

Brown, Simon

Research Report

Wellbeing and mental health: An analysis based on the Treasury's Living Standards Framework

Analytical Paper, No. 19/01

Provided in Cooperation with:

The Treasury, New Zealand Government

Suggested Citation: Brown, Simon (2019) : Wellbeing and mental health: An analysis based on the Treasury's Living Standards Framework, Analytical Paper, No. 19/01, ISBN 978-1-988580-12-8, New Zealand Government, The Treasury, Wellington

This Version is available at:

<https://hdl.handle.net/10419/205391>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>

Wellbeing and Mental Health: An Analysis Based on the Treasury's Living Standards Framework

Simon Brown

Analytical Paper 19/01

July 2019

DISCLAIMER

The views, opinions, findings, and conclusions or recommendations expressed in this report are strictly those of the authors. They do not necessarily reflect the views of the New Zealand Treasury, Statistics New Zealand or the New Zealand Government. The New Zealand Treasury and the New Zealand Government take no responsibility for any errors or omissions in, or for the correctness of, the information contained in this Analytical Paper. Access to the data used in this study was provided by Statistics New Zealand under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975. The results presented in this study are the work of the author, not Stats NZ.

To view a copy of this licence, visit <https://creativecommons.org/licenses/by/4.0/>. Please note that no departmental or governmental emblem, logo or Coat of Arms may be used in any way that infringes any provision of the [Flags, Emblems, and Names Protection Act 1981](#). Attribution to the Crown should be in written form and not by reproduction of any such emblem, logo or Coat of Arms.

Contents

Executive summary	1
1 Introduction	5
2 Background.....	7
3 Which demographic groups and wellbeing indicators are most strongly associated with mental health wellbeing?	10
3.1 Sole parents, the unemployed, and those living in deprived areas have the highest rates of low wellbeing for mental health	10
3.2 Loneliness, low material wellbeing, and low trust in other people are strongly associated with low mental health wellbeing	11
3.3 Mental health is the wellbeing indicator that is most strongly associated with overall life satisfaction	13
4 Wellbeing profiles of people who use mental health services	15
4.1 Mental health referrals are associated with low life satisfaction, low job wellbeing and low mental health wellbeing.....	15
4.2 Mental health prescriptions are associated with low wellbeing for mental and physical health, and with low life satisfaction	16
4.3 Incapacity benefit for mental health reasons is most strongly associated with low job wellbeing and low material wellbeing, but also with low mental health wellbeing	18
4.4 Users of mental health services have high prevalence rates for low mental health wellbeing, low life satisfaction and loneliness	19
5 Wellbeing profiles of people having other types of contact with government	20
5.1 Criminal convictions are associated with higher prevalence of low job wellbeing, low material wellbeing, and being a victim of crime	20
5.2 Benefit claims are strongly associated with low job wellbeing and low material wellbeing, and also with low life satisfaction	21
5.3 Housing NZ clients are associated with low material wellbeing and low housing quality	22
5.4 These service users have particularly high prevalence rates for low material wellbeing, and fairly high prevalence rates for low life satisfaction and low mental health wellbeing	24

6	Which people with low mental health wellbeing are less likely to have mental health referrals or prescriptions?	25
7	Key messages from this paper	27
8	Next steps.....	29
	References	30
	Appendix: Outputs from the logistic regression models of mental health.....	31
	Section A1: Additional Tables	31
	Section A2: General Social Survey questions used to assess mental health.....	38
	Section A3: Definitions of “service user” groups	39

Executive summary

This paper builds on the framework and results presented in The Treasury's Living Standards Framework (LSF) Dashboard and the accompanying Analytical Paper "Our people - Multidimensional wellbeing in New Zealand" (McLeod 2016). It profiles people with low mental health wellbeing, using the five General Social Surveys (GSS) from 2008-16 and other datasets in Statistics New Zealand's Integrated Data Infrastructure (IDI). The research questions addressed are:

- Which demographic groups have higher rates of low mental health wellbeing?
- Which wellbeing indicators are most closely associated with low mental health wellbeing?
- What is the multidimensional wellbeing profile for users of mental health services and other government services?
- Which people with low wellbeing for mental health are less likely to access mental health prescriptions and referrals?

Loneliness was strongly associated with low mental health wellbeing, and mental health was strongly associated with overall life satisfaction

Around one in nine people (11%) had low mental health wellbeing, based on the Treasury's Living Standards Framework (LSF) definition.¹ The highest prevalence rates for low mental health wellbeing were for:

- sole parents (19.6%) or not living with family (14.2%)
- unemployed (18.4%) or not in the labour force (14.8%)
- living in a deprived area (16.7% for the most deprived decile)
- Māori (15.5%).

These results were similar to those from the New Zealand Mental Health Survey (Ministry of Health 2006). The Mental Health Survey looked at the prevalence of mental disorders including anxiety, mood disorders, substance abuse and eating disorders. The GSS mental health index is based primarily on recent levels of anxiety and depression, so there is only a partial overlap between the two measures but the results can still be usefully compared.

Low wellbeing in any domain, particularly loneliness, was associated with higher prevalence for low mental health wellbeing. A statistical model identified that the wellbeing indicators most strongly related to low wellbeing for mental health were, in order:

- Loneliness

¹ The Appendix provides details of the Treasury's LSF wellbeing definitions.

- low job wellbeing (unemployed, on a benefit, or unhappy with job)
- low material wellbeing
- low cultural wellbeing (feel unable to express your identity)
- low civic wellbeing (low trust in other people and institutions)
- low physical health wellbeing
- low housing quality.

Demographic factors (for example, ethnicity) were relatively unimportant once we accounted for wellbeing in these other domains. This indicates that wellbeing in other domains, rather than demographics, is likely to be the key driver of mental health wellbeing. For instance, sole parents are relatively likely to be lonely and to have low material wellbeing. These are both strongly associated with low wellbeing for mental health.

Overall, we established that low mental health wellbeing often occurs alongside other types of low wellbeing including loneliness and low trust in other people. Low material wellbeing is also a strong negative factor.

Loneliness was, by some distance, the wellbeing indicator most strongly associated with low mental health wellbeing. There were relatively high rates of loneliness for sole parent households, the unemployed, people in deprived areas, Asians and Māori, and people with low cultural wellbeing (not feeling able to express themselves).

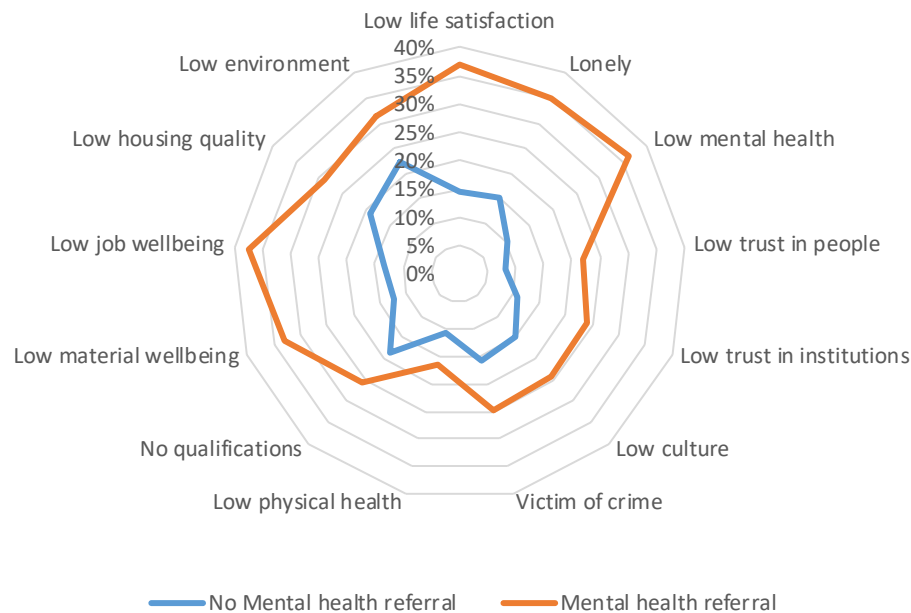
We also looked at the wellbeing indicators that were most strongly associated with overall life satisfaction. The relationship between life satisfaction and mental health was easily the strongest, which indicates that mental health will be an important part of the work to improve overall wellbeing.

Users of mental health services have high rates of low mental health wellbeing, low life satisfaction and loneliness

We profiled the multidimensional wellbeing of users of mental health services and some other government services. The particular mental health services we looked at were prescriptions, referrals, and incapacity benefit for mental health reasons. The analysis was based on people who had contact with each type of service in the two years prior to their GSS interview.

The chart below shows an example of a wellbeing profile, in this case for people who had a mental health referral in the previous two years. The orange line shows the percentage of people with low wellbeing in each domain, for those people who had received a mental health referral. The blue line shows the prevalence of low wellbeing for people who did not have a mental health referral. The orange line is consistently outside the blue line, meaning that people with mental health referrals in the previous two years had a higher prevalence of low wellbeing in all domains. The prevalence rates were particularly high for low mental health, low life satisfaction, loneliness, and low job wellbeing.

Percentage of people with low wellbeing in each domain, by whether they had received a mental health referral in the prior two years



Interpretation: Recent mental health referrals were particularly associated with higher prevalence for low wellbeing for mental health, low job wellbeing, low life satisfaction, low material wellbeing and loneliness.

