



**Financial stress and mental wellbeing in an age of austerity:
evidence from the GoWell surveys 2006-2011**

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October 2013

GoWell is a collaborative partnership between the Glasgow Centre for Population Health, the University of Glasgow and the MRC/CSO Social and Public Health Sciences Unit, sponsored by Glasgow Housing Association, the Scottish Government, NHS Health Scotland and NHS Greater Glasgow and Clyde.

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Executive summary

Background

This report looks at the experience of financial stress over time and its relationship to mental health and wellbeing among residents of deprived areas in Glasgow, Scotland. The evidence presented comes from the GoWell programme, a long-term study of the progress of regeneration across deprived communities in Glasgow and its effects upon health and wellbeing.

Low income households living in deprived areas might be affected in several ways by the economic downturn, austerity measures and welfare reforms:

- Reductions in employment opportunities, working hours, and wages.
- The cumulative effects of cuts in public services, which are expected to be disproportionately greater in deprived areas.
- Reductions in income due to welfare reforms, with both individual and community-level contractions in expenditure.

Evidence from UK surveys over the past decade or more show that the incidence of payment difficulties and problem debts is associated with a worsening of psychological health. Evidence from recessions elsewhere around the world indicates that health inequalities can be expected to rise due to the economic downturn and that mental health problems are an important element of this disparity.

These mental health and wellbeing impacts of financial difficulties could counteract the potentially positive effects on wellbeing of housing improvements and regeneration at this time.

Research on the effects of the recession on deprived communities in Scotland has reported a number of impacts including: the deterioration of physical environments due to cuts in maintenance and repair budgets; difficulties in attracting further investment and a slow-down in regeneration; and a deterioration in local social support projects due to the withdrawal of grant funding and a decline in volunteering.

These negative impacts of recession have been said to have behavioural and psychological consequences in deprived communities, including a decline in civil behaviours and feelings of abandonment. Conversely, studies of social norm effects suggest that the psychological impacts of financial difficulties can be lessened in situations where many people, such as co-residents and peer group members, are also experiencing problems.

There has been some research in other countries confirming the effects of the recession upon mental disorders and suicide rates. Much of the research in the UK into the effects of welfare reform has focused on the extent of loss of income to particular types of household and to poor communities. Generally, there has been call for more research into the health consequences of different policy responses to the economic crisis.

It is therefore important to examine the effects of the combination of factors – economic downturn, austerity and welfare reform – upon the mental health of those most affected. We have begun this process by looking at the effects of financial stress upon poor households in deprived communities in Glasgow during the period before (2006-2008) and during the economic downturn and the commencement of austerity (2008-11). This gives us some

indications of, and provides a foundation for looking later at, the additional effects of welfare reform measures instituted over the period 2010 to 2015.

Summary of results

We examined the relationship between financial stress and mental health and wellbeing for people living in deprived areas of Glasgow, using data from the GoWell community health and wellbeing survey, spanning the period 2006-2011, i.e. pre- and post-recession.

At-risk groups

Some groups identified as being particularly at risk from adverse financial effects as a result of the economic downturn and associated austerity measures and welfare reforms comprise a large proportion of those living in deprived areas of Glasgow.

These groups are:

- Those in receipt of housing benefits
- Families with children, particular single parents
- Households comprising working adults, without children
- Those under-occupying their homes in the social rented sector
- Households containing non-dependent adults
- Disabled adults of working age.

There has been a steady increase over time in the prevalence of the under-occupants, households with non-dependents, and households containing part-time workers (including those with children).

Affordability difficulties

We assessed the change in difficulty affording six household budget items (council tax, food, fuel, rent/mortgage, repairs/maintenance/factor charges and clothes) and their relationship to four measures of mental health and wellbeing:

- Self-reported, long-term psychological problems
- GP visits for psychological reasons
- SF12 mental health
- Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS).

Perhaps surprisingly, overall affordability difficulties have decreased over time. The mean number of affordability difficulties per household, and the prevalence of severe, multiple affordability problems (four or more items), dropped over the period 2006 to 2011. However, households who do experience difficulties have shifted from occasional to more frequent difficulty affording these six items.

Housing costs consistently became more affordable over time. Fuel costs became less affordable, with an increase in particular in the numbers experiencing more frequent difficulties, particularly in the recession period of 2008-2011. More people also reported increased food payment problems.

Large proportions of the groups identified as being at risk are also experiencing affordability difficulties, notably:

- Disabled adults of working age and single parents paying for fuel and clothes
- Under-occupiers and families with children (particularly where an adult is working part time or there are three or more children) paying for fuel.

Despite a general trend of improved affordability or no change over time, difficulty has increased for some groups and budget items, including:

- Families with an adult working (full time or part time) paying for council tax
- Disabled people of working age paying for food
- Families with an adult working (full time or part time), single-parent families with an adult working full time, and private sector tenants paying rent/mortgage costs.

Associations with mental wellbeing

Those people who reported having affordability difficulties were more likely to also report long-term stress and anxiety.

Those who experienced affordability difficulties with fuel, food or council tax are at least one-and-a-half times more likely to have seen their GP about a psychological issue in the past year. This suggests potential reductions in primary health care usage if affordability problems are reduced.

