Warrington Adult Health and Wellbeing Survey 2023
Emotional Health and Wellbeing Report

Produced December 2023 by
Warrington Borough Council Public Health Knowledge and Intelligence Team

Version control

Version number	Date	Amendments / Additions
1.0	30/11/2023	Final draft for review
1.1	04/12/2023	Error on page 23 amended

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Executive summary

Emotional and mental wellbeing is a key priority within Warrington and the findings presented in this report will support the development and delivery of public health strategies and interventions. The results from the 2023 Health and Wellbeing Survey show the importance for targeting interventions towards specific areas of the population.

Between the 2013 and 2023 surveys, the proportion of respondents reporting having low emotional wellbeing increased from 24.2% to 30.1%. Younger people and people living in the most socio-economically deprived areas were more likely to report having low emotional wellbeing, with almost half of 18-39 year-old men and women living in the most deprived areas reporting low emotional wellbeing.

Low emotional wellbeing was found to be associated with multiple factors. In particular, more than half of respondents reporting the following factors also reported having low emotional wellbeing: loneliness (74%), 3+ causes of frequent/constant stress (65%), bad/very bad general health (66%), severe obesity (55%), high risk alcohol consumption (52%), and struggling financially (51%).

Respondents were asked questions about direct and indirect measures of loneliness; similar patterns of loneliness level were seen in responses to both questions (higher in women, the younger age group, and respondents living in the more deprived areas). Almost 1 in 5 women aged 18-39 living in Quintiles 1 and 2, and men aged 18-39 living in Quintile 1 said they often feel lonely, significantly higher than Warrington overall (1 in 10).

People living with a long-term condition or disability may face challenges that contribute to and reinforce feelings of loneliness. Respondents in this survey who were suffering from a limiting long-term condition were more likely to report often feeling lonely (17%) compared to respondents who did not have a limiting long-term condition (5%).

Respondents were asked about different causes of stress and how frequently they affected them. Around 1 in 5 respondents reported their job/workplace, physical health, mental health, financial situation, or personal/family issues had caused them frequent/constant stress. A summary measure of 3 or more causes of frequent/constant stress was calculated. Overall, more than 1 in 5 respondents reported having three or more causes of frequent or constant stress. Women, the younger age group, and respondents living in the most deprived areas were more likely to report having 3 or more constant/frequent causes of stress.
Notably, more than 1 in 3 women living in deprivation Quintile 1, and women aged 18-39 reported having 3 or more frequent or constant causes of stress.

Sleep troubled nearly 1 in 3 respondents ‘quite a bit’ or ‘very much’. A higher proportion of women, respondents aged 40-64 and those living in more deprived areas reported being troubled by sleep ‘quite a bit’ or ‘very much’.

The Covid-19 pandemic had substantial impacts on the emotional and mental wellbeing of respondents. Respondents who reported having low emotional wellbeing, often feeling lonely, had 3 or more causes of frequent or constant stress, and those reporting being very much trouble by sleep were more likely to report a negative impact of the pandemic compared to respondents who did not report being affected by these factors.

Introduction

A comprehensive, large-scale survey of adults in Warrington was undertaken during April-June 2023. The topics explored in the survey cover a wide range of factors that are known to impact on an individual's health and wellbeing. The information which is gathered through these population surveys has proved valuable in understanding and describing health-related behaviour and identifying health inequalities within Warrington. Previous surveys were completed in 2001, 2006 and 2013.

Invitation letters were posted to a named sample of adults (aged 18+ years) living within the Warrington borough boundary, selected by age, gender and postcode to reflect the population profile. In total, 4,932 returns were received[1]. This enables analysis to be undertaken by different population subgroups, for example by gender, age-band and socio-economic deprivation quintile[2]. Figure 1 presents the distribution of deprivation across Warrington.

The survey questions have been grouped into topic areas under five broad themes:

- General health and health related behaviour
- Emotional health and wellbeing
- Finances, cost of living and employment
- Home, neighbourhood and communities
- Access to and experience of health services

This second report contains analysis of questions on emotional health and wellbeing. Subsequent reports will be produced with analysis of additional topic areas.

In terms of gender, topics were only analysed separately for men and women. The small number of respondents who identified themselves as transgender, non-binary, preferred not to say, or other, were insufficient to produce robust statistical analysis for each group. Therefore, analysis shows Men, Women and Persons; responses from people who identified as transgender, non-binary, preferred not to say or other, are included in results for Persons.

Analysis by ethnicity has not been undertaken because the number of respondents in each ethnic community other than White, were insufficient to produce robust statistical analysis for each group.

Appendix A outlines information on the demographics of respondents, including age, gender, ethnicity, and socio-economic deprivation.

The Warrington Health and Wellbeing Survey is a bespoke, local resource that specifically looks at inequalities within Warrington. Although some of the questions used in this survey are also used in national surveys, the way in which they have been analysed may be different. Sometimes when national comparators are available,

[1] To make the analysis representative of the Warrington population, responses were weighted to account for different response rates in sub-groups of the population. The subgroups were defined by age-band, gender and deprivation quintile.

[2] Deprivation quintiles are derived based on the national ranking of the Lower Level Super Output Areas in Warrington, using the Indices of Multiple Deprivation 2019. 'Quintile 1' relates to those local areas in Warrington that fall within the most deprived 20% in England, 'Quintile 5' is those areas falling within the least deprived 20% of areas in England. English indices of deprivation - GOV.UK (www.gov.uk)

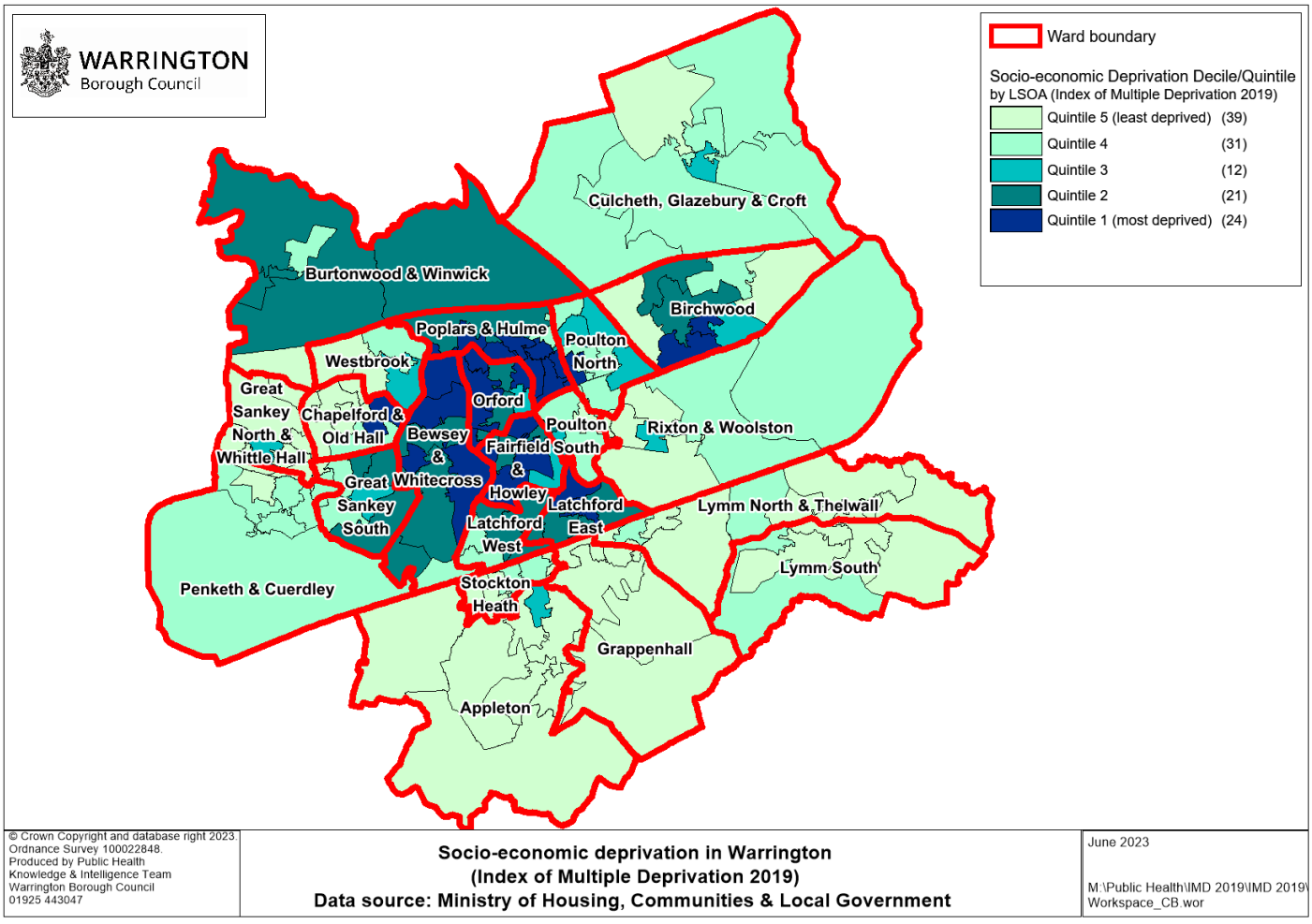
they have been included in the text to provide a national context. However, please interpret these with caution as it may not be possible to directly compare results from the Warrington Health and Wellbeing Survey with national data.