The key findings from these wellbeing profiles included:

- As expected, users of mental health services had significantly higher prevalence rates for low mental health wellbeing compared with people who had not used these services. They also had high prevalence rates for low life satisfaction and loneliness.
- People with mental health referrals or people who had claimed an incapacity benefit for mental health reasons also had high prevalence rates for low material wellbeing and low job wellbeing. These two groups face a very challenging combination of low wellbeing across multiple domains.
- We also looked at the wellbeing profiles for people who, in the previous two years, had a criminal conviction, or had been a Housing NZ client, or had claimed a benefit.² In each case the strongest associations were with high prevalence for low material wellbeing, low housing quality and low job wellbeing. There were also relatively high prevalence rates for low mental health wellbeing and low life satisfaction.
- Having a criminal conviction in the previous two years was associated with high prevalence for low trust in people and institutions, and for being a victim of crime.

² These types of government contact were chosen due to potential interest, but others could have been selected and could be looked at in future work. The results are intended to illustrate that mental health wellbeing is related to a wider range of services than just those specific to mental health.

For people with low mental health wellbeing, Asians and Pacific people were the least likely to access mental health referrals or prescriptions

For people with low mental health wellbeing, we found that 37% had received either a mental health referral or a prescription in the prior two years. The rate was lower for people with low mental health wellbeing in the following groups:

- Asians
- Pacific people
- not born in New Zealand
- 15 to 24 year olds
- people in good physical health
- employed people
- people with milder mental health issues.

The New Zealand Mental Health Survey (Ministry of Health 2006) found that, for people with a mental disorder in the previous 12 months, there were lower rates of health service use for Pacific people and people with less serious disorders.

1 Introduction

The Treasury published the Living Standards Framework (LSF) Dashboard in December 2018, alongside the paper “Our people - Multidimensional wellbeing in New Zealand” (McLeod 2018). The LSF sets out a framework for measuring wellbeing, consisting of four “capitals”, which support future wellbeing, and 12 domains of current wellbeing. These built on earlier work regarding living standards, carried out over a number of years by the Treasury and other agencies, including the Ministry of Social Development’s Social Report.

Using the LSF, we view wellbeing as a multidimensional concept that cannot be adequately captured by any single measure. Of the 12 domains of current wellbeing, we adopted 11 from the OECD’s “How’s Life?” report (OECD 2017) and a further domain representing Cultural Identity was added to reflect the importance of this dimension to wellbeing in New Zealand.

The Our People section of the LSF Dashboard is person-focussed and describes the current wellbeing of New Zealanders across the multiple dimensions of the LSF. This section and the accompanying paper used data drawn from the 2014 and 2016 New Zealand General Social Surveys (GSS) to look at the:

- extent to which people’s wellbeing in a particular domain coincides with wellbeing in other areas
- extent that individuals have different levels of wellbeing across multiple domains (that is, ‘multidimensional’ wellbeing)
- relationship between different population characteristics and wellbeing.

In this paper, we have built on the previous work and used the LSF to analyse the prevalence of low wellbeing for mental health.³ One of the domains of current wellbeing is health, and its sub-domains are mental health and physical health. We have looked at how low mental health wellbeing is associated with:

- demographic groups
- low wellbeing in other domains
- users of mental health services and other government services.

Since the publication of the LSF Dashboard, we have created a combined 2008-16 GSS dataset, linked to the Integrated Data Infrastructure (IDI) hosted by Statistics NZ. This gives us a larger sample size to work with, and the ability to look at the multidimensional wellbeing of people who have had contact with particular government services (for example, a mental health referral).

We have written this paper for a generalist audience, with the aim of demonstrating the potential of the LSF to provide wellbeing analysis on policy topics. This is a preliminary

³ By “prevalence” we mean the percentage of people with low mental health wellbeing.

analysis that could be extended in various directions, depending on future needs and interests.

There is a broad and growing literature on wellbeing. This paper does not provide a literature review but makes a few specific references, where particularly relevant.

Section 2 provides further details on background and methodology. Section 3 looks at how mental health wellbeing is associated with demographic groups and other domains of wellbeing. Sections 4 and 5 show the multidimensional wellbeing of users of selected mental health services and other types of public services. Section 6 identifies groups with low mental health wellbeing who are less likely to have accessed relevant mental health services. Section 7 summarises the key findings, and Section 8 briefly comments on potential next steps.

2 Background

The Treasury's analytical paper "Our people - Multidimensional wellbeing in New Zealand" used the 2014 and 2016 General Social Survey (GSS) to define a range of wellbeing domains and to measure outcomes across those domains, including health generally and mental health specifically. Low wellbeing for health was found to be significantly associated with low wellbeing across all other domains, particularly overall life satisfaction.

The paper identified 11% of people as having low mental health wellbeing, based on the SF-12 (Short Form Survey) questions in the GSS. The SF-12 are a standard set of questions used internationally to provide a summary assessment of physical and mental health, with a scoring system to provide overall index scores. The scores can range from zero (lowest health) to 100 (highest health). A mental health index score below 37 was defined as indicating low mental health wellbeing, while a score over 54 was defined as indicating excellent mental health wellbeing. See Tables A2 and A3 in the Appendix for full details of the wellbeing indicator definitions.

Low mental health wellbeing was found to be slightly more common for women, younger people (aged under 65) and Māori. Low wellbeing for health generally was also found to be more common for people living in the North Island outside the Auckland region, people living in relatively deprived areas, sole parents or people not living with any family, and people who were not employed.

The aim of this paper is to extend the analysis of mental health wellbeing in the following ways:

- Make use of the five GSS surveys, from 2008 to 2016, to increase the available sample size. Not all of the wellbeing domains can be consistently measured across these five GSS surveys but the questions relating to mental health are the same.
- Link to other data sources in the Integrated Data Infrastructure (IDI) and analyse the multidimensional wellbeing, including mental health, of people having various types of contact with government. This will include a selection of mental health services and other types of services (e.g. claiming benefits, Housing NZ clients). This analysis is illustrative and a much wider range of services could potentially be analysed in future.
- Use the link with the IDI to identify which people with low mental health wellbeing appear to be relatively unlikely to access mental health referrals or prescriptions.

The IDI is a collection of linked government datasets that enables us to identify a person's interactions with government over time. This could be a benefit claim, a Housing NZ tenancy, a criminal conviction or many other types of interaction. Statistics New Zealand carries out all the data linkage, and then all removes identifying fields (for example, name, and date of birth) prior to researchers being given access. Using this data, we have tracked the use of particular government services for GSS respondents in the two years prior to their survey interview and then analysed the relationships with wellbeing.

This type of analysis has some limitations. All of the wellbeing domains, including mental health, have been defined based on people's responses to the GSS. The GSS mental health index is based on the SF-12 set of questions, which are widely used internationally

to provide summary measures of physical and mental health. They primarily reflect the extent to which anxiety and depression have affected a person's life over the previous four weeks, but this is not a clinical measure of their current mental health.

Also, we cannot tell if someone's overall wellbeing has recently changed, perhaps following an interaction with government, or if their current state of wellbeing has persisted for a long time. This means we can only identify associations between the various domains of wellbeing and interactions with government, rather than identifying causal relationships.

The GSS questionnaire has changed over time, particularly between 2012 and 2014. This means we have had to vary slightly the definitions for each wellbeing domain between years, and some domains or sub-domains can only be measured for particular years. We think it is possible to use the five combined GSS surveys to produce useful results, but a more consistent survey over time would have been better.

The paper "Our people – Multidimensional wellbeing in New Zealand" presented a range of wellbeing domains (for example, Health) and sub-domains (for example, Mental health and Physical health). In each case, the domain outcomes were determined by the outcomes for the constituent sub-domains. If a person had low wellbeing for any sub-domain then we also considered them to have low wellbeing for the overall domain. And if a person had high wellbeing for all sub-domains within a domain then we considered them to have high wellbeing for the overall domain. The majority of the analysis was presented at the domain level.

This paper has focussed on a particular subset of the sub-domains. Mental health wellbeing is itself a sub-domain. We cannot easily present the full set of sub-domains, and some are more consistent over the five GSS years than others. We have picked at least one measure from each domain, based on the quality and consistency of the available data and the apparent relationships with mental health. The specific domains and sub-domains chosen for this analysis were:

- life satisfaction (domain level)
- material wellbeing index (Income and consumption domain)
- physical health (Health domain)
- mental health (Health domain)
- housing (domain level)
- qualifications (domain level)
- loneliness (Social connections domain)
- feeling unsafe (Safety domain)
- victim of crime (Safety domain)
- trust in people (Civic and governance domain)

- trust in institutions (Civic and governance domain)
- cultural identity (domain level)
- environment (domain level)
- jobs and earnings (domain level).

The “Environment” and the “Jobs and earnings” domains weren’t included in the “Our people” paper. Definitions of all indicators are supplied in Tables A2 and A3 in the Appendix.

This paper includes some brief comparisons with results from the New Zealand Mental Health Survey. These comparisons have been included because the Mental Health Survey is an authoritative source of information on the prevalence of mental disorders and health service usage, so it’s interesting to see how our results for low mental health wellbeing compare. There is only a partial overlap though, between the coverage of the Mental Health Survey (which looked at anxiety disorders, mood disorders, eating disorders and substance use disorders), and the definition of low mental health wellbeing (focussed on recent anxiety and mood problems) drawn from the GSS. So, our definition of mental health wellbeing is more limited and this needs to be kept in mind during comparisons to the Mental Health Survey results.

3 Which demographic groups and wellbeing indicators are most strongly associated with mental health wellbeing?

From 2008 to 2016, the GSS used the SF-12 questions to assign overall scores for mental and physical health. The Treasury's Living Standards Framework uses these scores to define low, good and excellent wellbeing for mental health. The SF-12 questions can only provide indicative results on someone's mental health but people in the "low mental health wellbeing" category will have generally had significant issues with anxiety and/or depression during the previous four weeks.

