	
Probable or Possible Depression	51.6%	66.7%	59.2%	63.8%	63.5%	56.5%	47.0%	58.3%	

Data is presented as proportion of respondents who completed all elements of SWEMWBS (n=2,759). Green cells indicate proportion <12.5%, amber, a proportion between 12.5%-24.9% and red, a proportion of 25% or higher.

3.4 COVID-19 Infection

In our respondents, 29.4% self-reported that they had ever experienced COVID-19 (either symptomatic and/or tested positive for SARS-CoV-2). Of those members of the workforce who self-reported experiencing COVID-19, half (49.6%) were still experiencing some longstanding ill-effects of the virus, potentially up to 16 months post infection. (Figure 2).

Figure 2. Self-reported prevalence of COVID-19 and those still experiencing effects from COVID-19 in the Welsh nursing and midwifery workforce (per 100 respondents).



Newly qualified nurses (44.8%), early career nurses (38.9%), students (31.4%) and healthcare support workers (30.7%) were the professional groups with the highest prevalence of COVID-19. Midwives were the professional group with the lowest prevalence of COVID-19 (16.9%; Table B1, Appendix 2).

In those members of the nursing and midwifery workforce who self-reported experiencing longer-term effects of COVID-19, fatigue and brain fog were the most commonly reported symptoms (Table 3). Other common symptoms included shortness of breath and insomnia, joint pain, and depression or anxiety.

Table 3. The prevalence of symptoms reported by those members of the nursing and midwifery workforce experiencing longer term effects from COVID-19 (n=844; multiple responses allowed).

Symptoms Reported	(%)
Fatigue	39.2%
Brain fog	28.8%
Shortness of breath	24.7%
Insomnia	24.5%
Joint Pain	21.3%
Depression or anxiety	20.6%
Heart Palpitations	15.6%
Chest Pain	12.8%
Dizziness	11.6%
Typical COVID-19 symptoms	9.2%
Pins and Needles	9.0%
Gastrointestinal	8.9%
Tinnitus	7.5%
Rashes	3.1%

3.5 Environmental (Workplace) Factors

We asked our respondents to reflect on day-to-day work environment reflecting practices and culture that impact on health and wellbeing. These factors were work- or study-related stress, frequently missing breaks and attending work when unwell (presenteeism). Some of these questions required recollection over the last 12 months which would have included the pressures on the NHS in winter 2020/2021.

Work- or study-related stress

Nearly 8 in 10 respondents reported that they experience work- or study-related stress (76.1%; Table 4). A high prevalence of study- or work-related stress was observed across all professional groups, with newly qualified nurses reporting the highest prevalence of work-related stress (82.3%).

Frequently missing breaks

Over half (53.0%) of respondents reported that they frequently miss their work breaks (Table 4). This was much greater in some professional groups, from 75.3% amongst midwives and 67.6% amongst senior managerial nurses. Students were the professional group who reported the lowest prevalence of frequently missing their break (28.6%), whereas this statistic doubled in newly qualified nurses (57.3%).

Presenteeism

Overall, 8 in 10 respondents had attended work at least once in the past year when unwell, with 6 in 10 doing so on more than one occasion and 2 in 10 attending five or more times (Table 4). The most commonly reported conditions for presenteeism were stress (75.7%), anxiety, depression or other mental health issues (60.6%) and musculoskeletal conditions (37.1%). Apart from students where gastrointestinal illness replaced musculoskeletal conditions as the third most common illness, these observations were consistent across all other professional groups (Table B4, Appendix 2).

The professional groups with the highest reported attendance at work 2-5 times when unwell were early career nurses (45.2%) and students (43.8%). After adjusting for age and gender, healthcare support workers (1.41 [95% CI 1.00-1.98]), newly qualified (2.04 [95% CI 1.15-3.63]) and early career nurses (1.79 [95% CI 1.25-2.56]) were more likely than senior managerial nurses to report attending work 2-5 times when unwell in the last 12 months. Newly qualified nurses (29.6%), mid-career nurses (27.6%) and healthcare support workers (26.8%) were the professional groups who reported frequently attending work when unwell on more than 5 occasions. After adjusting for age and gender, newly qualified nurses were 1.98 [95% CI1.04-3.76] times more likely to report frequently attending work when unwell in the previous 12 months compared to senior managerial nurses (Table B5, Appendix 2).

Table 4. Prevalence of environmental (workplace) factors reported by professional groups.

	Midwives	Healthcare Support Workers	Students	Newly Qualified Nurses	Entry Level/ Early Career Nurses	Mid-Career Nurses	Senior Managerial Nurses	All	p-value
Experienced work- or study-related stress	75.7%	76.1%	78.2%	82.3%	78.4%	76.0%	70.6%	76.1%	**0.028**
Frequently missed breaks (always/most of the time)	75.3%	45.5%	28.6%	57.3%	51.4%	53.7%	67.6%	53.0%	**<0.001**
Presenteeism (attending work when unwell)									
No, never	23.5%	16.6%	26.4%	11.1%	15.0%	18.0%	22.4%	19.1%	
Yes, once	18.1%	17.1%	15.7%	21.0%	17.4%	16.1%	15.8%	17.4%	**<0.001**
Yes, 2-5 times	38.9%	39.5%	43.8%	38.3%	45.2%	38.3%	37.8%	40.3%	
Yes, more than 5 times	19.5%	26.8%	14.2%	29.6%	22.4%	27.6%	24.0%	23.8%	

3.6 Feelings of Value

Our respondents were asked to consider to the extent that they agreed or disagreed with the following statement "I feel valued by patients/family members of patients/senior members of staff", Figure 3 shows these responses as reported by professional groups.