Socio-economic deprivation in Warrington

Socio-economic deprivation is a major determinant of health and wellbeing. It covers a broad range of issues, not merely financial. The English Indices of Deprivation cover seven 'domains'; Income, Employment, Health and Disability, Education, Barriers to Housing and Services, Crime, and Living Environment. The overall Index of Multiple Deprivation 2019 (IMD 2019) is an aggregation of these seven domains. Detailed analysis of deprivation across Warrington is available in the Warrington JSNA[3].

As shown in Figure 1, the more socio-economically deprived areas of Warrington borough tend to be located in the middle of the borough, with the outskirts being less deprived. The exceptions are areas within Birchwood ward in East Warrington and areas within Burtonwood and Winwick ward in North-West Warrington. See Appendix A for number of respondents by deprivation quintile.

Figure 1: Map of Warrington Indices of Deprivation 2019 by Lower Super Output Area



[3] warrington_2019_deprivation_profile_report.pdf

How to read the charts

Several charts in this report follow the layout below. Smoking prevalence in Figure 2 below is used as an example. It can be viewed as three charts in one; the one on the left shows differences between men/women/persons, the middle one shows differences between men/women/persons in each deprivation quintile, and the one on the right shows differences between men/women/persons in each age-band. Topic by topic, different patterns are seen in men/women/persons, deprivation and age-band.

Left hand section (GENDER)

- Across Warrington as a whole, 6.0% of women (orange bar), 7.9% of men (yellow bar), and 7.1% of persons (purple bar), were current smokers in 2023.

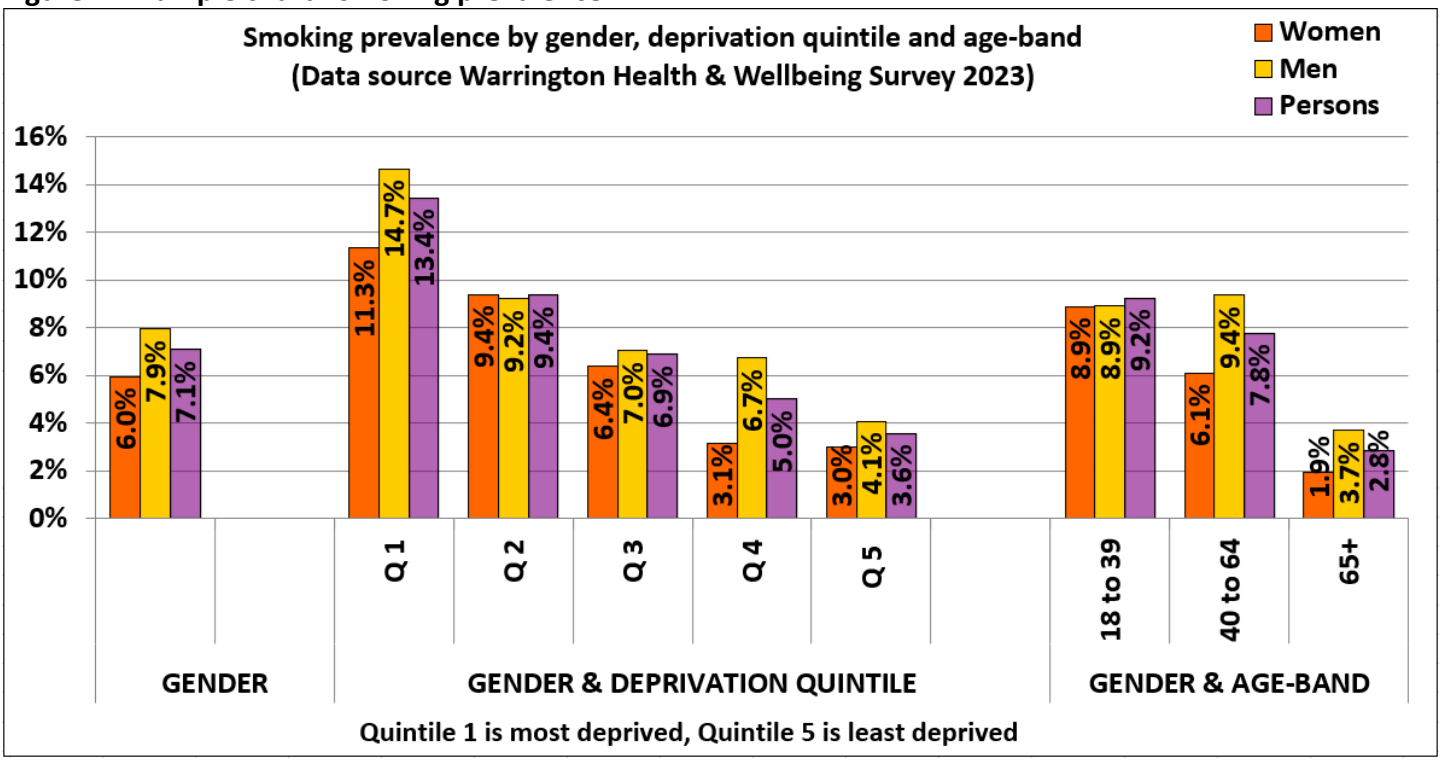
Middle section (GENDER AND DEPRIVATION)

- A very strong link with deprivation can be seen in men, women and persons, with much higher prevalence in the more deprived areas.
- Persons (purple bars) show a straightforward gradient from Quintile 1 (13.4%) down to Quintile 5 (3.6%). Men (yellow bars) also show a fairly straightforward slope from Quintile 1 (14.7%) down to Quintile 5 (4.1%). Women (orange bars) show a slope from Quintile 1 (11.3%) down to Quintile 4 (3.1%), but it hardly reduces further in Quintile 5 (3.0%).