The GSS has a sample size of slightly over 8,000 in each iteration. Combining the five GSSs from 2008-16 gave us a sample of around 43,000. The GSS survey weightings have been used for all analysis.

3.1 Sole parents, the unemployed, and those living in deprived areas have the highest rates of low wellbeing for mental health

Similarly to the "Our people - Multidimensional wellbeing in New Zealand" paper, 11.0% of people were found to have low mental health wellbeing across the five combined GSS years. The groups with higher prevalence of low mental health wellbeing included:

- sole parents (19.6%) or not living as part of a family (14.2%)
- unemployed (18.4%) or not in the labour force (14.8%)
- living in a deprived area (16.7% for most deprived decile)
- living in a dwelling they do not own (15.3%)
- Māori (15.5%)
- no qualification (15.0%)
- female (12.8%)
- aged 35 to 44 (12.8%).

There will be overlap between disadvantage factors but some expected themes around sole parents, unemployment and deprivation do appear to be related to low mental health wellbeing.

Table A6 in the Appendix provides the full set of results. The groups with relatively low prevalence of low mental health wellbeing included males (9.1%), Asians (9.4%), people aged 65 and over (9.1%), people in couples with or without children (8.3% and 9.5%

respectively), employed (8.9%), living in the least deprived deciles (8.2% for least deprived decile), having a degree (8.9%), and living in a dwelling they own (9.3%).

These results for the groups that have higher prevalence rates of low mental health wellbeing are similar to those from the New Zealand Mental Health Survey. They found that “prevalences [of mental disorders] are higher for people who are disadvantaged, whether measured by educational qualification, equivalised household income or using the small areas index of deprivation.” They also found a higher prevalence rate for Māori, prior to any adjustment for socioeconomic disadvantage.

The Mental Health Survey noted that “females have higher prevalence rates of anxiety disorder, major depression and eating disorders than males, whereas males have substantially higher prevalences for substance use disorders than females.” Our measure of mental health wellbeing, from the GSS, is focussed on recent issues with depression and anxiety. This may be a reason why females had a higher prevalence rate than males for low mental health wellbeing.

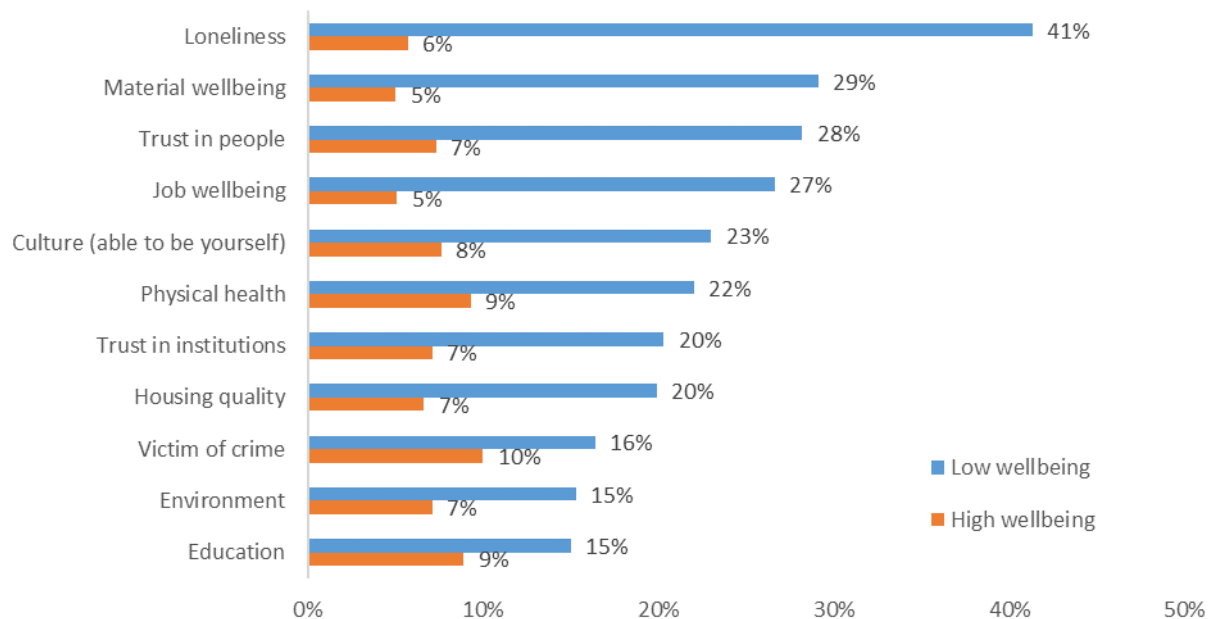
A point of difference is that the Mental Health Survey found higher prevalence rates of disorders for younger people. We found the lowest prevalence rates for mental health wellbeing were for the youngest (15-24) and oldest (65 and over) age groups, at 10.0% and 9.1% respectively. The highest prevalence rates were for 35 to 44 year olds. This difference in results may be due to differences in the definitions. For instance, the GSS questions used to measure mental health wellbeing do not explicitly cover eating disorders or substance abuse.

3.2 Loneliness, low material wellbeing, and low trust in other people are strongly associated with low mental health wellbeing

Figure 1 shows the prevalence rates of low mental health wellbeing for people with low and high wellbeing in other domains. The strongest relationship was with loneliness. 41% of people who were always or often lonely also had low mental health wellbeing, while only 6% of people who were never lonely had low mental health wellbeing. There were also strong relationships with material wellbeing, trust in people and job wellbeing.⁴ And it is clear that low wellbeing in any of the domains is associated with a higher prevalence of low mental health wellbeing.

⁴ “Trust in people” could only be measured in the GSS years 2014 and 2016.

Figure 1: Prevalence rates of low mental health wellbeing for people with high or low wellbeing in other domains



Interpretation: Low wellbeing in other domains, particularly loneliness, is associated with higher prevalence of low mental health wellbeing.

Loneliness connects with a couple of the demographic themes identified above. Overall, 16% of people had low wellbeing for loneliness (lonely at least some of the time). There were higher rates of loneliness for sole parent households (23%), people living without family (21%), the unemployed (25%), and people in deprived areas (21% in the most deprived decile vs 11% in the least deprived decile). By ethnicity, Asians (21%) and Māori (19%) had the highest rates of loneliness while Europeans (14%) had the lowest rate. There were also high rates of loneliness for people with low material wellbeing (32%), low cultural wellbeing (30%) and low trust in people (29%).

We ran a statistical model to identify the strongest relationships with low mental health wellbeing when demographics and other wellbeing indicators are all considered together.⁵ The strongest associations with low mental health wellbeing, in order, were:

- loneliness
- low job wellbeing (unemployed, on benefit, or unhappy with job)
- low material wellbeing
- low cultural identity wellbeing (don't feel able to be yourself)
- low civic engagement (trust in others and institutions in New Zealand)
- low physical health
- low quality housing.

⁵ This was a logistic regression model, and the full set of odds ratios are shown in Table A1 in the Appendix.

This provides an overview of the wellbeing factors associated with mental health. It appears to be particularly important to have regular engagement with other people, so that you don't feel lonely. Material wellbeing and meaningful employment are other key factors. And physical health and feeling able to be yourself also play a role.

The model identified that Māori were not associated with a higher prevalence of low mental health wellbeing once these other factors were taken into account, and Pacific people were associated with relatively low prevalence of low mental health wellbeing. So there does not appear to be a significant ethnic dimension to the prevalence of low mental health wellbeing, after accounting for other factors. This result is in line with the NZ Mental Health Survey, which found that after adjusting for sociodemographic factors (including relative socioeconomic disadvantage) Māori and Pacific people did not have a higher prevalence of anxiety disorders or major depression. But, it did find that Māori still had higher prevalence for substance abuse disorders.

So overall, mental health wellbeing is more strongly associated with other areas of wellbeing (loneliness, deprivation, employment) than with particular demographic groups (ethnicity or age).

3.3 Mental health is the wellbeing indicator that is most strongly associated with overall life satisfaction

Mental health is strongly associated with overall life satisfaction. Half (50%) of people with low mental health wellbeing also had low life satisfaction, while only 5% of people with very good mental health wellbeing had low life satisfaction.

We also ran models of low and high life satisfaction, with mental health included as one of the explanatory variables. The strongest associations with low life satisfaction, in order, were:

- low mental health wellbeing
- low job wellbeing (unemployed, on benefit, or unhappy with job)
- low material wellbeing
- low civic engagement (trust in others and institutions in New Zealand)
- loneliness
- low cultural identity wellbeing (don't feel able to be yourself).

Mental health was the strongest relationship, by some distance. This indicates that improving mental health wellbeing will be an important part of work to improve people's overall subjective wellbeing.

The model of high life satisfaction was similar, with strong associations with good mental health, high material wellbeing and high job wellbeing. Loneliness and civic engagement were less important, perhaps indicating that they are more effective at signalling low life satisfaction than very high life satisfaction.

After taking these other forms of wellbeing into account, the model found that the following demographic groups had higher prevalence of high life satisfaction:

- aged over 65
- Pacific people and Māori
- women.

So, these groups appear to be relatively resilient to low wellbeing in other domains when considering their overall life satisfaction.