Valued by Patients

The majority of our respondents (72.2%) indicated that they felt valued by patients, 11.5% did not feel valued and 16.3% were not sure whether they felt valued or not. Feelings of value differed across professional groups, students (86.3%), midwives (74.2%) and healthcare support workers (75.4%) reported the highest prevalence of feeling valued by patients. In contrast, newly qualified nurses were the professional group to report the lowest prevalence of feeling valued and highest prevalence of not feeling valued (Figure 3). As the nursing profession progresses through their registered career, a gradient of feeling valued was observed.

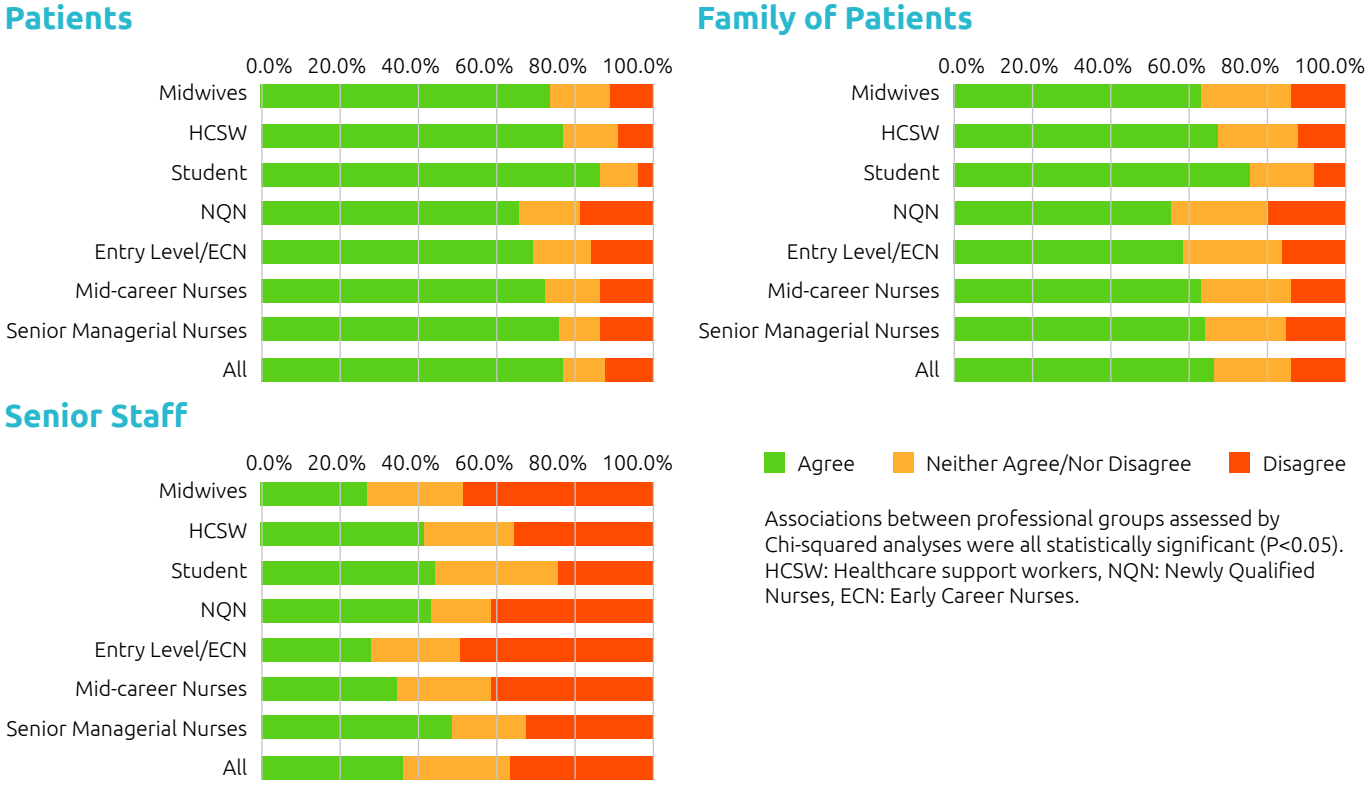
Valued by Family Members of Patients

Feeling valued by families of patients was reported by the majority of our respondents (64.0%), 12.5% did not feel valued and 23.5% were unsure (Figure 3). Students (77.0%) and healthcare support workers (68.7%) were the two professional groups to report the highest feelings of value, with newly qualified nurses again reported the lowest prevalence of feeling valued (54.3%).

Valued by Senior Members of Staff

The most polarising response in relation to value was feeling valued by senior staff, where 37.7% reported feeling valued and 38.5% reported that they did not feel valued (Figure 3). Senior managerial nurses (48.9%), students (43.6%), healthcare support workers (41.0%) and newly qualified nurses (41.1%) were the professional groups to feel most valued by a senior member of staff. However, a slightly higher proportion of newly qualified nurses (41.7%) also reported that they did not feel valued by senior staff. Approximately half of respondents who were early career nurses (50.5%) and midwives (48.3%) reported they did not feel valued by senior staff (Figure 3). After adjusting for age and gender, all professional groups except for newly qualified nurses, were less likely to agree that they felt valued by senior members of staff compared to those in senior managerial positions (Table B6, Appendix 2).