Right hand section (GENDER AND AGE-BAND)

- In persons (purple bars), prevalence reduces by age-band, from 9.2% in 18-39 year-olds, to 7.8% in 40-64 year-olds, to only 2.8% in those aged 65+.
- In 18-39 year-olds, prevalence in men and women is the same (8.9%), but in 40-64 year-olds and those aged 65+, it is higher in men than women.
- Note that usually in each group of 3 bars, the prevalence figure of persons is roughly halfway between men and women. However, in 18-39 year-olds, prevalence for persons (9.2%) is slightly higher than men and women (8.9%). This is because prevalence is very high in respondents who don't identify as male or female, and who are included only in prevalence for persons.

Figure 2: Example chart - smoking prevalence



Emotional wellbeing

The World Health Organisation identifies health as a "*state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity*"[4]. Emotional or mental wellbeing is about how an individual is feeling, how they cope with day to day life; their capability to deal with problems. It is linked to having control over one's life, and a sense of belonging and connection. Mental wellbeing is both an outcome and a determinant of physical health. There is increasing evidence to support a causal relationship between better emotional wellbeing and improved overall health and disease outcomes as well as reductions in disability[5,6].

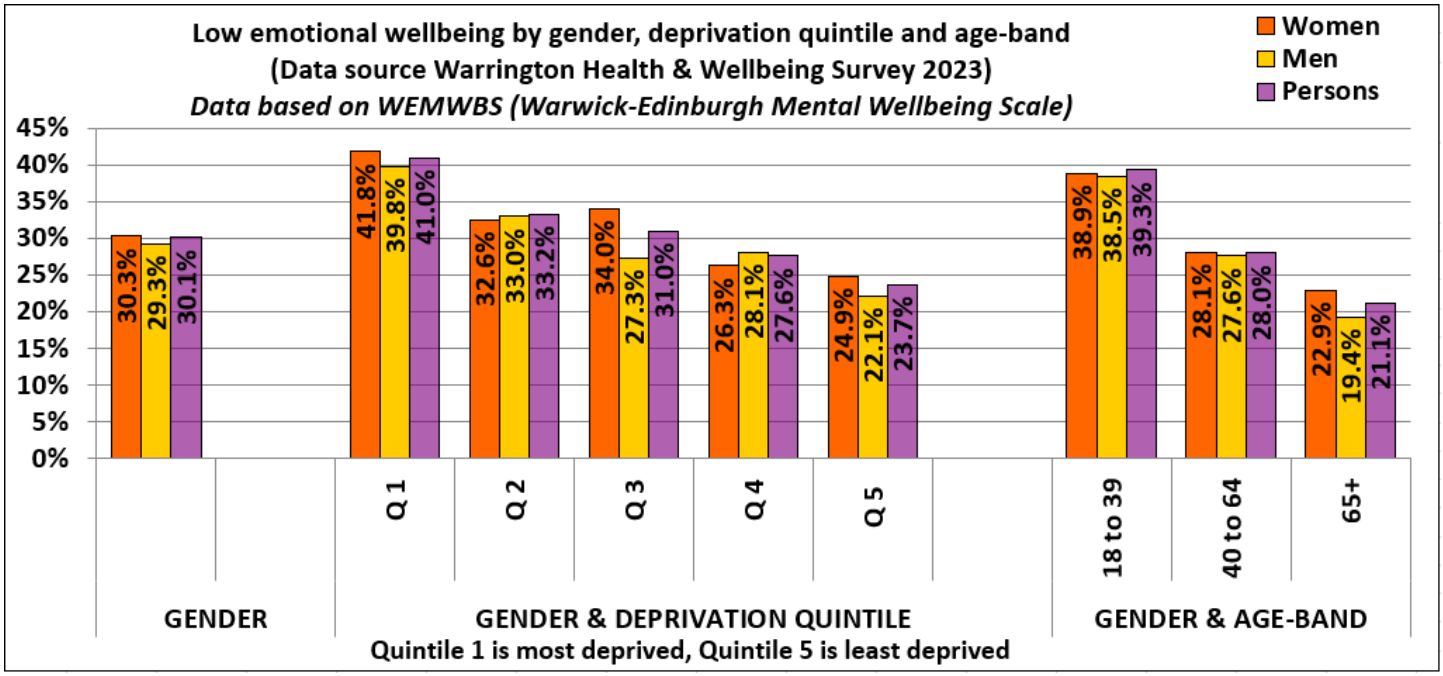
Improving mental wellbeing is a key local priority of the Warrington Health and Wellbeing Board as well as a national priority and is included in the Public Health Outcomes Framework[7]. Warrington's Health & Wellbeing Board Annual Report identifies early intervention for mental health as a key priority and public mental health is a key focus for Warrington Together Partnership Board and other partner organisations. The Health and Wellbeing Strategy 2024-2028 stresses the importance of good mental wellbeing with commitment to prevention of low mental wellbeing included across its priorities and ambitions[8].

Survey respondents were asked a series of questions from the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS)[9], which is a validated measure of wellbeing that is used in national and regional surveys. Responses are scored and summed, giving a total score of between 7 and 35. A score of 7 to 22 indicates low mental wellbeing. See Figure 3.

- Overall, 30.1% of respondents had low emotional wellbeing, an increase from 24.2% in the 2013 survey.
- There is little difference between men (29.3%) and women (30.3%).
- There are stark differences by age-band, with low emotional wellbeing most prevalent in 18-39 year-olds (39.3%), followed by 40-64 year-olds (28.0%) and 21.1% in people aged 65+.
- There are also stark differences by deprivation, ranging from 41.0% of residents in Quintile 1, down to 23.7% of those in Quintile 5.
- Several population subgroups were statistically significantly different to Warrington overall, with the general pattern of worse emotional wellbeing in younger age-bands and/or more deprived areas. An extremely high proportion was seen in younger people in deprived areas; **almost half of 18-39 year-old men and 18-39 year-old women in the most deprived areas had low emotional wellbeing**.

[4] World Health Organisation (2006) *Constitution of the World Health Organization—Basic documents. 45th ed. suppl., World Health Assembly.* Constitution of the World Health Organization (who.int)
[5] Feller S, Castillo E, Greenberg J, Abascal P, Horn R, Wells K (2018). Emotional Well-Being and Public Health: Proposal for a Model National Initiative. *Public Health Reports* **133**(2):136-141. Available at: Emotional Well-Being and Public Health: Proposal for a Model National Initiative - PubMed (nih.gov)
[6] Park CL, Kubzansky LD, Chafouleas SM et al (2023) Emotional Well-Being: What It Is and Why It Matters. *Affec Sci* **4**:10–20. Available at: Emotional Well-Being: What It Is and Why It Matters | SpringerLink
[7] Public Health Outcomes Framework examines indicators that help us to understand trends in public health.
[8] Warrington Borough Council (2023) Living Well in Warrington Health and Wellbeing Strategy 2024-2028.
[9] The 7 item WEMWBS has been used. Minimum score is 7 and maximum is 35.

Figure 3: Percentage with low emotional wellbeing



Factors affecting emotional wellbeing

Emotional wellbeing affects, and is affected by, many interlinking factors. Table 1 lists several of the factors included in the survey, and the differences in low emotional wellbeing between groups of respondents.