4 Wellbeing profiles of people who use mental health services

We have defined wellbeing using the GSS, and our definition of low mental health wellbeing is based on people's responses to questions about how often they felt anxious or depressed over the previous four weeks and whether this affected their work or daily activities. This section looks at people who have used particular mental health services (referrals, prescriptions, incapacity benefit for mental health reasons) in the past two years and examines:

1. are they more likely than the general population to report low mental health wellbeing?
2. do they tend to have low wellbeing in other domains?

For the first question, we would expect the answer to be “yes”. People who have used mental health services should tend to be the people who report mental health issues, when asked by a survey. Of course, some people will make a full recovery from a mental health episode, while other people with mental health issues will never seek treatment. So it's interesting to see how strong the association is between using particular services and mental health wellbeing.

The second question is more of an unknown. We have already seen that low mental health wellbeing tends to be associated with low wellbeing in other domains. But this analysis will show us the patterns of multidimensional wellbeing for users of each service.

4.1 Mental health referrals are associated with low life satisfaction, low job wellbeing and low mental health wellbeing

Figure 2 shows the prevalence of low wellbeing associated with having a mental health referral in the past two years.⁶ The orange line shows people with a mental health referral, while the blue line shows people who have not had mental health referrals. The orange line is consistently outside the blue line, which means that people with mental health referrals have a higher prevalence of low wellbeing for each indicator. Bigger gaps between the two lines mean that mental health referrals are associated with relatively large increases in the prevalence of low wellbeing for those indicators.

Mental health referrals were particularly associated with high prevalence of:

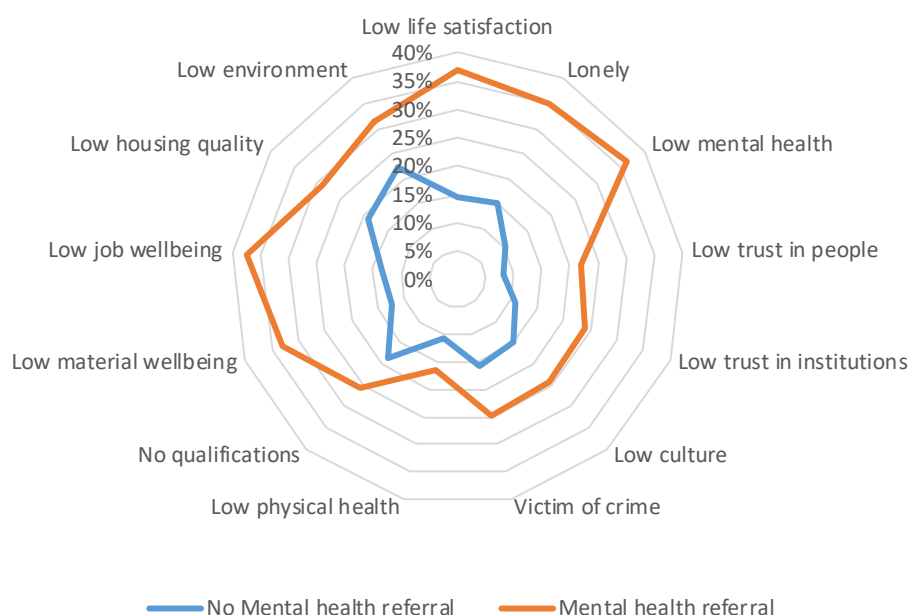
- low life satisfaction (37%)
- low job wellbeing (37%)
- low mental health (36%)
- loneliness (35%)
- low material wellbeing (33%).

⁶ Further information on how we have defined each group of service users is provided in section A5 of the Appendix. All statistical significance tests applied were at the 95% confidence level.

For each of these indicators, the prevalence of low wellbeing was more than twice as high for people with recent mental health referrals compared with other people. So it appears that people with a mental health referral are often dealing with a wide range of wellbeing issues that go beyond mental health.

The group with recent mental health referrals was skewed towards Māori, people aged 15 to 34, sole parents, and people who were unemployed or outside the labour force, and living in deprived areas.

Figure 2: Percentage of people with low wellbeing in each domain, by whether they had a mental health referral in the prior two years



Interpretation: Recent mental health referrals were particularly associated with higher prevalence for low mental health wellbeing, low job wellbeing, low life satisfaction, low material wellbeing and loneliness. All of the differences shown in the chart were statistically significant (at the 95% confidence level).

4.2 Mental health prescriptions are associated with low wellbeing for mental and physical health, and with low life satisfaction

Figure 3 shows the wellbeing outcomes for people who had a prescription related to mental health in the two years prior to the GSS. In this category we have included medication related to depression, anxiety or psychosis.⁷ Prescriptions related to depression were the most common.

We have separately shown the results for people with no mental health prescriptions, one or two prescriptions, and three or more prescriptions. This allows us to differentiate

⁷ We have used the standard World Health Organisation classification of drugs to therapeutic groups. This does not always accurately capture which drugs are prescribed for particular conditions.

between outcomes for people with occasional prescriptions for mental health reasons and outcomes for people with regular prescriptions.

Three or more recent mental health prescriptions were particularly associated with high prevalence for:

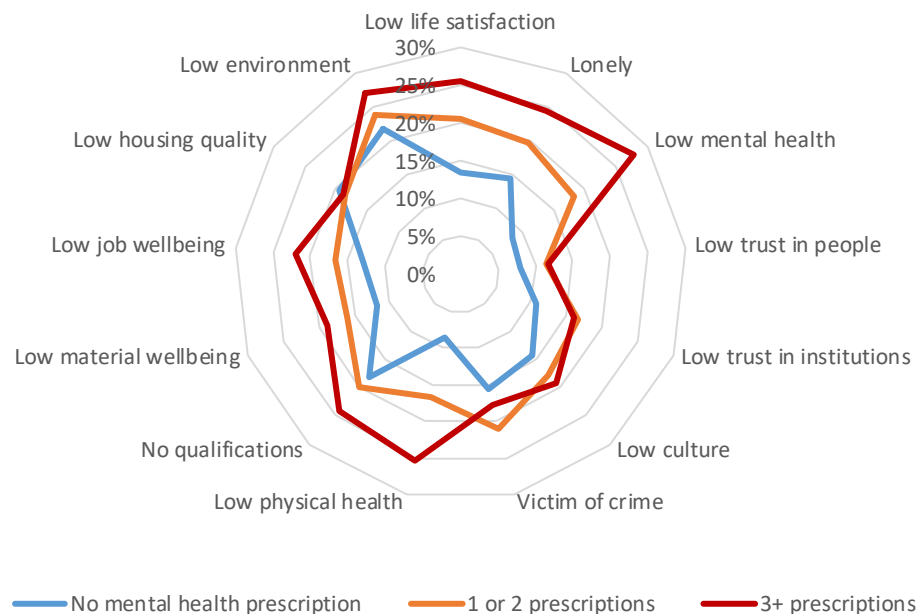
- low mental health wellbeing (28%)
- low life satisfaction (26%)
- low physical health wellbeing (25%)
- loneliness (24%).

For each of the above indicators, people with only one or two recent mental health prescriptions had significantly higher rates of low wellbeing than people with no recent mental health prescriptions. But these rates were significantly higher again for people with three or more prescriptions.

These prevalence rates are generally lower than the ones associated with mental health referrals, which is perhaps not surprising as referrals tend to be for more serious cases. But the prevalence of low mental health wellbeing is still more than three times as high for people with three or more recent mental health prescriptions, compared with other people. And mental health prescriptions were more strongly associated with low physical health wellbeing.

The group with recent mental health prescriptions was skewed towards women, Europeans, people aged 55 and over, and those outside the labour force. So this is a very different group compared to those with recent mental health referrals, who were younger and relatively disadvantaged.

Figure 3: Percentage of people with low wellbeing in each domain, by their number of prescriptions for mental health issues in the prior two years



Interpretation: Recent prescriptions for mental health issues were particularly associated with a high prevalence of low wellbeing for mental and physical health, and low life satisfaction. All of the differences shown in the chart between 3+ prescriptions and no prescriptions were statistically significant except for housing quality.

4.3 Incapacity benefit for mental health reasons is most strongly associated with low job wellbeing and low material wellbeing, but also with low mental health wellbeing

Figure 4 shows the outcomes for people who had claimed incapacity benefit for mental health reasons in the past two years. Claimants of this benefit had a high prevalence of:

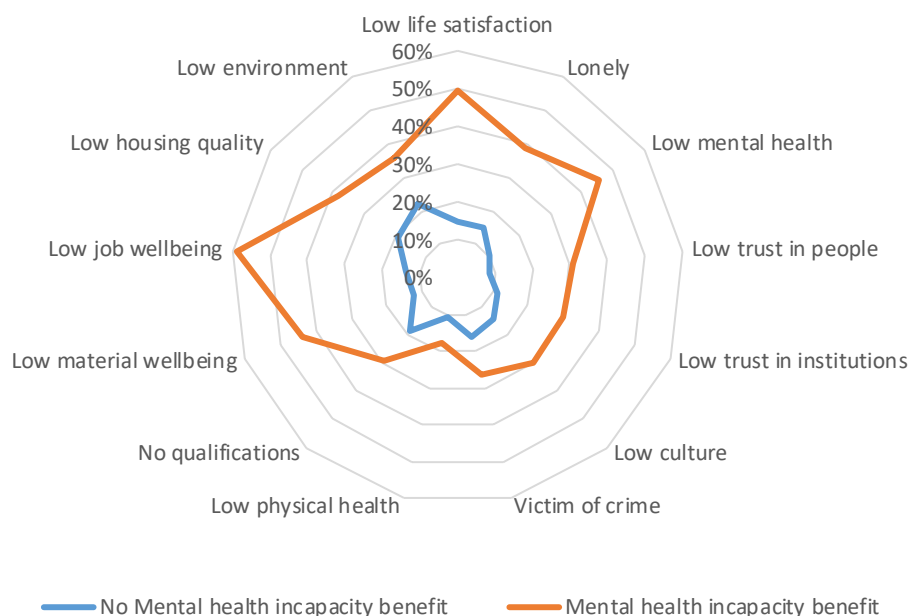
- low job wellbeing (59%)
- low life satisfaction (50%)
- low mental health wellbeing (45%)
- low material wellbeing (44%)
- loneliness (39%)
- low trust in people (31%).