Figure 3. Perceptions of feeling valued by patients/family members of patients and senior staff as reported across professional groups.

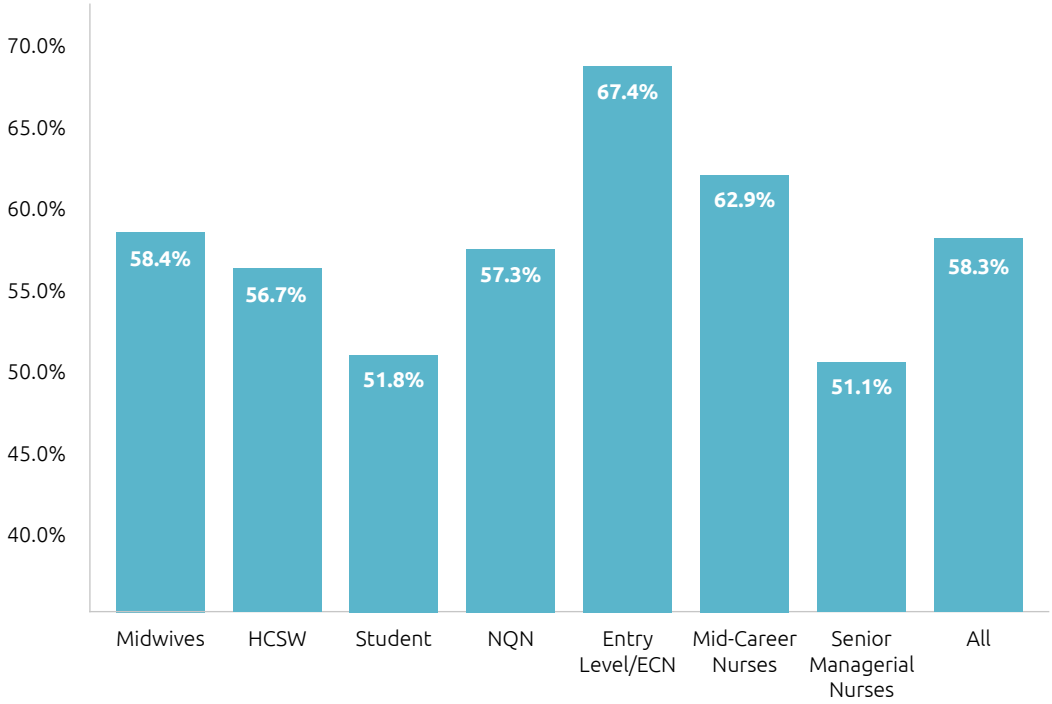


Associations between professional groups assessed by Chi-squared analyses were all statistically significant (P<0.05). HCSW: Healthcare support workers, NQN: Newly Qualified Nurses, ECN: Early Career Nurses.

3.7 Intention to Leave

Our survey also asked respondents if they had considered leaving the profession over the previous 12 months (i.e., during the early phases of the COVID-19 pandemic). Overall, almost 6 in 10 respondents indicated that they had considered leaving the profession (58.3%; Figure 4). Intention to leave was highest among early career nurses where almost 7 in 10 (67.4%) compared to 57.3% amongst newly qualified nurses. Intention to leave was lowest among senior managerial nurses (51.1%) and students (51.8%), but more than half of each professional group had considered leaving their role during the first year of the COVID-19 pandemic. After adjusting for age and gender in a binary logistic regression model, early career nurses were 1.92 [95% CI 1.47-2.51] and mid-career nurses were 1.54 [95% CI 1.21-1.98] times more likely than senior managerial nurses to have considered leaving the profession during the COVID-19 pandemic.

Figure 4. Intention to leave across professional groups.



Associations between professional groups assessed by Chi-squared analyses were statistically significant (P<0.05). HCSW: Healthcare support workers, NQN: Newly Qualified Nurses, ECN: Early Career Nurses.

4.0 Discussion

Our report summarises the health and wellbeing of student and registered nurses, midwives and healthcare support workers in Wales during the COVID-19 pandemic. On a broader level, it is also important to remember that nursing and midwifery are part of the population as a whole. Global and UK research has reported that the pandemic has had a disproportionate impact on the wellbeing of females (21,22), and younger aged caregivers (23) , all of which are reflected in our findings. It should be acknowledged that the health impacts of the pandemic have disproportionately affected Black and Asian minority groups (24), however, ethnicity is not covered by this report.

Whilst this study provides a comprehensive overview of health and wellbeing in the nursing and midwifery workforce in Wales in 2021, those who responded may not be representative of the wider workforce. The COVID-19 pandemic necessitated a solely digital recruitment, through email and social media, which may have excluded those not engaging on digital platforms. The respondents self-selected to take part in the study, and therefore the views and findings may not represent that of the wider workforce. It should also be considered that, given the timing of the survey within the COVID-19 pandemic, staff experiencing stress might have been more likely to respond if concerned about their own wellbeing at that time, or conversely less likely to respond due to the levels of stress. Lastly, many of the questions were retrospective in nature, therefore reliant on participant recall. To consider some of these biases we have sought to compare our findings with emerging research in this area from the UK in the discussion below.