Low emotional wellbeing was associated with the following factors: stress, loneliness, poor sleep, poor health, severe obesity, low physical activity, smoking/vaping, high alcohol consumption, poor neighbourhood connections/perceptions and financial circumstances. For the following factors, more than half of respondents had low emotional wellbeing:

- 65% of respondents who cited having 3 or more causes of frequent/constant stress had low emotional wellbeing, compared to 20% of those who reported less than 3 causes of stress.
- 74% of those who reported often feeling lonely had low emotional wellbeing, compared to 25% of those who said they felt lonely some of the time, hardly ever or never.
- 55% of those who were severely obese had low emotional wellbeing, compared to 29% of those who were not severely obese.
- 66% of those who reported having bad/very bad general health had low emotional wellbeing, compared to 46% of those who reported 'fair' general health, and 22% of those who reported good/very good general health.
- 52% of respondents with higher risk alcohol consumption had low emotional wellbeing, compared to 28% of those who did not have higher risk alcohol consumption.
- 51% of those who said they were 'just about getting by', finding it 'difficult' or 'very difficult' financially, had low emotional wellbeing, compared to 20% of those who said they were 'living comfortably' or 'doing alright'.

Table 1: Factors affecting emotional wellbeing

Factors affecting emotional wellbeing						
	No. of valid responses	% with low emotional wellbeing			No. of valid responses	
Stress: 3 or more causes of frequent/constant stress	*804*	65%		20%	*3030*	None, 1 or 2 causes of frequent/constant stress
Loneliness: often feel lonely	*355*	74%		25%	*3466*	Loneliness: feel lonely some of the time, hardly ever or never
Quality of sleep: troubled by sleep very much, or quite a bit, in past month	*1121*	46%		23%	*2708*	Quality of sleep: troubled by sleep a little, or not at all, in past month
General health is bad/very bad	*255*	66%		22%	*2705*	General health is good / very good
Has 3 or more long-term conditions (LTCs)	*549*	45%		27%	*3131*	Has less than 3 long-term conditions (LTCs)
Has a LTC that limits day-to-day activities a little, or a lot	*1394*	44%		22%	*2278*	Doesn't have LTC, or has LTC that doesn't limit day-to-day activities
Severely obese	*141*	55%		29%	*3574*	Not severely obese
Physically inactive (do less than 30 'equivalent minutes' physical activity/week)	*668*	44%		27%	*3100*	Do more than 30 'equivalent minutes' physical activity/week
Currently smoke	*251*	45%		29%	*3569*	Don't currently smoke
Currently vape	*297*	46%		29%	*3486*	Don't currently vape
Higher risk alcohol consumption	*49*	52%		28%	*3062*	None/low risk alcohol consumption
Poor neighbourhood connections/perceptions	*864*	49%		23%	*2691*	Good/moderate neighbourhood connections / perceptions
Financial circumstances: 'just about getting by', or 'finding it difficult', or 'very difficult'	*1130*	51%		20%	*2646*	Financial circumstances: 'living comfortably' or 'doing all right'
Provides unpaid care	*610*	34%		29%	*3178*	Does not provide unpaid care

Effects of Covid—19 pandemic on emotional wellbeing (EWB)

Respondents were asked how they felt they had been affected by the Covid-19 pandemic. It should be noted that, although the question specifically related to the Covid-19 pandemic, reported changes in behaviours and circumstances may also be related to other factors, e.g. the cost of living crisis or other issues specific to the individual.

Table 2 shows, for respondents in each EWB category at the time of the survey, the proportion who said their emotional wellbeing was worse, the same, or better, than before the Covid-19 pandemic. Overall, of 3,893 valid responses to the effect of the Covid-19 pandemic on EWB, 26% said their EWB was worse than before the pandemic, 67% said the same and 6% said better.

- The lower a respondent's EWB at the time of the survey, the more likely they were to say that it was worse than before the pandemic.
- Of 1070 respondents with **low EWB** at the time of the survey, 46% said their EWB was worse than before the pandemic, 49% said the same and 4% said better.
- Of 2,457 respondents with **moderate EWB** at the time of the survey, 18% said their EWB was worse than before the pandemic, 75% said the same and 7% said better.
- Of 223 respondents with **high EWB** at the time of the survey, only 4% said their EWB was worse than before the pandemic, the vast majority (84%) said the same and 11% said better, i.e. a higher proportion said better than said worse.

Table 2: Effects of Covid-19 pandemic on emotional wellbeing

Effects of Covid-19 pandemic on emotional wellbeing *Of 3,893 respondents who gave valid response to the question on the effect of the Covid-19 pandemic on emotional wellbeing*					
Emotional Wellbeing Category (WEMWBS)	**Worse than before**	**Same as before**	**Better than before**	**Total**	*No. unweighted respondents*
Low	46%	49%	4%	100%	*1070*
Moderate	18%	75%	7%	100%	*2457*
High	4%	84%	11%	100%	*223*
Not stated	32%	64%	4%	100%	*143*
All	**26%**	**67%**	**6%**	**100%**	*3893*

Social connections: loneliness

Research shows that loneliness and social isolation can impact on an individual's physical and mental health. The Government's Loneliness Strategy (2018) 'A connected society - a strategy for tackling loneliness' states that *'Feeling lonely frequently is linked to early deaths. Its health impact is thought to be on a par with other public health priorities like obesity or smoking. Research shows that loneliness is associated with a greater risk of inactivity, smoking and risk-taking behaviour; increased risk of coronary heart disease and stroke; an increased risk of depression, low self-esteem, reported sleep problems and increased stress response; and with cognitive decline and an increased risk of Alzheimer's'*[10].

It is important to distinguish between loneliness and social isolation, although the two concepts may overlap. The questions on loneliness included in the survey try to assess the emotional experience of loneliness, not how often someone is alone.

There are different ways to measure loneliness. Some measures ask about loneliness directly while others ask about emotions associated with loneliness from which loneliness is then inferred. There is variation in how people understand the term 'loneliness' and some people might be reluctant to admit to loneliness and this might be particularly true of certain groups such as older men. Questions that do not mention loneliness directly can help to address these issues. The Office of National Statistics recommend[11] four questions to capture different aspects of loneliness.

Respondents were asked the following four questions, with the options of '*Often*', '*Some of the time*', '*Hardly ever, or never*':

- How often do you feel you lack companionship?
- How often do you feel left out?
- How often do you feel isolated from others?
- How often do you feel lonely?

The first three indirect questions[12] are used to create a loneliness score of between 3 and 9 (9 being the loneliest). The last question asks directly about loneliness. All four questions are used in the Community Life Survey[13] 2021/22.