For each of the above indicators, the prevalence of low wellbeing was more than three times higher for people claiming incapacity benefit for mental health reasons than for other

people. People claiming this benefit appear to have a particularly high prevalence of low wellbeing across some of the key indicators.

The group with recent claims of incapacity benefit for mental health reasons was skewed towards Māori, sole parents and those not living with a partner, and for people who were unemployed or outside the labour force, and living in deprived areas. They were all aged under 65, due to eligibility for this type of benefit.

Figure 4: Percentage of people with low wellbeing in each domain, by whether they had claimed incapacity benefit for mental health reasons in the past two years



Interpretation: Claiming incapacity benefit for mental health reasons was particularly associated with a higher prevalence of low wellbeing for jobs, life satisfaction, mental health, material wellbeing, loneliness, and trust in people. All of the differences shown in the chart were statistically significant.

4.4 Users of mental health services have high prevalence rates for low mental health wellbeing, low life satisfaction and loneliness

As expected, we found that users of each of these mental health services had much higher prevalence rates of low mental health wellbeing than people who have not used these services. This was particularly true for people with a mental health referral or those claiming an incapacity benefit. There were also significantly higher prevalence rates for low life satisfaction and loneliness in each case. This provides further evidence of the link between mental health, loneliness and overall life satisfaction.

Mental health referrals and incapacity benefit for mental health reasons were also strongly connected to low job wellbeing and low material wellbeing. In fact, their overall wellbeing profiles are quite similar. These people appear to face a very challenging combination of low wellbeing across multiple domains.

5 Wellbeing profiles of people having other types of contact with government

We saw in the previous section that users of mental health services did, as expected, have higher prevalence rates for low mental health wellbeing but also for low life satisfaction, loneliness, low material wellbeing and low job wellbeing. This section looks at the wellbeing profiles for people who had other types of contact with government in the past two years, including:

- criminal conviction
- claiming a benefit (excluding pension)
- Housing NZ client (tenancy or waiting list).

The purpose of this section is to start building a broader picture of how mental health and other aspects of wellbeing are related to various types of contact with government. Other types of contact with government could have been chosen for analysis, and may be addressed in future work.

5.1 Criminal convictions are associated with higher prevalence of low job wellbeing, low material wellbeing, and being a victim of crime

Figure 5 shows the prevalence rates for low wellbeing for people who had a criminal conviction in the past two years. This excludes charges that had less serious outcomes such as diversions or discharge without conviction. Criminal convictions were particularly associated with higher prevalence of low wellbeing for:

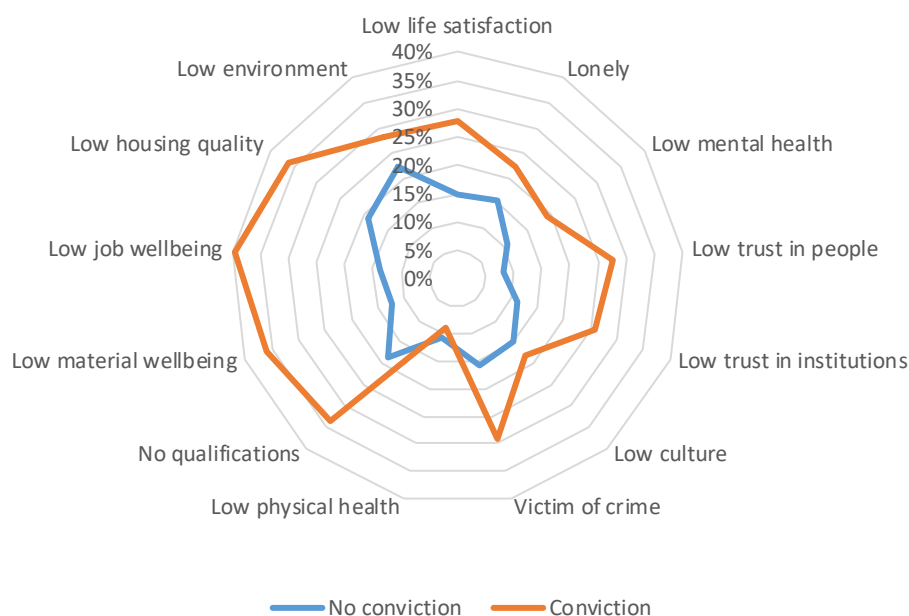
- low job wellbeing (39%)
- low material wellbeing (36%)
- low housing quality (36%)
- victim of crime (28%)
- low trust in people (28%)
- low trust in institutions (26%).

So, the types of low wellbeing most strongly associated with a criminal conviction are around employment, material wellbeing and trust. But there are higher prevalence rates for every type of low wellbeing except physical health, which may be related to the younger age profile of offenders. It's interesting that a criminal conviction is associated with a higher prevalence for being a victim of crime.

The prevalence rate of low mental health wellbeing was 19% for people with a recent conviction, compared with 11% for people without a recent conviction.

The group with a criminal conviction in the previous two years was skewed towards men, Māori and Pacific people, aged 15 to 34, sole parents or not living with a partner, unemployed, born in New Zealand, and living in the most deprived areas.

Figure 5: Percentage of people with low wellbeing in each domain, by whether they had a criminal conviction in the past two years



Interpretation: A criminal conviction was particularly associated with higher prevalence of low job wellbeing, low material wellbeing, low housing quality, and also with being a victim of crime. The differences for physical health, culture and environment were not statistically significant.

5.2 Benefit claims are strongly associated with low job wellbeing and low material wellbeing, and also with low life satisfaction

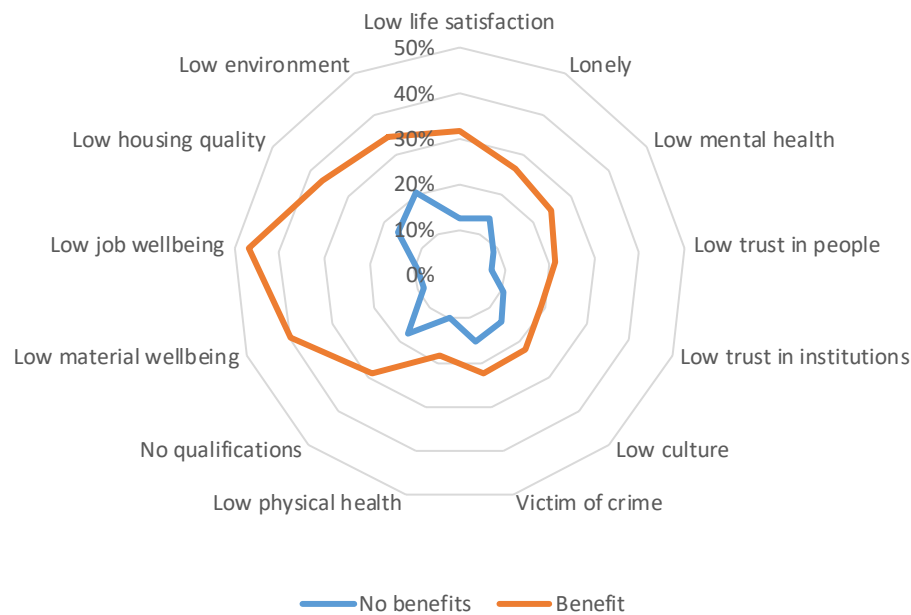
Figure 6 shows the wellbeing outcomes for people who claimed any type of benefit (excluding pensions) in the previous two years. This was sourced from Inland Revenue data, which records different types of income for each person. Benefit claims were most strongly associated with low wellbeing for:

- low job wellbeing (47%)
- low material wellbeing (40%)
- low housing quality (37%)
- low life satisfaction (32%)
- low mental health wellbeing (25%).

As expected, the primary types of low wellbeing associated with claiming a benefit were around job and material wellbeing. However, there were also significant associations with low wellbeing for life satisfaction and mental health. The prevalence rate for low mental health wellbeing was nearly three times higher (25% vs 9%) for people who had recently claimed a benefit, compared with people who had not claimed a benefit.

The group with a benefit claim in the past two years was skewed towards women, Māori and Pacific people, aged 15 to 34, sole parents, unemployed or out of the labour force, living in the North Island outside of Auckland or Wellington, and living in deprived areas.

Figure 6: Percentage of people with low wellbeing in each domain, by whether they claimed any type of benefit (excluding a pension) in the past two years



Interpretation: Claiming benefits was particularly associated with higher prevalence for low job wellbeing, low material wellbeing, low housing quality, low life satisfaction and low mental health wellbeing. All of the differences shown in the chart were statistically significant.