In this discussion we also summarise and contextualise the main findings from this report and provide key implications aligned to four key priority areas of the Chief Nursing Officer in Wales (Mental Health; Health and Wellbeing; Leadership; Attract and Retain). In this survey we have also been able to compare between professional groups within the workforce to consider targeted actions, building on our previous evidence published in 2020 (2).

Prioritise the mental wellbeing of the workforce

Our survey highlights the substantial burden of poor mental wellbeing among the nursing and midwifery workforce in Wales. Overall, 7 in 10 respondents perceived that their mental health had got worse during the pandemic. Using recent developments in validating the SWEMWBS scale against diagnostic criteria (17), almost 6 in 10 respondents had scores indicative of probable clinical depression or possible mild depression. We observed that nurses at the beginning of their careers and healthcare support workers had the highest levels of probable clinical depression and possible mild depression compared to other professional groups. In addition, almost 8 in 10 of our respondents said they had experienced work or study-related stress. Mental health concerns in the nursing and midwifery workforce were also observed during the first wave of the ICON Study (April-August 2020), where one third of respondents reported scores indicative of post-traumatic stress disorder (13). The most prevalent marker of poorer mental wellbeing was never or rarely feeling relaxed which was reported in over 60% of students and newly qualified nurses. One contributing factor to these feelings, could be concerns about the impact of the pandemic on future career aspirations. A survey of students (which would also potentially include our newly qualified nurses) deployed to assist with the COVID-19 response in Wales reported that three quarters of respondents felt anxious about their future career at least once a week (25). In 17.2% of respondents these anxieties were a daily occurrence (25).

Supporting the mental wellbeing of the nursing and midwifery workforce was a key priority before the pandemic (2–5) and there was a call for support services to be more visible and better resourced (4). In April 2020, additional investment by the Welsh Government of £1 million enabled the roll-out of a mental health support service to all frontline workers in Wales during the COVID-19 pandemic (26). Whilst this survey was not a representative sample, the findings add to the wider evidence of the detrimental mental health impact of pressures of responding during the pandemic.

Prior to the COVID-19 pandemic, estimates suggested that the costs of mental health per employee in the NHS ranged between £1,794 - £2,174 (27), therefore, continuing mental health support for this workforce as we move towards recovery is essential. Any future investment is required to be sustainable and should be providing comprehensive and visible mental health support, counselling and, where appropriate, therapy through enhanced occupational health services in Health Boards across NHS Wales. This would enable these professional groups to process the experience and longer-term impact of COVID-19 on their professional and personal lives, especially among newly qualified nurses for whom COVID-19 has been the only practice experience known to them post-registration.

Key Considerations

- Mental health of the nursing and midwifery workforce in Wales is likely to be a wellbeing concern for the short- to mid-term COVID recovery period. Mental health should therefore remain a priority for any health and wellbeing workforce strategies.
- There are many interventions to support the mental health of frontline staff, but reviews have demonstrated that the quality of evidence on effectiveness is weak (28,29). Thus, an immediate priority is to strengthen the evaluation of what works for workforce wellbeing across Wales, considering interventions within the wider context, particularly for newly qualified and early career nurses and healthcare support workers.

The wider implications of health and wellbeing

The COVID-19 pandemic has also appeared to have had a very direct and potentially long-lasting impact on the health of the nursing and midwifery workforce. In our respondents, almost one in seven reported experiencing long-term ill-effects following COVID-19 infection, in some instances up to 16 months later. Fatigue and brain fog were the most commonly reported long-term symptoms following COVID-19 infection. Furthermore, responding to the public health emergency has directly impacted healthcare workers for almost 2 years, subjecting individuals to levels of stress over a long period of time unlikely to have been experienced at any other point in their careers. Chronic occupational stress has potential to impair cognitive performance (30,31) with further implications for patient safety and has potential to harm healthcare professionals' physical and mental health in the long-term. Supporting the health needs of the nursing and midwifery workforce needs to consider the longer term impact of COVID-19 on health, which will span mental and physical health.

In our previous report (2), the youngest members of the workforce (aged 18-39 years) and those employed on NHS Pay Bands 5 and 6 reported the poorest health and wellbeing. In this study, newly qualified nurses and early career nurses were again two of the professional groups that reported poorer health. Performing analysis by professional groups also highlighted the views of healthcare support workers. This group were most likely to report worsening diet in the past year, and reported the poorest mental health with two thirds (66.7%) having SWEMWBS scores indicative of either probable clinical depression or possible mild depression. Healthcare support workers are a large and important part of the healthcare workforce and the indications from this report are that they could have considerable health and wellbeing concerns. Although there is limited evidence available, the latest results from the 2021 NHS Staff Survey in England reported that in healthcare support workers, the prevalence of attending work when unwell in the last three months and musculoskeletal injuries experienced at work are amongst the highest within the nursing and midwifery workforce (32). These emerging findings combined with our own self-selected respondents may indicate the need for further study in this staff group.