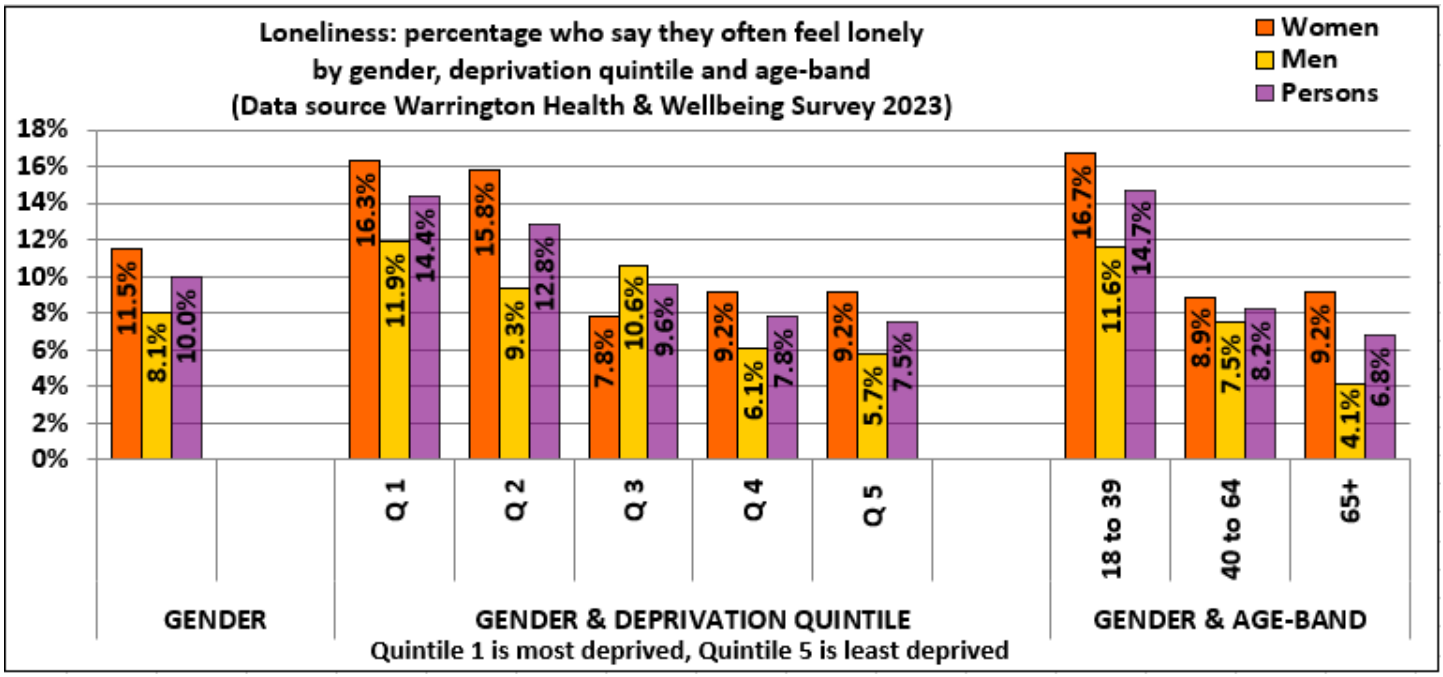
Overall, in the 2023 survey, 10.0% of respondents said that they often feel lonely, and 8.5% had high loneliness scores of 8 or 9. Comparing Figure 4 (chart of the percentage who said they often feel lonely) and Figure 5 (chart of the percentage with a loneliness score of 8+), it can be seen that the differences between population subgroups show quite similar patterns. In both the direct loneliness question and the loneliness score calculated from indirect questions, there are higher levels of loneliness in women than in men, higher in more deprived areas, and higher in 18-39 year-olds.

[10] DDCMS Loneliness Strategy (publishing.service.gov.uk)
[11] Measuring loneliness: guidance for use of the national indicators on surveys - Office for National Statistics
[12] F*rom the University of California, Los Angeles (UCLA) three-item loneliness scale.*
[13] Community Life Survey 2021/22 - GOV.UK (www.gov.uk)

Direct loneliness question: 'do you feel lonely?'

- Overall, 10.0% said that they often feel lonely compared to 6% in the Community Life Survey.
- More women (11.5%) than men (8.1%) said they often felt lonely.
- There are large differences between age-bands; 18-39 year-olds (14.7%) were most likely to say they often feel lonely, followed by 40-64 year-olds (8.2%) and 6.8% in people aged 65+. This is consistent with national findings from the Community Life Survey 2021/22, where younger age groups (16-24 and 25-34) were more likely to report feeling lonely often or always compared to older age groups[14].
- There are also large differences by deprivation, ranging from 14.4% of residents in Quintile 1, down to 7.5% of those in Quintile 5, i.e. almost twice as high in Quintile 1 than in Quintile 5. In women, there was a step change between Quintiles 1 and 2 (around 16%) and Quintiles 3, 4 and 5 (8% or 9%).
- Several population subgroups were statistically significantly different to Warrington overall, with the general pattern of higher levels of loneliness in women, in younger age-bands and in more deprived areas. Women aged 18-39 in Quintiles 1 and 2, and men aged 18-39 in Quintile 1 were significantly more likely to say they often feel lonely (about 1 in 5 respondents in these groups said they often feel lonely). Men in Quintile 5 aged 40-64 and aged 65+ were significantly less likely to say they often feel lonely.

Figure 4: Loneliness (percentage reporting they often feel lonely)

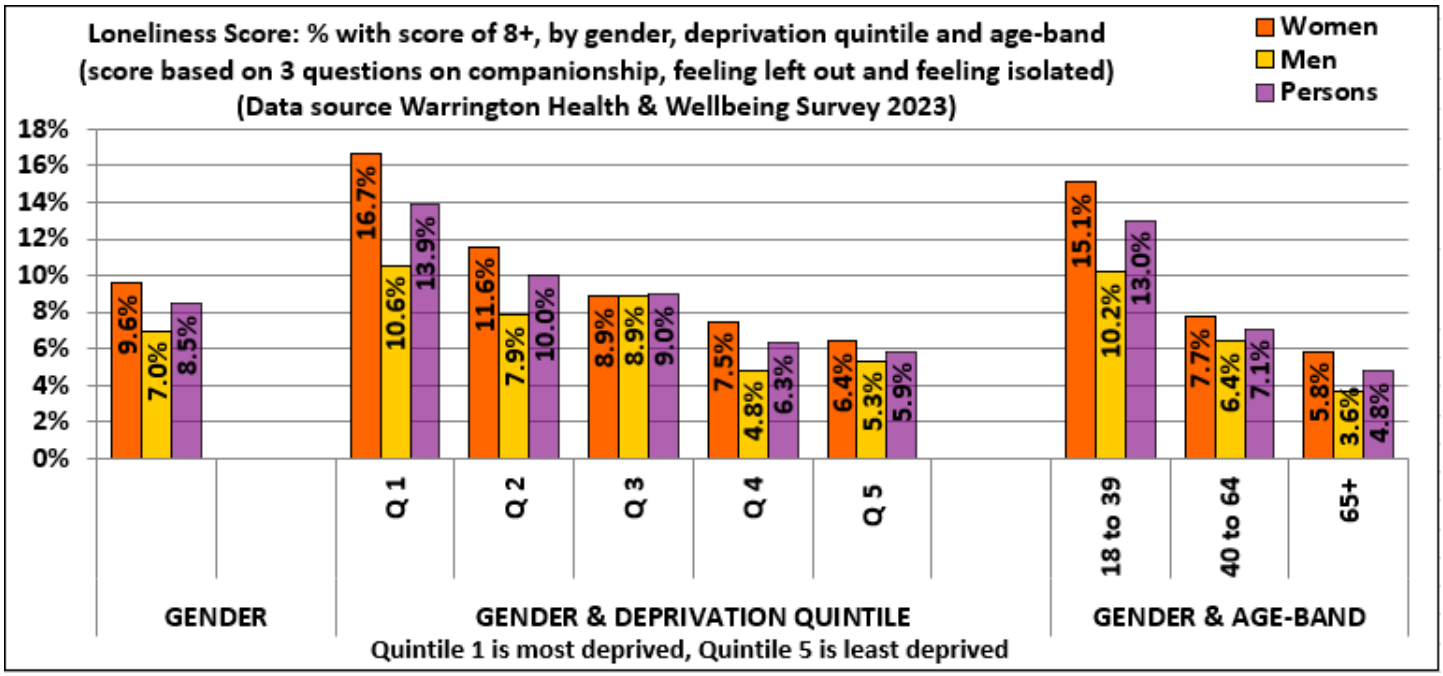


[14] Community Life Survey 2021/22: Wellbeing and loneliness - GOV.UK (www.gov.uk)

Loneliness score (indirect loneliness questions on companionship, feeling left out and feeling isolated)

- Overall, 8.5% had a high loneliness score of 8+, compared to 8% in the Community Life Survey.
- More women (9.6%) than men (7.0%) had a high loneliness score of 8+.
- There are large differences between age-bands; 18-39 year-olds (13.0%) were most likely to have a loneliness score of 8+, followed by 40-64 year-olds (7.1%) and 4.8% in people aged 65+. This is consistent with national findings from the Community Life Survey 2021/22 where the younger age groups (16-24 and 25-34) were more likely to score an 8+ compared to older age groups[15].
- There are also large differences by deprivation, ranging from 13.9% of residents in Quintile 1, down to 5.9% of those in Quintile 5, i.e. more than twice as high in Quintile 1 than in Quintile 5.
- Several population subgroups were statistically significantly different to Warrington overall, with the general pattern of a high loneliness score of 8+ in women, younger age-bands and more deprived areas. Women aged 18-39 in Quintiles 1 and 2, 40-64 year-old women in Quintile 1, and men aged 18-39 in Quintile 1 were significantly more likely to have a high loneliness score of 8+. Men aged 65+ in Quintiles 4 and 5 were significantly less likely.