5.3 Housing NZ clients are associated with low material wellbeing and low housing quality

Figure 7 shows the wellbeing profile for people who were Housing NZ clients, either in tenancies or on the waiting list, in the previous two years. Being a Housing NZ client was particularly associated with a higher prevalence for:

- low housing quality (48%)
- low material wellbeing (44%)
- low job wellbeing (41%)
- low environment wellbeing (41%)

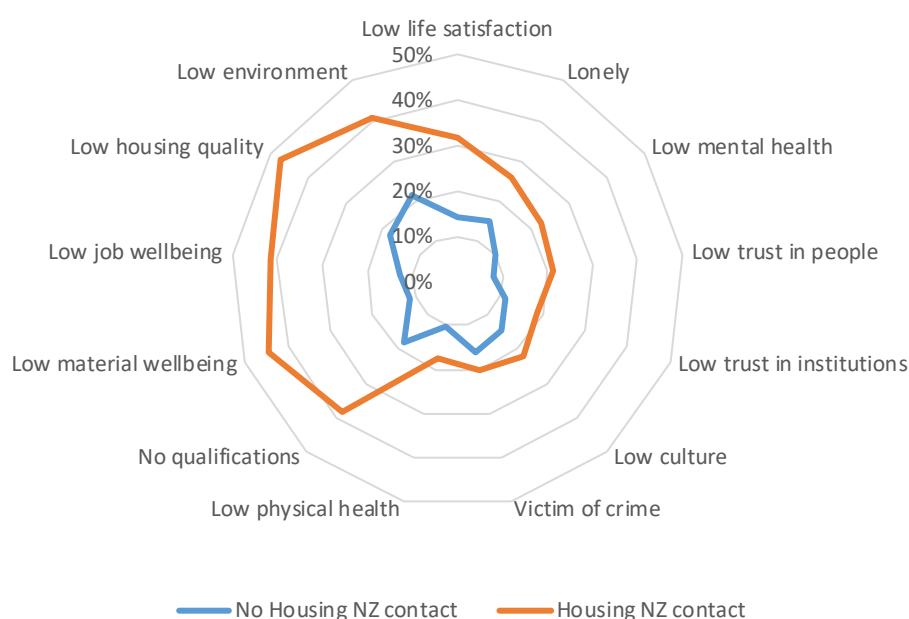
- no qualifications (39%)
- low life satisfaction (32%).

In common with benefit claimants, the strongest associations were with low wellbeing for jobs, housing and material wellbeing. But for Housing NZ clients, compared with benefit claimants, there are stronger associations with low housing quality and low environment wellbeing.

The prevalence rate for low mental health wellbeing was more than twice as high for Housing NZ clients (22% vs 10%), when compared with other people. So while mental health wasn't the strongest association, it was still a significant one.

The group that had been Housing NZ clients during the previous two years was skewed towards women, Māori and particularly Pacific people, aged 15 to 24, sole parents, and those who were unemployed or out of the labour force, living in Auckland, and living in the most deprived areas.

Figure 7: Percentage of people with low wellbeing in each domain, by whether they had been a client of Housing New Zealand in the previous two years



Interpretation: Being a client of Housing NZ was particularly associated with a higher prevalence of low material wellbeing, low housing quality, low job wellbeing, and no qualifications. All of the differences shown in the chart were statistically significant.

5.4 These service users have particularly high prevalence rates for low material wellbeing, and fairly high prevalence rates for low life satisfaction and low mental health wellbeing

Overall, the results in this section have demonstrated that, compared with the general population, people making these types of contact with government have a significantly higher prevalence of low wellbeing across the range of indicators. The three groups we looked at all had particularly high prevalence rates for low material wellbeing, low housing quality and low job wellbeing.

High prevalence for low mental health wellbeing and low life satisfaction was a common theme across the different groups. The association wasn't as strong as with the wellbeing indicators more directly linked to deprivation, but it was still significant. The prevalence rate of low mental health wellbeing for people who had claimed benefits in the past two years (25%) was nearly three times higher than for people who had not claimed benefits in that period (9%).

In the previous section on mental health services, we found that high prevalence of low mental health wellbeing was often combined with other factors such as low material wellbeing and low job wellbeing. This section has reinforced that message, showing that mental health is an issue across a wider range of government services and contacts.

6 Which people with low mental health wellbeing are less likely to have mental health referrals or prescriptions?

We have looked at the wellbeing profiles, including mental health, of people who have had various forms of contact with government. A further question is whether people with low mental health wellbeing are making use of the relevant services that could potentially help them.

For everyone identified in the GSS as having low mental health wellbeing, 37% had either a mental health referral or prescription in the previous two years. This rate of accessing services was lower for people with low mental health wellbeing in the following groups:

- men (32%)
- Māori (34%)
- Pacific people (22%)
- Asian (18%)
- 15 to 24 year olds (30%)
- employed (30%)
- not born in New Zealand (29%)
- people with good physical health (30%)
- people with milder mental health issues (31%)⁸.

Table A7 in the Appendix provides the full set of results by demographics. The groups with the highest rates of access to mental health prescriptions or referrals included people with more severe mental health issues (46%)⁹, women (42%), Europeans (42%), those aged over 45 (over 40%), people outside the labour force (47%), those with no qualifications (42%), low physical health wellbeing (49%), lonely (49%) and low job wellbeing (44%).

The New Zealand Mental Health Survey reported that “Pacific people and, to a lesser extent, Māori are less likely than others to make contact for mental health reasons with services.” Our analysis echoes this finding, and also finds that Asians with low mental health wellbeing are less likely to make contact with services.

The Mental Health Survey found that contact rates are higher for people with more serious disorders, and we had a similar result for people with the lowest mental health wellbeing.

⁸ Defined as people in our “low mental health wellbeing” category but with a mental health index score of at least 30.

⁹ Defined as people with a mental health index score below 30.

Overall, it appears to be people doing quite well in other respects (employed, good physical health, milder mental health problems) who are less likely to make contact with mental health services. This may be because they are relatively busy and not already in contact with medical services (for example, their GP) due to any physical health issues.

Deprivation was associated with the prevalence of low mental health wellbeing but it did not appear to be associated with rates of access to mental health services. For people with low mental health wellbeing, the percentage who had a recent mental health prescription or referral was similar between the most and least deprived areas (at 38% and 35% respectively). The Mental Health Survey had a similar result, reporting that “In contrast to the marked difference in prevalence across sociodemographic correlates, only a few small differences exist in the percentage seeking help, and these are sometimes not in the same direction as for prevalence”.

7 Key messages from this paper

The key messages from the analysis in this paper are:

1. The highest prevalence rates for low mental health wellbeing were for sole parents, the unemployed, those living in the most deprived areas, and Māori. These results were similar to those from the New Zealand Mental Health Survey.
2. Loneliness was the wellbeing indicator most strongly associated with low mental health wellbeing. Rates of loneliness were highest for the unemployed, sole parent households and people living without family, Asians and Māori, people in deprived areas, and people with low cultural wellbeing (not feeling able to express themselves). The other strongest relationships with mental health wellbeing were material wellbeing, trust in people, and job wellbeing.
3. Ethnicity wasn't significantly associated with mental health wellbeing once other factors, such as deprivation and wellbeing in other domains, were taken into account. Mental health wellbeing is more strongly associated with other wellbeing domains (for example, loneliness, deprivation, employment) than with particular demographic groups (ethnicity or age).
4. Mental health is the wellbeing indicator that was most strongly associated with overall life satisfaction, and so will be an important component of work to improve overall wellbeing.
5. People who had a mental health prescription (particularly those with 3+ prescriptions), a mental health referral or an incapacity benefit for mental health reasons in the previous two years had high prevalence rates of low mental health wellbeing, when compared with people who had not used these services. This was combined with high prevalence rates of low life satisfaction, loneliness, and low material wellbeing. People with mental health referrals or people receiving incapacity benefit for mental health reasons had some very high prevalence rates for low wellbeing across a range of indicators.
6. People with recent benefit claims, contact with Housing NZ, or a criminal conviction also had relatively high prevalence rates for low mental health wellbeing and low life satisfaction. But for these people, the highest prevalence rates related to various forms of deprivation (low material wellbeing, low housing quality, low job wellbeing). This indicates that there is a relationship between mental health wellbeing and contact with a wide range of government services across different sectors.
7. Some groups with low mental health wellbeing had a relatively low take-up rate of mental health services. Overall, we found that 37% of people with low mental health wellbeing had either a mental health prescription or referral in the past two years. This rate was lower for Pacific people and Asians, 15 to 24 year olds, people born overseas, the employed, and people with milder mental health issues. These results are broadly similar to those from the New Zealand Mental Health Survey. Unlike the prevalence of low mental health wellbeing, the rate of accessing mental health services was not significantly associated with deprivation.

Overall, low mental health wellbeing was found to be quite prevalent for users of all the government services that we looked at. People with mental health referrals or those receiving incapacity benefits for mental health reasons had very high prevalence rates for low mental health wellbeing, loneliness, low life satisfaction, and low material wellbeing. These groups were both skewed towards young people, sole parents, the unemployed and people living in deprived areas.

Mental health was the wellbeing indicator that had the strongest association with overall life satisfaction. This indicates that mental health and its associated issues of loneliness, trust in others, and material wellbeing will be an important area to address in work to improve overall wellbeing.

The theme that low mental health wellbeing is usually part of a broader picture of low wellbeing was also a key message from the Government Inquiry into Mental Health and Addiction (2018):

“People criticised current services for failing to acknowledge how much mental wellbeing is a function of meaningful work, healthy relationships with family, whānau and community, good physical health, and strong connection to land, culture and history.”¹⁰

This paper’s analysis, based on the Treasury’s Living Standards Framework, provides some quantitative evidence to support the Inquiry’s findings.