Supporting the health and wellbeing of the NHS workforce can also have a beneficial impact on patient health and wellbeing. A systematic review demonstrated that worsening health and wellbeing in staff, especially burnout is associated with poorer patient safety (33). In addition, nursing and midwifery staff work across every stage and setting of health and care and can play an integral role in health promotion (34). However, individual experiences often impact on the confidence to deliver effective health promotion messages (35). More specifically, diet and attitudes towards role modelling are positively influenced by engagement in health promotion practice (36). In our study, over half of respondents reported that their diet had worsened since the beginning of the pandemic, and this was more prevalent in students. Age and role also have an impact on confidence to deliver healthy conversations, with younger members of the nursing workforce and those in more junior roles having lower levels of confidence than their older or senior counterparts (35).

Key Consideration

- Understanding the longer term direct and indirect impact of responding to COVID-19 on the physical and mental health of the nursing and midwifery workforce in Wales, and differences between professional groups, is needed to better direct support.

Creating a positive working environment

Chronic presenteeism remains an issue in the nursing and midwifery workforce and over 6 in 10 of our respondents indicated that they had attended work two or more times when feeling unwell. In our study, healthcare support workers, newly qualified and early career nurses were at least 1.4 times more likely than senior managerial nurses to report attending work when unwell 2-5 times in the last 12 months. The two most commonly cited reasons for illness whilst being at work were stress or anxiety and depression. The prevalence of presenteeism, staff groups affected and reasons reported found here are consistent with the findings of the recent RCN Employment Survey in 2021 (7).

Whilst, there has been a reported decrease in nursing staff working when unwell since 2019 (7). Chronic presenteeism remains an concern in healthcare support workers, newly qualified and early career nurses, especially, with potential risks to themselves, and patients (37). Severity of illness, workload pressures, staffing shortages and a feeling of guilt are cited as key factors contributing to presenteeism in global and UK evidence (7,37–39). Better understanding what works to help prevent individuals from attending work when unwell can help to inform action to address this challenge.

Taking breaks at work are critical to ensure positive individual physical and mental wellbeing (40) and also to prevent fatigue and reduce the potential for decreased staff performance (41). However, approximately half of our respondents reported frequently missing breaks at work (53%), a value that is similar to our earlier data collected in 2019 (51%) (2). The facilities and environment of break areas are also important considerations, with high quality break areas perceived to positively influence staff and patient outcomes (42). During the pandemic, provisions of high quality rest areas through wellbeing areas improved work engagement, job satisfaction and patient outcomes (43,44).

Key Consideration

- The factors contributing to not taking breaks are complex and likely to be different by workplace, time, staffing pressures, level of activity, culture, and somewhere to go. A better understanding why can help address localised actions to support.

The importance of leadership and feeling valued

There remains a clear imbalance in the perceived feelings of value by patients and families of patients compared to senior staff members. Overall, 72.2% and 64.0% of respondents reported feeling valued by patients and families of patients, respectively, compared to just 37.7% who reported feeling valued by senior staff.

More opportunities to encourage approaches such as collective and compassionate leadership could help to address this imbalance and increase the perceived value by senior staff. Collective leadership requires listening to and supporting each other and everyone taking responsibility for the success of an organisation (45). Whereas, compassionate leadership is comprised of the following four behaviours; attending, understanding, emphasising and helping (46). In Wales, supervisors who model compassion were 2.6 times more likely to be seen as role models (5). A compassionate approach was also associated with better health and motivation in health and care staff including lower rates of depression, anxiety and depression (5). A realist evaluation of Schwartz rounds reported that when delivered optimally, one of the consequences is increased empathy and compassion for colleagues and patients alike (47). Compassionate leadership also features within Culture and leadership as part of the Belonging component in the ABC (Autonomy, Belonging and Contribution) framework proposed by the King's Fund to help support nurses and midwives to continue to deliver high-quality care (5). An emphasis on greater belonging could again help to increase feelings of value. Furthermore, compassionate leadership behaviours help to create psychologically safe environments (48). Positive leadership and managerial engagement is also associated with increased patient satisfaction (49), better decision making (49) and reduced patient mortality (50). Creating cultures of openness around for example, stress in the workplace through a combination of compassionate leadership and clinical supervision could result in safer environments for patients and could support the on-going and longer-term impact of the pandemic in mental health, with possible further benefits for the prevention of premature workforce exit.

A reduction in feeling valued by senior executives was also observed in the first few months (June 2020) of the COVID-19 pandemic (6). The relationships with senior leadership figures influence an individual's intention to leave the profession (51–53). In our survey 58% of respondents had considered leaving the profession over the last 12 months. In a survey amongst 1,293 RCN members in Scotland in 2021, 41% considered leaving, and 20% were actively planning on leaving (54). In the recent RCN Employment Survey, feeling undervalued was reported by almost 70% of the respondents who had considered leaving the profession (7). This association may also somewhat explain the increased intention to leave in early career nurses compared to newly qualified nurses. Overall, the proportions of feelings of valued by senior staff and the proportion considering leaving the profession are inversed across the nursing career spectrum, from students to senior managerial nurses. Therefore, addressing the perceived low feelings of value in the nursing and midwifery workforce could help to prevent premature workforce exit, especially at a time when UK staffing levels are critical (1,55). The majority of students in Wales who were deployed to assist with the COVID-19 response reported feeling welcomed (90.9%) and supported (81.9%) in their respective placements (25). Something positive to reflect on, that even during this stressful and challenging time it is possible to provide the future cohort of the nurses and midwives in Wales with a sense of belonging.