Figure 5: Loneliness score (based on 3 questions on companionship, feeling left out and feeling isolated)



Loneliness and long-term conditions (LTC)

Loneliness in people with a health condition or disability is multifaceted. Individuals with health conditions or disabilities may face challenges which contribute to and reinforce the feeling of loneliness. In turn, feelings of loneliness can also lead to worsening of health[16]. National data shows that people with a limiting long-term illness or disability were more likely to say they felt lonely often/always (13%) compared to those without a

[15] Community Life Survey 2021/22: Wellbeing and loneliness - GOV.UK (www.gov.uk)
[16] DDCMS Loneliness Strategy (publishing.service.gov.uk)

limiting long-term illness or disability (3%). Respondents with a limiting LTC were more likely to have a loneliness score of 8+ (17%) than those without a limiting illness or disability (4%)[17].

Data from this 2023 survey shows that in Warrington, 17% of respondents with a limiting long-term illness or disability reported often feeling lonely, compared to 5% of people without a limiting long-term condition. Similarly, for the indirect measure of loneliness, people with a limiting long-term illness or disability were more likely to have a loneliness score of 8+ than those without a limiting LTC (14% compared to 5%).

Effects of Covid-19 pandemic on feelings of loneliness and isolation

Respondents were asked how they felt they had been affected by the Covid-19 pandemic. It should be noted that, although the question specifically related to the Covid-19 pandemic, reported changes in behaviours and circumstances may also be related to other factors, e.g. the cost of living crisis or other issues specific to the individual.

Table 3 shows how often respondents said they felt lonely at the time of the survey, along with the proportion who said their feelings of loneliness were worse, the same, or better, than before the Covid-19 pandemic. Overall, of 3,881 valid responses on the effect of the Covid-19 pandemic on feelings of loneliness and isolation, 19% said their loneliness was worse than before the pandemic, 75% said the same and 6% said better.

- The lonelier a respondent said they felt at the time of the survey, the more likely they were to say that their loneliness was worse than before the pandemic.
- Of 361 respondents who at the time of the survey said they **often feel lonely**, 62% said their feelings of loneliness/isolation were worse than before the pandemic, 36% said the same and only 2% said better.
- In comparison, of 2,347 respondents who at the time of the survey said they **hardly ever or never feel lonely**, 6% said their feelings of loneliness/isolation were worse than before the pandemic, 87% said the same and 8% said better, i.e. the vast majority said the same, and a similar proportion said better as said worse.

Table 3: Effects of the Covid-19 pandemic on feelings of loneliness/isolation

Effects of Covid-19 pandemic on feelings of loneliness/isolation *(Of 3,881 respondents who gave valid response to the question on the effect of the Covid-19 pandemic on feelings of loneliness/isolation)*					
How often do you feel lonely?	**Worse than before**	**Same as before**	**Better than before**	**Total**	*No. unweighted respondents*
Often	62%	36%	2%	100%	*361*
Some of the time	30%	65%	5%	100%	*1106*
Hardly ever or never	6%	87%	8%	100%	*2347*
Not stated	28%	66%	5%	100%	*67*
Grand Total	**19%**	**75%**	**6%**	**100%**	*3881*

[17] Community Life Survey 2021/22: Wellbeing and loneliness - GOV.UK (www.gov.uk)

Feeling stressed: causes of stress

Respondents were asked '*How much stress do each of the following cause you?*' with the options of '*constant*' '*frequent*', '*occasional*' and '*none*'. A summary measure was calculated, of the number of sources of stress that a respondent said caused them stress frequently/constantly. Initial analysis resulted in the selection of three or more stressors as a measure to identify the cohort experiencing a high burden of stress, whilst still allowing robust analysis.

- Roughly 1 in 5 respondents said the following caused them frequent or constant stress: job/workplace (22%), physical health (21%), financial situation (21%), personal/family issues (21%), mental health (18%), and political/social issues (17%). See Table 4.
- Less than 1 in 10 stated the following causes: environmental issues / air quality (9%), social media (7%), and the area they live in (6%).
- 221 respondents chose to write a free-text response for other causes of stress. A very high percentage of these (73%) stated it was a cause of frequent/constant stress[18]. Other sources of stress cited by several respondents in addition to those included in Table 4 below were: difficulties accessing healthcare, housing, the future, caring responsibilities (children/other), education, social isolation, lack of time, bereavement, and driving/traffic/speeding.

Table 4: Causes of stress

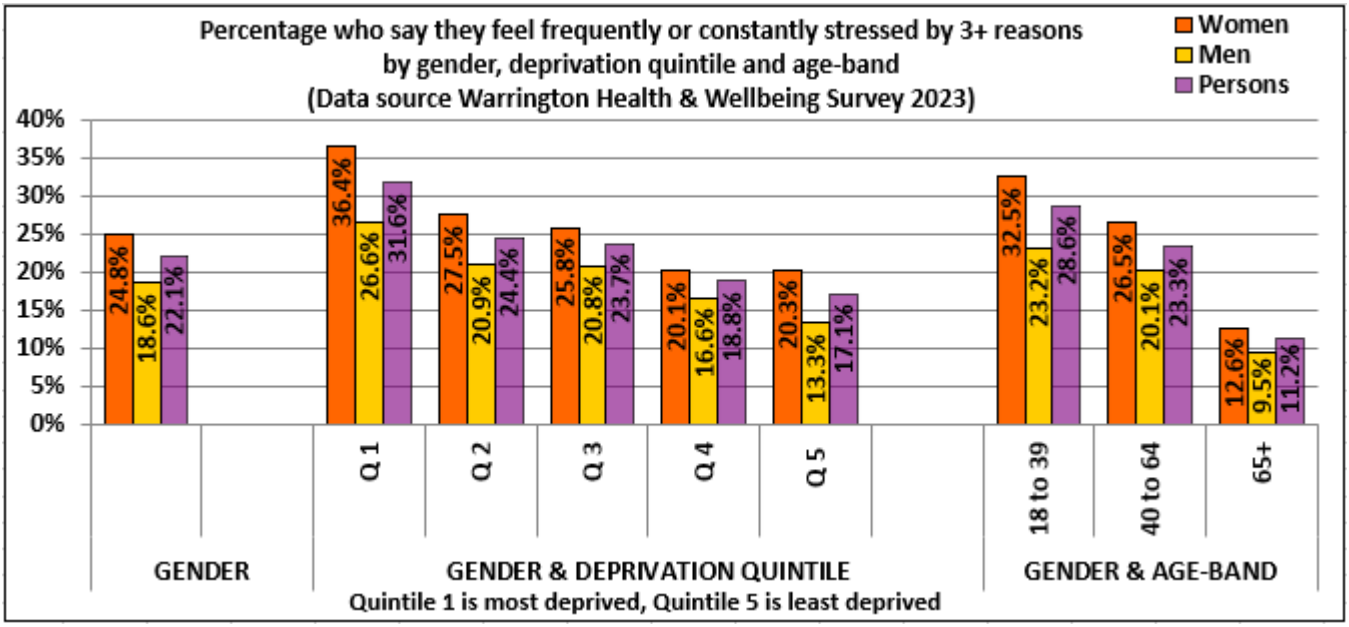
Cause of stress	**% causing frequent or constant stress**	**% causing constant stress**	***No. valid unweighted responses***
Your job/workplace	22%	6%	*3703*
Your physical health	21%	6%	*3940*
Your financial situation	21%	7%	*3924*
Personal or family issues	21%	6%	*3921*
Your mental health	18%	5%	*3925*
Current affairs (political/social issues)	17%	4%	*3921*
Environmental issues/air quality	9%	2%	*3911*
Social media	7%	2%	*3902*
The area where you live	6%	2%	*3921*
Other	73%	37%	*221*