¹⁰ <https://mentalhealth.inquiry.govt.nz/inquiry-report/he-ara-oranga/chapter-2-what-we-heard-the-voices-of-the-people/2-2-a-new-approach-wellbeing-and-community/>

8 Next steps

This paper has provided an overview of multidimensional wellbeing for people who have had particular types of contact with government, such as a mental health prescription or referral in the prior two years. There is potential to use the combination of the GSS and the IDI to analyse the wellbeing of people in more specific situations, such as mental health prescriptions for a particular type of drug (for example, anti-depressants) or mental health referrals that led to a particular type of activity. This applies to other types of services too, such as specific patterns of benefit use or childhood contact with Oranga Tamariki. We will continue to engage with policy teams to identify the topics where wellbeing analysis, using the Living Standards Framework (LSF), can add value.

LSF wellbeing analysis can be complementary to existing data sources, such as the Mental Health Survey. These specific sources can provide a more “in depth” view, while LSF wellbeing analysis can highlight the breadth of wellbeing issues (for example, life satisfaction, loneliness, housing quality) for a particular group. The linkage to the IDI also allows us to look at the wellbeing of populations defined by service use, and at the characteristics of people with low wellbeing who are not using relevant services.

LSF wellbeing analysis is currently constrained by the fact that we have drawn the wellbeing indicators from the GSS. Even with the combined years (2008-16) GSS dataset, we only have enough sample size to look at wellbeing for people in relatively common situations. A second issue is that people are usually only interviewed for the GSS once, which means we cannot track their wellbeing over time. We may look at setting up proxy wellbeing indicators using administrative data (for example, income, benefits claims, health service usage) to support a broader range of wellbeing analysis.

This has been an initial exploration of applying LSF wellbeing analysis, using the GSS and IDI, to a priority policy area and we will continue to develop our approach in collaboration with others.

References

- Government Inquiry into Mental Health and Addiction. (2018). *He Ara Oranga: Report of the Government Inquiry into Mental Health and Addiction*.
- McLeod, K. (2018). *Our People – Multidimensional wellbeing in New Zealand*. Analytical Paper 18/04. The Treasury, Wellington.
- Ministry of Health. (2006). *Te Rau Hinengaro: The New Zealand Mental Health Survey 2006*. Retrieved from: www.health.govt.nz/publication/te-rau-hinengaro-new-zealand-mental-health-survey-summary
- Ministry of Social Development. (2016). *The Social Report 2016*. Wellington.
- OECD. (2017). *How's Life? 2017: Measuring Well-being*, OECD Publishing, Paris.
- Stats NZ. (2016). *New Zealand General Social Survey 2016*. Retrieved from www.stats.govt.nz.
- The Treasury. (2018). Living Standards Framework – Dashboard. Retrieved from: <https://lsfdashboard.treasury.govt.nz/wellbeing/>

Appendix: Outputs from the logistic regression models of mental health

Section A1: Additional Tables

Table A1: Logistic regression model of low mental health, using the GSS wellbeing indicators

Note: Odds ratios **above** one indicate association with higher prevalence of low mental health wellbeing. Odds ratios **below** one indicate lower prevalence of low mental health wellbeing.

Indicator	Odds ratio	Lower confidence limit	Upper confidence limit
Household type: Couple with children vs Couple only	1.006	0.881	1.15
Household type: One parent vs Couple only	1.231	1.039	1.46
Household type: Not living in family vs Couple only	1.18	1.042	1.337
Loneliness: All/Most of the time vs Never	6.762	5.608	8.154
Loneliness: Some of the time vs Never	3.896	3.421	4.435
Loneliness: A little of the time vs Never	2.085	1.871	2.323
Material Wellbeing Index: Low vs Good	2.588	2.207	3.034
Material Wellbeing Index: Medium vs Good	1.531	1.345	1.741
Sex: Female vs Male	1.213	1.106	1.332
Age group: 25 to 34 vs 15 to 24	1.152	0.971	1.367
Age group: 35 to 44 vs 15 to 24	1.437	1.192	1.731
Age group: 45 to 54 vs 15 to 24	1.333	1.122	1.583
Age group: 55 to 64 vs 15 to 24	1.406	1.161	1.703
Age group: 65 and over vs 15 to 24	1.334	1.076	1.655
Housing: Low vs Good	1.503	1.305	1.731
Housing: Medium vs Good	1.137	1.01	1.28
Physical health: Low vs Good	1.704	1.502	1.932
Physical health: Medium vs Good	0.915	0.835	1.003
Civic: Low vs Good	1.784	1.584	2.011
Civic: Medium vs Good	1.392	1.227	1.58
Culture: Low vs Good	1.89	1.637	2.183
Culture: Medium vs Good	1.188	1.064	1.327
Job wellbeing: Low vs Good	3.223	2.613	3.976
Job wellbeing: Medium vs Good	1.58	1.311	1.904
Māori vs not Māori	0.946	0.8	1.117
Pacific vs not Pacific	0.697	0.539	0.902
Asian vs not Asian	0.725	0.564	0.931
European vs not European	0.994	0.835	1.183
Highest qualification: Level 1 or 2 vs No qualification	0.928	0.818	1.053
Highest qualification: Level 3 or 4, overseas secondary vs No qualification	0.873	0.771	0.988
Highest qualification: Level 5 or 6 vs No qualification	0.832	0.714	0.968
Highest qualification: Degree or higher vs No qualification	0.902	0.783	1.04
Highest qualification: Not specified vs No qualification	0.854	0.685	1.064

c statistic = 0.806

Table A2: Wellbeing indicator definitions used in this paper for the 2014 and 2016 GSS

Due to some significant differences between the 2008-12 GSS and the subsequent 2014-16 GSS, we have listed the two sets of definitions separately. The definitions below relate to the 2014-16 GSS.

Domain	Indicator	Definition of high and low wellbeing
Civic and governance	Trust in people	Low: Trust in most people in New Zealand 0-4 out of 10, where zero is “not at all” and 10 is “completely” High: Trust in most people in New Zealand 7-10 out of 10
	Trust in institutions	Low: Low trust in more than one out of five institutions (0-4 out of 10), where zero is “not at all” and 10 is “completely” High: High trust in at least four out of five institutions (7-10 out of 10)
Cultural identity	Able to be yourself in New Zealand	Low: Very hard, hard, or sometimes easy, sometimes hard High: Very easy
Health	Mental health	Low: <37 on Mental Health Index High: >53 on Mental Health Index Note: Mental Health Index is from zero (worst) to 100 (best)
	Physical health	Low: <37 on Physical Health Index High: >53 on Physical Health Index Note: Physical Health Index is from zero (worst) to 100 (best)
Housing	Condition	Low: Immediate repairs or maintenance needed High: Only minor repairs or maintenance needed
	Cold problem	Low: House always too cold in winter High: House never too cold in winter
	Mould problem	Low: Major dampness or mould problem High: No dampness or mould problem
	Crowding	Low: Bedrooms needed High: No bedrooms needed
Income and consumption	Material wellbeing	Low: Material Wellbeing Index 0-7 High: Material Wellbeing Index 18-20 Note: Material Wellbeing Index is from zero (lowest) to 20 (highest)
	Income sufficiency	Low: Not enough money to meet everyday needs High: Enough or more than enough money to meet everyday needs
Knowledge and skills	Knowledge and skills - qualifications	Low: No qualification High: Bachelor's degree or higher

Domain	Indicator	Definition of high and low wellbeing
Safety and security	Feeling unsafe	Low: Feels unsafe at home alone at night, walking home after dark, using public transport or doing online transactions High: Feels safe at home alone at night, walking home after dark, using public transport and doing online transactions
	Victim of crime	Low: Victim of crime in past year High: Not a victim of crime in past year
	Neighbourhood crime	Low: Problem with vandalism, burglaries, assaults, harassment or drugs in neighbourhood High: No problem with vandalism, burglaries, assaults, harassment or drugs in neighbourhood
Social connections	Loneliness	Low: Lonely most or all of the time High: Never lonely
	Friend and family contact	Low: Not enough/too much contact with friends or family High: Right amount of contact with friends and family
	Discrimination	Low: Discriminated against in past year High: Not discriminated against in past year.
Subjective wellbeing	Life satisfaction	Low: General life satisfaction 0-6 out of 10, where 0 is not at all satisfied and 10 is completely satisfied High: General life satisfaction 9-10 out of 10
Environment	Quality of environment	Not available
Jobs and earnings	Job wellbeing	Low: Unemployed, or dissatisfied with job, or out of the labour force and receiving a benefit (excluding pensions) High: Employed and very satisfied with job

Table A3: Wellbeing indicator definitions for the 2008, 2010 and 2012 GSS

Due to some significant differences between the 2008-12 GSS and the subsequent 2014-16 GSS, we have listed the two sets of definitions separately. The definitions below relate to the 2008-12 GSS.