Key Consideration

- The number of those considering leaving the profession is a concern, particularity from newly qualified to early career nurse. Increasing opportunities to demonstrate collective and compassionate leadership, together with an emphasis on a sense of belonging can help to address the imbalance in feelings of value which recent evidence found to be a key contributing factor to the rise in those considering leaving the profession.

Conclusion

Our survey provides valuable insights into the health and wellbeing of student and registered nurses, midwives and healthcare support workers in Wales, and their reflections of the impact of the COVID-19 pandemic on their health. These findings are consistent with the growing body of evidence from other data sources across the UK (2–5,7,13). To help inform the development of a sustainable nursing and midwifery workforce for the future, workforce plans need to take into consideration the direct and indirect impact of responding to COVID-19 on the health of the workforce in the longer term, and views on continuing in the profession. Targeted and consistent evidence informed actions to improve staff health and wellbeing remain a key priority. Poor mental health underpins many of the health and wellbeing challenges of the nursing and midwifery workforce in Wales today. The COVID-19 recovery phase and beyond provides an opportunity to comprehensively address these challenges.

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Appendices

Appendix 1. Detailed Methodology

Questionnaire Hosted Platform

The online survey was an integral part of Quality Health's Bespoke QMP Application. Developed and managed entirely in-house, the platform is predominantly written in .net and JavaScript and the underlying database is SQL Server. The portal itself was secure using SSL encryption.

Integrity Checks

The initial setup required the base structure – questions and response options – to be built in the QMP application. This was checked by two members of the Quality Health team before being authorised. Once confirmed as correct, the online layer was then applied directly. This was also subject to proofing and testing by more than one member of Quality Health staff and selected representatives from the client. Once signed off for content, test submissions are made and the captured data cross checked to ensure that no data loss or miscoding was happening. After fieldwork began, interim data was exported to facilitate more checks to make sure all combinations of responses are being received and any gaps are justifiable. Due to the online platform being fully integrated within the QMP application, it is not possible for data to be recoded at source. Captured data was checked for completion and validity by two members of staff and any blank responses would have been removed from the final numbers. As a final set of checks, the data files used for the base of the reports were also checked by members of the reporting team to ensure that errors hadn't been introduced post-export. These included range checks and comparisons to the underlying captured data and that contained in the export files. At this point data would also go through a routing process to ensure that any of the enforced rules regarding the display of linked questions (e.g. if ticked yes go to X) and any anomalies corrected to reflect those routes.

Cognitive Testing Summary

Quality Health undertook six cognitive testing interviews to test the 2021 Health and Wellbeing of Nurses and Midwives in Wales questionnaire. The interviewees included a student nurse, a student midwife, and a Welsh speaker, as well as nursing and midwifery professionals at Public Health Wales. The volunteers reviewed v0.3 questionnaire.

The volunteers were asked to complete the questionnaire as if doing so under normal circumstances. The interviews then followed a semi-structured format, where volunteers had the opportunity to raise any queries or concerns. The interviews probed particularly: if changes to the questionnaire were understandable/appropriate; if there were suitable answer options; and (in the case of the Welsh speaker) if the Welsh language used was appropriate. Interviews were, on average, completed in 30-45 minutes.

Recommendations (points raised by more than one individual) from the interviews resulted in the amendment of the wording for some questions to improve clarity. In addition, there were four suggestions of potential new questions to include in the survey (we have underlined the ones that were included in the final version).

- If people's personal relationships have been impacted by the pandemic*.
- How people found the administrative side of getting their vaccine.
- If PPE/homeworking have been barriers to building rapport with colleagues for new starters.
- If people have any caring responsibilities.

Box A1. Full Details of Questionnaire Measures Included in Report

Section	Question(s)	Source(s)
Impact of COVID-19 Pandemic on Health	• In your opinion, since the start of the Covid-19 pandemic has / have your…. mental health/physical health/diet/ physical activity/alcohol consumption/personal or home relationships*… got worse/got better/stayed the same?	How are we doing in Wales survey? – Public Health Wales. *Internal from Cognitive Testing
Mental Wellbeing	• Here are some statements about feelings and thoughts. Please describe your experience of each over the last 2 weeks. I've been feeling optimistic about the future/ I've been feeling useful/ I've been feeling relaxed/ I've been dealing with problems well/ I've been thinking clearly/ I've been feeling close to other people/ I've been able to make up my own mind about things	Short version of the Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS).
COVID-19 Infection	• Since the beginning of the pandemic, have you tested positive or experienced Covid-19 symptoms?	Internal (New this year)
	• Do you still experience effects from Covid (often called 'Long Covid') that impact on your day-to-day life?	Internal (New this year)
Environmental (Workplace) Factors	• During the last 12 months, have you felt unwell as a result of work-related stress / stress related to your studies?	Internal (Used in 2019 survey)
	• How often in the past 12 months have you either missed, or had to work through your break at work/placement (e.g. lunch break)?	Internal (Used in 2019 survey)
	• Over the past 12 months how often, if ever, have you gone to work/placement despite feeling you should really have taken sick leave?	RCN Employment Questionnaire 2017
Feelings of Value	• To what extent do you agree or disagree with the following statements? I feel valued by patients/family members of patients/senior members of staff?	RCN Employment Questionnaire 2017 and Internal
Intention to Leave	• Have you seriously considered any of the following in the past 12 months?	
	i. Leaving the nursing / midwifery / health care support worker profession	Internal (Used in 2019 survey)
	ii. Not registering with the profession at the end of my studies	Internal (New this year)

Appendix 2. Supplementary Data

Table B1. Changes in perceived health and wellbeing since the beginning of the pandemic by professional groups (multinomial logistic regression model).