[18] The fact that a respondent felt strongly enough to state a different source of stress that wasn't listed in the questionnaire, in itself suggests that they felt substantially stressed by it.

Percentage identifying 3 or more causes of frequent/constant stress

- Overall, 22.1% identified 3 or more causes of frequent/constant stress. See Figure 6.
- More women (24.8%) than men (18.6%) felt frequently/constantly stressed for at least 3 reasons.
- There are stark differences by age-band, with 28.6% of 18-39 year-olds, 23.3% of 40-64 year-olds and 11.2% of people aged 65+, who felt frequently/constantly stressed for at least 3 reasons.
- There are also substantial differences by deprivation, ranging from 31.6% of respondents in Quintile 1, down to 17.1% of those in Quintile 5, i.e. almost twice as high in Quintile 1 as in Quintile 5.
- Several population subgroups were statistically significantly different to Warrington overall, with the general pattern of higher stress in younger age-bands and more deprived areas. Women aged 18-39 in Quintiles 1, 2 and 3, and 40-64 year-old women in Quintile 1 were significantly more likely to have felt frequently/constantly stressed for at least 3 reasons. Men aged 65+ in Quintiles 2, 3, 4 and 5, and 40-64 year-old men in Quintile 5, were significantly less likely.

Figure 6: Percentage feeling frequently/constantly stressed for at least 3 reasons



Effect of Covid-19 pandemic on levels of stress/anxiety

Respondents were asked how they felt they had been affected by the Covid-19 pandemic. It should be noted that, although the question specifically related to the Covid-19 pandemic, reported changes in behaviours and circumstances may also be related to other factors, e.g. the cost of living crisis or other issues specific to the individual.

Table 5 groups respondents by the number of causes of frequent or constant stress that they identified. Also shown is the proportion who said their levels of stress/anxiety were worse, the same, or better, than before the Covid-19 pandemic.

Overall, of 3,891 valid responses to the effect of the Covid-19 pandemic on feelings of stress/anxiety, 27% said they were worse, 68% said the same and 5% said better than before the pandemic.

- The more causes of stress/anxiety respondents said they had at the time of the survey, the more likely they were to say their levels of stress/anxiety were worse than before the pandemic.
- Of 810 respondents who at the time of the survey said they **had at least 3 causes of stress/anxiety**, 57% said their levels of stress/anxiety were worse than before the pandemic, 40% said the same, and only 4% said better.
- In comparison, of 1,708 respondents who at the time of the survey said they **had no causes of stress/anxiety**, 10% said their levels of stress/anxiety were worse than before the pandemic, 83% said the same, and 7% said better, i.e. the vast majority said the same, and almost as many said better as said worse.

Table 5: Effects of the Covid-19 pandemic on levels of stress/anxiety

Effects of the Covid-19 pandemic on levels of stress/anxiety *(Of 3,891 respondents who gave valid response to the question on the effect of the Covid-19 pandemic on levels of stress/anxiety)*					
Number of causes of frequent or constant stress identified	**Worse than before**	**Same as before**	**Better than before**	**Total**	*No. unweighted respondents*
0	10%	83%	7%	100%	*1708*
1 or 2	29%	67%	4%	100%	*1333*
3+	57%	40%	4%	100%	*810*
Not stated	7%	93%	0%	100%	*40*
All	**27%**	**68%**	**5%**	**100%**	*3891*

Quality of sleep

Sleep disturbance is associated with poor health and can play a causal role in the development of a number of conditions including cardiovascular disease, obesity, mental health disorders, and neurodegenerative disease[19,20,21]. Respondents were asked '*Over the last month, to what extent, if any, has your sleep troubled you?*' Overall, 30% said '*not at all*', 40% said '*a little*', 20% said '*quite a bit*', and 10% said '*very much*'.

Figure 7 shows the percentage reporting that sleep had troubled them '*quite a bit*' or '*very much*'.

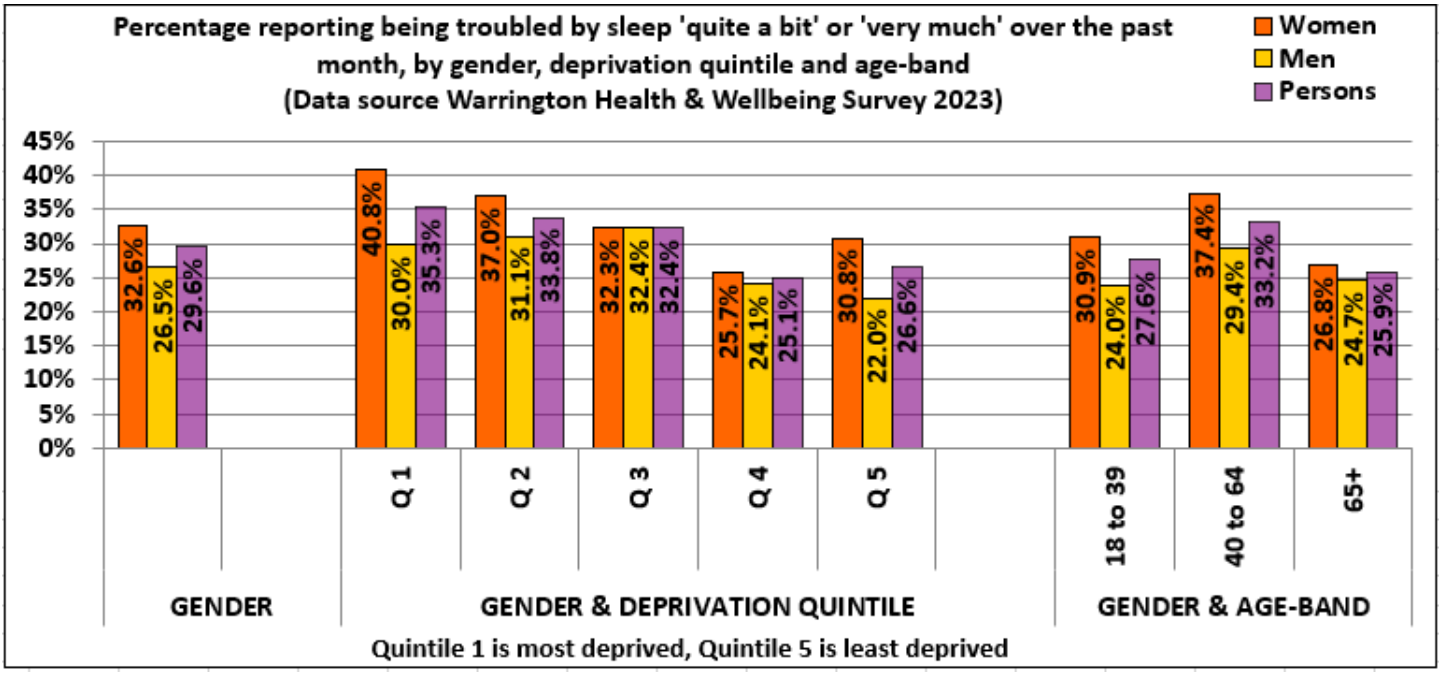
- Overall, 29.6% said sleep had troubled them quite a bit or very much over the past month.
- More women (32.6%) than men (26.5%) said sleep had troubled them quite a bit or very much.
- Those aged 40-64 were most likely to report trouble sleeping (33.2%), followed by 27.6% of 18-39 year-olds, and 25.9% of people aged 65+.
- By deprivation, it ranged from 35.3% of respondents in Quintile 1, to 25.1% of those in Quintile 4.
- Several population subgroups were statistically significantly different to Warrington overall, with the general pattern of more trouble sleeping in women, in 40-64 year-olds, and in more deprived areas. Women aged 40-64 in Quintiles 1 and 2 were significantly more likely to say sleep troubled them quite a bit or very much, whereas 18-39 year-old men in Quintile 4, and men aged 65+ in Quintile 5 were significantly less likely.