Domain	Indicator	Definition of high and low wellbeing
Civic and governance	Trust in people	Not available
	Trust in institutions	Low: Feel that staff in at least three of courts, schools, health services, government and Police do not treat everyone fairly. High: Feel that staff in all of courts, schools, health services, government and Police do treat everyone fairly.
Cultural identity	Express your identity	Low: Very difficult, difficult, or sometimes easy, sometimes difficult High: Very easy
Health	Mental health	Low: <37 on Mental Health Index (except for 2008 when <42) High: >53 on Mental Health Index (except for 2008 when >55) Note: Mental Health Index is from zero (worst) to 100 (best). Distribution of scores was slightly different in 2008.
	Physical health	Low: <37 on Physical Health Index (except for 2008 when <39) High: >53 on Physical Health Index (except for 2008 when >54) Note: Physical Health Index is from zero (worst) to 100 (best). Distribution of scores was slightly different in 2008.
Housing	Overall quality	Low: At least two of the following were a major problem with the property, or one problem and also dissatisfied with the property: condition, mould, cold, too small, access, pests, expense. High: No major problems for the issues above, and also satisfied with the property.
Income and consumption	Material wellbeing	Low: Material Wellbeing Index 0-16 High: Material Wellbeing Index 27-31 Note: Material Wellbeing Index is from zero (lowest) to 31 (highest). This is different to the 2014-16 surveys, where the index was from zero to 20.
	Income sufficiency	Low: Not enough money to meet everyday needs High: Enough or more than enough money to meet everyday needs

Domain	Indicator	Definition of high and low wellbeing
Knowledge and skills	Knowledge and skills - qualifications	Low: No qualification High: Bachelor's degree or higher
Safety and security	Feeling unsafe	Low: Feels unsafe walking home after dark, using public transport or at work. High: Feels walking home after dark, using public transport or at work. Note: the 2010 and 2012 surveys excluded the "neither safe nor unsafe" option that appeared in other years.
	Victim of crime	Low: Victim of crime in past year High: Not a victim of crime in past year
	Neighbourhood crime	Low: Being unsafe is a major problem with the person's street or neighbourhood. High: Be unsafe is not a major problem with the person's street or neighbourhood.
Social connections	Loneliness	Low: Feel isolated most or all of the time High: Never feel isolated
	Friend and family contact	Low: Not enough/too much contact with friends or family High: Right amount of contact with friends and family
	Discrimination	Low: Discriminated against in past year High: Not discriminated against in past year.
Subjective wellbeing	Life satisfaction	Low: Very dissatisfied, dissatisfied or no feeling either way about life as a whole right now High: Very satisfied with life as a whole right now
Environment	Quality of environment	Low: Access to none or only a few of either the local green spaces or water features, or dissatisfied with the quality of either of these High: Access to all local green spaces and water features, and satisfied with the quality of both
Jobs and earnings	Job wellbeing	Low: Unemployed, or dissatisfied with job, or out of the labour force and receiving a benefit (excluding pensions) High: Employed and very satisfied with job

Table A4: Prevalence of low mental health wellbeing by demographics, 2008-16

Category	Value	Prevalence of low mental health wellbeing
Sex	Male	9.1%
	Female	12.8%
Ethnicity	European	12.5%
	Māori	10.4%
	Pacific	11.0%
	Asian	11.2%
Age	15 to 24	10.0%
	25 to 34	11.6%
	35 to 44	12.8%
	45 to 54	11.7%
	55 to 64	11.0%
	65 and over	9.1%
Household type	Couple only	8.3%
	Couple with children	9.5%
	One parent	19.6%
	Not living in family	14.2%
Labour force status	Employed	8.9%
	Unemployed	18.4%
	Not in labour force	14.8%
Place of birth	Born in NZ	11.6%
	Not born in NZ	9.6%
Region	Auckland	9.7%
	Wellington	11.7%
	Northland, BOP, Gisborne	11.6%
	Rest of North Island	12.7%
	Canterbury	11.4%
	Rest of South Island	10.3%
Deprivation	Least deprived decile	8.2%
	2	9.1%
	3	9.0%
	4	8.3%
	5	9.9%
	6	11.6%
	7	12.4%
	8	13.5%
	9	13.2%
	Most deprived decile	16.7%
Highest qualification	No qualification	15.0%
	Level 1 or 2	11.0%
	Level 3 or 4, overseas secondary	10.5%
	Level 5 or 6	9.4%
	Degree or higher	8.9%
Tenure type	Dwelling in family trust	7.6%
	Dwelling not owned	15.3%
	Dwelling owned	9.3%

Source: General Social Survey 2008-16, Statistics NZ

Table A5: Percentage of people with low mental health wellbeing who had either a mental health prescription or referral in the prior two years, by demographics (2008-16)

Category	Value	Percentage of people with a recent mental health prescription or referral
Sex	Male	31.7%
	Female	40.5%
Ethnicity	European	42.1%
	Māori	33.5%
	Pacific	21.8%
	Asian	18.2%
Age	15 to 24	30.3%
	25 to 34	34.2%
	35 to 44	35.4%
	45 to 54	42.0%
	55 to 64	39.8%
	65 and over	41.1%
Household type	Couple only	35.3%
	Couple with children	31.9%
	One parent	42.6%
	Not living in family	42.4%
Labour force status	Employed	29.7%
	Unemployed	39.3%
	Not in labour force	47.0%
Place of birth	Born in NZ	39.7%
	Not born in NZ	29.1%
Region	Auckland	31.0%
	Wellington	39.8%
	Northland, BOP, Gisborne	37.2%
	Rest of North Island	38.3%
	Canterbury	44.7%
	Rest of South Island	38.4%
Deprivation	Least deprived decile	35.2%
	2	33.3%
	3	37.5%
	4	37.6%
	5	38.2%
	6	31.6%
	7	36.7%
	8	43.9%
	9	35.9%
	Most deprived decile	38.1%
Highest qualification	No qualification	42.0%
	Level 1 or 2	40.1%
	Level 3 or 4, overseas secondary	36.6%
	Level 5 or 6	32.1%
	Degree or higher	30.7%
Tenure type	Dwelling in family trust	36.8%
	Dwelling not owned	37.0%
	Dwelling owned	37.1%

Section A2: General Social Survey questions used to assess mental health

The combined responses by each person to the following questions from the SF-12 were used by Statistics NZ to derive a mental health score from 0 (worst) to 100 (best). This is a standard scoring system that has been used internationally in a wide range of surveys. We have then defined low mental health wellbeing as a score below 37 in the years 2010-16, or below 42 in 2008. Statistics NZ revised their scoring methodology between 2008 and 2010, which altered the distribution of the scores.

For an individual, a score around 50 (in the years 2010-16) would represent average health while a score just under the threshold of 37 would represent significantly below average health but not exceptionally poor health. A score of under 30 would represent very poor health.¹¹ But the thresholds used have no objective clinical status, and simply pick out a proportion of the population with relatively negative responses to the following set of questions.

Short-Form (SF-12) questions used to produce the mental health index score:

- During the past four weeks, how much of the time have you accomplished less than you would like as a result of any emotional problems, such as feeling depressed or anxious?
- During the past four weeks, how much of the time did you do work or other regular daily activities less carefully than usual as a result of any emotional problems, such as feeling depressed or anxious?
- During the past four weeks, how much did pain interfere with your normal work including both work outside the home and housework?
- During the past four weeks: – how much of the time have you felt calm and peaceful?
- During the past four weeks: – how much of the time did you have a lot of energy?
- During the past four weeks: – how much of the time have you felt downhearted and depressed?
- During the past four weeks, how much of the time has your physical health or emotional problems interfered with your social activities, such as visiting friends, relatives etc?

For each of the above questions the response options were:

- All of the time
- Most of the time
- Some of the time
- A little of the time
- None of the time
- Don't know
- Refused to answer

¹¹ "Interpreting the SF-12", Utah Department of Health (2001).
http://health.utah.gov/opha/publications/2001hss/sf12/SF12_Interpreting.pdf

Section A3: Definitions of “service user” groups

This section provides a summary of how each of the service user groups discussed in this paper were defined. Experts in each sector may use different definitions for particular purposes. The purpose of this paper was to provide some illustrative wellbeing analysis for broad groups of people using different types of government services.

All data was extracted from the Integrated Data Infrastructure (IDI), hosted by Statistics New Zealand. Service usage was analysed in the two years directly preceding each person's GSS interview.

Mental health referrals: People who appeared in the “PRIMHD” dataset, maintained by the Ministry of Health. This covers “healthcare users seen by Ministry of Health funded secondary mental health and addiction service providers”. No further criteria have been applied, so we will have included some people with a referral who did not subsequently receive any particular services. “Referral start date” was used to identify referrals in the relevant time-period.

Mental health prescriptions: People who appeared in the pharmaceutical dataset maintained by the Ministry of Health. This covers “people for whom a pharmaceutical claim was submitted, and approved, by the MoH”. We have used the standard World Health Organisation's classification of drugs to therapeutic groups, and included prescriptions for “antidepressants”, “anxiolytics”, and “antipsychotics”.

Incapacity benefit for mental health reasons: People who appear in the “incapacity” dataset maintained by the Ministry of Social Development, and where the “incapacity code” for the benefit spell was “Mental disorders”. The start date of the benefit spell was used to identify benefits in the relevant time-period. This means we may have missed some people who had received the benefit during the past two years but where the start date was more than two years ago.

Criminal conviction: People who appear in the “charges” dataset, maintained by the Ministry of Justice (MoJ). Using MoJ's “6 category outcome codes”, only charges with an outcome of “convicted” or “youth court proved” were included. The “last court hearing date” was used to identify convictions in the relevant time-period.

Received benefits: People who appear in the Employer Monthly Schedule “EMS” dataset, maintained by Inland Revenue, and have at least some income in the past two years attributed to benefits (not pensions).

Housing NZ client: People who appear in either the monthly snapshots of “register household” or “tenancy household”, maintained by Housing New Zealand (HNZ). The “register household” snapshot includes “all applicants who have applied for social housing, whether or not they meet the eligibility and needs assessment and thereby become active on the waiting list”. The “tenancy household” snapshot includes people who are actually in an HNZ tenancy. The snapshot dates were used to determine if a person had contact with Housing NZ in the relevant time-period. We have combined these two groups, while a more detailed analysis would look at them separately.