	Mental Health		Physical Health		Diet	
Professional Group	*No Change vs. Got Better*	*No Change vs. Got Worse*	*No Change vs. Got Better*	*No Change vs. Got Worse*	*No Change vs. Got Better*	*No Change vs. Got Worse*
Midwives	0.52 [0.11-2.55]	0.81 [0.57-1.14]	0.56 [0.29-1.07]	**0.69 [0.50-0.96]**	0.56 [0.29-1.07]	**0.69 [0.50-0.96]**
Healthcare Support Workers	1.65 [0.67-4.05]	0.98 [0.75-1.29]	**0.60 [0.37-0.99]**	0.85 [0.66-1.11]	**0.60 [0.37-0.99]**	0.85 [0.66-1.11]
Students	0.88 [0.25-3.13]	1.09 [0.76-1.58]	0.78 [0.44-1.38]	0.72 [0.52-1.00]	0.78 [0.44-1.38]	0.72 [0.52-1.00]
Newly Qualified Nurses	0.79 [0.15-4.27]	1.18 [0.74-1.90]	0.50 [0.23-1.07]	0.75 [0.50-1.11]	0.50 [0.23-1.07]	0.75 [0.50-1.11]
Entry Level/Early Career Nurses	0.66 [0.19-2.31]	**1.37 [1.02-1.83]**	0.71 [0.42-1.20]	1.21 [0.92-1.59]	0.71 [0.42-1.20]	1.21 [0.92-1.59]
Mid-Career Nurses	0.81 [0.29-2.32]	1.11 [0.85-1.45]	0.95 [0.60-1.49]	0.96 [0.74-1.24]	0.95 [0.60-1.49]	0.96 [0.74-1.24]
Senior Managerial or Higher	Reference	Reference	Reference	Reference	Reference	Reference

	Physical Activity		Alcohol Consumption		Home Relationships	
Professional Group	*No Change vs. Got Better*	*No Change vs. Got Worse*	*No Change vs. Got Better*	*No Change vs. Got Worse*	*No Change vs. Got Better*	*No Change vs. Got Worse*
Midwives	0.78 [0.49-1.24]	**0.66 [0.45-0.94]**	1.24 [0.71-2.17]	**0.70 [0.49-0.99]**	1.37 [0.84-2.21]	0.88 [0.60-1.29]
Healthcare Support Workers	0.73 [0.50-1.06]	0.83 [0.62-1.11]	0.96 [0.60-1.54]	**0.74 [0.56-0.97]**	0.96 [0.64-1.46]	1.17 [0.88-1.55]
Students	1.09 [0.68-1.73]	0.92 [0.64-1.34]	0.77 [0.44-1.35]	**0.50 [0.35-0.71]**	0.99 [0.61-1.61]	1.08 [0.77-1.53]
Newly Qualified Nurses	1.19 [0.67-2.10]	0.96 [0.60-1.53]	1.21 [0.64-2.27]	0.66 [0.43-1.02]	1.31 [0.73-2.34]	1.31 [0.86-2.01]
Entry Level/Early Career Nurses	0.67 [0.45-1.00]	0.94 [0.70-1.27]	1.28 [0.80-2.05]	0.75 [0.56-1.01]	**1.51 [1.02-2.25]**	0.98 [0.73-1.33]
Mid-Career Nurses	0.81 [0.56-1.18]	0.95 [0.71-1.26]	**1.61 [1.04-2.48]**	**0.76 [0.58-0.99]**	1.25 [0.84-1.84]	1.15 [0.87-1.52]
Senior Managerial or Higher	Reference	Reference	Reference	Reference	Reference	Reference

Data are reported as adjusted odds ratios (for gender and age group) and 95% confidence intervals.

Table B2. Scores indicative of possible mild depression or probable clinical depression by professional groups (multinomial logistic regression model).

	No MH Condition vs. Possible Mild Depression	No MH Condition vs. Probable Clinical Depression
Professional Group		
Midwives	1.36 [0.92-2.01]	1.03 [0.69-1.56]
Healthcare Support Workers	**1.97 [1.44-2.70]**	**2.30 [1.69-3.12]**
Students	**1.53 [1.04-2.24]**	1.41 [0.97-2.06]
Newly Qualified Nurses	1.58 [0.97-2.57]	**1.86 [1.18-2.94]**
Entry Level/Early Career Nurses	**1.99 [1.45-2.76]**	**1.98 [1.44-2.74]**
Mid-Career Nurses	1.27 [0.93-1.73]	**1.63 [1.21-2.19]**
Senior Managerial or Higher	Reference	Reference

Data are reported as adjusted odds ratios (for gender and age group) and 95% confidence intervals.

Table B3. Proportion of different professional groups reporting past COVID-19 infection and those continuing to experience symptoms.