[19] Hale L, Troxel W, Buysse DJ (2020) Sleep Health: An Opportunity for Public Health to Address Health Equity. *Annual Review of Public Health* **41**:81-99. Sleep Health: An Opportunity for Public Health to Address Health Equity | Annual Review of Public Health (annualreviews.org)

[20] Hall MH, Brindle RC, Buysse DJ (2018) Sleep and cardiovascular disease: emerging opportunities for psychology. *Am. Psychol.* **73**:994–1006. Sleep and Cardiovascular Disease: Emerging Opportunities for Psychology - PMC (nih.gov)

[21] Li L, Wu C, Gan Y,Qu X, Lu Z (2016) Insomnia and the risk of depression: a meta-analysis of prospective cohort studies. *BMC Psychiatry* **16**:375. Insomnia and the risk of depression: a meta-analysis of prospective cohort studies | BMC Psychiatry | Full Text (biomedcentral.com)

Figure 7: Percentage reporting having trouble sleeping



Effect of Covid-19 pandemic on quality of sleep

Respondents were asked how they felt they had been affected by the Covid-19 pandemic. It should be noted that, although the question specifically related to the Covid-19 pandemic, reported changes in behaviours and circumstances may also be related to other factors, e.g. the cost of living crisis or other issues specific to the individual.

Table 6 shows responses on quality of sleep at the time of the survey, along with the proportion who said their sleep was worse, the same, or better, than before the Covid-19 pandemic. Overall, of 3,887 valid responses to the effect of the Covid-19 pandemic on quality of sleep, 17% said it was worse, 79% said the same and 4% said better than before the pandemic.

- The worse a respondent's quality of sleep was at the time of the survey, the more likely they were to say that it was worse than before the pandemic.
- Of 368 respondents who at the time of the survey said they were 'very much' troubled by the quality of their sleep, 51% said their quality of sleep was worse than before the pandemic, 48% said the same and only 1% said better.
- In comparison, of 1,140 respondents who at the time of the survey said they were 'not at all' troubled by the quality of their sleep, only 1% said their quality of sleep was worse than before the pandemic, 90% said the same and 8% said better, i.e. the vast majority said the same, and a higher proportion said better than said worse.

Table 6: Effects of Covid-19 pandemic on feelings of quality of sleep

Effects of Covid-19 pandemic on feelings of quality of sleep *(Of 3,887 respondents who gave valid response to the question on the effect of the Covid-19 pandemic on quality of sleep)*					
Over the last month, to what extent, if any, has your sleep troubled you?	**Worse than before**	**Same as before**	**Better than before**	**Total**	*No. unweighted respondents*
Not at all	1%	90%	8%	100%	*1140*
A little	11%	85%	3%	100%	*1566*
Quite a bit	35%	63%	3%	100%	*759*
Very much	51%	48%	1%	100%	*368*
Not stated	6%	90%	4%	100%	*54*
Grand Total	**17%**	**79%**	**4%**	**100%**	*3887*

Appendix A – Demography of respondents

Respondents by gender

Table 7: Respondents by gender

No. respondents by gender	
Female	2467
Male	2421
Non-binary, Transgender or 'Other' (free text response) have been combined, as there are too few in each group to analyse and report separately	20
Prefer not to say	24
Total	4932

Respondents by age-band

Table 8: Respondents by age-band

No. respondents by age-band	
18-39	1377
40-64	2054
65+	1501
Grand Total	4932

Respondents by deprivation quintile

Table 9: Respondents by deprivation quintile

No. respondents by age-band	
Quintile 1 (most deprived)	815
Quintile 2	830
Quintile 3	461
Quintile 4	1208
Quintile 5 (least deprived)	1618
Grand Total	4932

Ethnicity

Over a quarter of respondents did not provide their ethnic group; 1,221 gave no response and 43 chose 'Prefer not to say'. Table 10 shows the ethnicity of respondents. Census 2021 figures are given for comparison.

Table 10: Respondents by broad ethnic group

Respondents by broad ethnic group	No. of respondents	Percentage (as a % of all who gave a valid response	Census 2021
Asian / Asian British	240	6.5%	3.3%
Black, Black British, Caribbean or African	28	0.8%	0.7%
Mixed or Multiple ethnic groups	21	0.6%	1.6%
White English / Welsh / Scottish / Northern Irish / British	3,177	86.6%	88.1%
All other White combined due to very small numbers in some ethnic groups. Includes Census categories 'Irish', 'Gypsy/Irish Traveller', 'Roma', 'Any other white background' and 'White unspecified'.	190	5.2%	5.4%
Other ethnic group	12	0.3%	0.9%
Total known ethnicity	**3,668**	**100%**	**100%**
Unknown: 'Prefer not to say'	*43*		
Unknown: no response	*1,221*		

Breakdown of sample by population subgroup **(to match Warrington borough's overall population and the percentage of respondents in each population subgroup).**

As can be seen in Table 11 the ideal percentage of respondents does not exactly match the actual percentage of respondents, because there were different response rates in each subgroup. In order to make estimates representative of the Warrington population, each subgroup was weighted for the analysis.

Table 11: Breakdown of sample by population subgroup

	Ideal % of respondents in each of 30 population subgroups (to match overall Warrington resident population)							**Actual % of respondents in each of 30 population subgroups**					
	Female			**Male**				**Female**			**Male**		
IMD 2019	**18-39**	**40-64**	**65+**	**18-39**	**40-64**	**65+**		**18-39**	**40-64**	**65+**	**18-39**	**40-64**	**65+**
Quintile 1	3.9%	3.7%	1.6%	4.2%	4.1%	1.4%		3.4%	3.7%	1.2%	2.6%	4.0%	1.7%
Quintile 2	3.6%	3.6%	1.7%	3.6%	4.0%	1.4%		2.8%	3.7%	2.0%	2.8%	3.4%	2.0%
Quintile 3	1.3%	1.7%	1.2%	1.3%	1.7%	1.0%		1.3%	2.0%	1.5%	1.1%	1.8%	1.7%
Quintile 4	3.2%	4.9%	3.7%	3.6%	5.2%	3.1%		3.3%	4.7%	3.9%	2.8%	4.7%	5.1%
Quintile 5	4.4%	7.3%	4.4%	4.2%	7.1%	3.9%		4.2%	6.9%	5.7%	3.5%	6.8%	5.7%
Total	**100%**							**100%**					