Ever had COVID-19 infection (test or symptoms)	(%)	Of those to have COVID-19, continuing to experience symptoms	(%)
Midwives	16.9%	Midwives	23.1%
Healthcare Support Workers	30.7%	Healthcare Support Workers	51.4%
Students	31.4%	Students	44.1%
Newly Qualified Nurses	44.8%	Newly Qualified Nurses	50.7%
Entry Level/Early Career Nurses	38.9%	Entry Level/Early Career Nurses	55.7%
Mid-Career Nurses	23.6%	Mid-Career Nurses	56.3%
Senior Managerial Nurses or higher	25.1%	Senior Managerial Nurses or higher	43.7%
All Professional Groups	29.4%	All Professional Groups	49.6%
p-value	**<0.001**	p-value	**0.003**

Table B4. Top three conditions reported for working when unwell by professional groups (multiple responses allowed)

Professional Group	Presenteeism Reason #1	Presenteeism Reason #2	Presenteeism Reason #3
Midwives	Stress (72.3%)	Other MH (53.2%)	MSK (32.9%)
Healthcare Support Workers	Stress (72.6%)	Other MH (63.3%)	MSK (38.2%)
Students	Stress (78.7%)	Other MH (70.9%)	Gastrointestinal (30.3%)
Newly Qualified Nurses	Stress (79.9%)	Other MH (71.5%)	MSK (31.9%)
Entry Level/Early Career Nurses	Stress (72.9%)	Other MH (60.6%)	MSK (43.2%)
Mid-Career Nurses	Stress (75.6%)	Other MH (61.0%)	MSK (41.4%)
Senior Managerial Nurses or higher	Stress (75.7%)	Other MH (48.9%)	MSK (35.2%)
All Professional Groups	Stress (75.7%)	Other MH (60.6%)	MSK (37.1%)

Full list of options for presenteeism

- Stomach upset / gastro-related illness
- Stress
- Anxiety, depression or other mental health issues (Other MH)
- Muscular-skeletal problems (e.g. back pain; MSK)
- Respiratory illness (Flu/cold)
- Covid symptoms (Fever/Loss of sense of smell or taste/Headache)
- Recurring condition (e.g. asthma)
- Pregnancy related
- Work-related injury or accident
- Non work-related injury or accident
- Other (Please specify)

Table B5. Frequency of working when unwell (presenteeism) by professional groups (multinomial logistic regression model).

	Never vs. Once	Never vs. 2-5 Times	Never vs. More than 5 Times
Professional Group			
Midwives	0.93 [0.55-1.55]	0.91 [0.60-1.40]	0.74 [0.45-1.21]
Healthcare Support Workers	1.20 [0.79-1.84]	1.29 [0.91-1.83]	1.41 [0.97-2.07]
Students	**0.53 [0.32-0.88]**	0.72 [0.48-1.08]	**0.39 [0.24-0.65]**
Newly Qualified Nurses	1.71 [0.86-3.39]	1.48 [0.80-2.73]	**1.98 [1.04-3.76]**
Entry Level/Early Career Nurses	1.47 [0.94-2.30]	**1.74 [1.20-2.52]**	1.43 [0.95-2.17]
Mid-Career Nurses	1.13 [0.75-1.71]	1.17 [0.84-1.65]	1.37 [0.95-1.97]
Senior Managerial or Higher	Reference	Reference	Reference

Data are reported as adjusted odds ratios (for gender and age group) and 95% confidence intervals.

Table B6. Feelings of value reported by professional groups (multinomial logistic regression model).

	Valued by Patients		Valued by Family of Patients		Valued by Senior Staff	
Professional Group	*Neither Agree or Disagree vs. Agree*	*Neither Agree or Disagree vs. Disagree*	*Neither Agree or Disagree vs. Agree*	*Neither Agree or Disagree vs. Disagree*	*Neither Agree or Disagree vs. Agree*	*Neither Agree or Disagree vs. Disagree*
Midwives	1.48 [0.94-2.32]	1.07 [0.57-1.99]	0.99 [0.67-1.45]	0.72 [0.41-1.25]	**0.38 [0.25-0.59]**	1.10 [0.73-1.65]
Healthcare Support Workers	1.36 [0.97-1.91]	0.65 [0.39-1.07]	1.28 [0.94-1.74]	**0.59 [0.37-0.93]**	**0.66 [0.48-0.92]**	0.78 [0.55-1.11]
Students	**2.96 [1.85-4.74]**	**0.29 [0.13-0.64]**	**1.68 [1.14-2.48]**	**0.21 [0.11-0.42]**	**0.58 [0.39-0.86]**	**0.40 [0.26-0.61]**
Newly Qualified Nurses	1.40 [0.82-2.38]	1.08 [0.55-2.14]	0.91 [0.57-1.45]	0.78 [0.42-1.42]	0.98 [0.57-1.67]	1.15 [0.67-1.97]
Entry Level/Early Career Nurses	1.04 [0.73-1.47]	1.07 [0.67-1.72]	0.86 [0.63-1.18]	0.92 [0.60-1.42]	**0.46 [0.32-0.66]**	1.36 [0.96-1.93]
Mid-Career Nurses	0.95 [0.68-1.31]	0.89 [0.57-1.40]	0.96 [0.72-1.29]	0.78 [0.51-1.19]	**0.53 [0.38-0.73]**	0.96 [0.69-1.33]
Senior Managerial or Higher	Reference	Reference	Reference	Reference	Reference	Reference

Data are reported as adjusted odds ratios (for gender and age group) and 95% confidence intervals.

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