During the period of recession, 2008 to 2011, those people who reported increased frequency of affordability problems were more likely than others to also report chronic problems of stress and anxiety which they had not done before, and to have visited their GP for a psychological reason.

There are substantial differences in mean mental wellbeing scores (measured using SF12 and WEMWBS) between those who reported financial difficulties and those who did not. In the case of food, fuel, council tax and clothes the difference in mean scores was substantive, with those who report some level of difficulty having poorer mental wellbeing.

There is evidence of the effect of multiple affordability difficulties on mental wellbeing. There is a modest, negative relationship between mean mental wellbeing scores (SF12 and WEMWBS) and the number of affordability problems experienced by households.

The findings also indicated that the threshold number of problems at which mental health declines the most may have fallen over time, e.g. by 2011 mean SF12 scores notably declined between those with two and those with three affordability difficulties, whereas at wave 1 scores did not noticeably decline until respondents experienced five difficulties.

Changes in affordability of items over time and changes in respondents' mental health and wellbeing scores are related:

- Mean mental wellbeing (SF12) scores declined for those who reported increased affordability difficulties over time, while increasing among those who reported decreasing affordability problems. This pattern held true for all items.

Accounting for baseline affordability difficulty as well as change we found that:

- The initial move into occasional affordability difficulties from no difficulty (for rent, fuel and council tax) was consistently associated with a drop in mental health (SF12 scores).
- Where people moved from having to not-having affordability problems, they also reported an improvement in mental health. This was true for all items.

Conclusion

The findings indicate that in general, affordability problems eased for households over the period of study, particularly housing costs, but that fuel costs became more problematic. However, within this general pattern, some of the groups identified as being at risk from the effects of the economic downturn and austerity measures, faced particularly high affordability problems, or a worsening of affordability difficulties.

The report also shows that where there were increased affordability difficulties, this was associated with a worsening of mental health for the householder. This was true for all four measures of mental health, and was found in the analysis of both the cross-sectional and longitudinal samples. There were also indications that the threshold of multiple affordability difficulties at which point mental health declines dropped, and that over a longer time period, the drop in mental health associated with worsening affordability difficulties was greater.

Although the direction of causality is not certain, the evidence strongly indicates that financial stress does contribute to worsening mental health, even if the reverse is also true, namely that those with worse mental health are more likely to get into financial difficulties.

The findings indicate that the best way to protect mental health is to try to prevent people falling into affordability difficulties in the first place, and to also avoid multiple difficulties. Rather than resilience to the negative effects of financial stress being built up over time, the findings suggest that as economic difficulties continue over time, the onset of mental health problems as a result of affordability difficulties occurs sooner rather than later for householders, perhaps as a consequence of the combination of income reductions and austerity measures that may reduce support services.

While some effects of the austerity measures introduced by the UK coalition government may already have been felt within communities, the main effects of austerity measures and associated welfare reforms may only become apparent in coming years. This raises the question of what we will find when we return to examine these issues again after the fourth GoWell survey wave in 2015.

1. Introduction

This report looks at the experience of financial stress over time and its relationship to mental health and wellbeing among residents of deprived areas in Glasgow, Scotland. The evidence presented comes from the GoWell programme, a long-term study of the progress of regeneration across deprived communities in Glasgow and its effects upon health and wellbeing.

Key points:

- Low income households living in deprived areas might be affected in several ways by the economic downturn, austerity measures and welfare reforms:
 - Reductions in employment opportunities, working hours, and wages.
 - The cumulative effects of cuts in public services, which are expected to be disproportionately greater in deprived areas.
 - Reductions in income due to welfare reforms, with both individual and community-level contractions in expenditure.
- Evidence from UK surveys over the past decade or more show that the incidence of payment difficulties and problem debts is associated with a worsening of psychological health. Evidence from recessions elsewhere around the world indicates that health inequalities can be expected to rise due to the economic downturn and that mental health problems are an important element of this disparity.
- These mental health and wellbeing impacts of financial difficulties could counteract the potentially positive effects on wellbeing of housing improvements and regeneration at this time.
- Research on the effects of the recession on deprived communities in Scotland has reported a number of impacts including: the deterioration of physical environments due to cuts in maintenance and repair budgets; difficulties in attracting further investment and a slow-down in regeneration; and a deterioration in local social support projects due to the withdrawal of grant funding and a decline in volunteering.

Key points continued...

- These negative impacts of recession have been said to have behavioural and psychological consequences in deprived communities, including a decline in civil behaviours and feelings of abandonment. Conversely, studies of social norm effects suggest that the psychological impacts of financial difficulties can be lessened in situations where many people, such as co-residents and peer group members, are also experiencing problems.

There are several reasons why this is a good time to investigate these issues in the GoWell datasets. The GoWell surveys to date cover the pre-recession period (2006-8) and the period of the first recession, slow recovery and austerity measures (2008-2011). Therefore, we can see what effects, if any, the economic downturn, recession and austerity has had on residents in deprived areas. While some effects of the austerity measures introduced by the UK coalition government may already have been felt within communities, the main effects of austerity measures and associated welfare reforms may only become apparent in the next GoWell survey in 2015. Therefore, an analysis at this point should provide a good baseline for looking in future at how welfare reforms and austerity measures such as cut-backs in public services and in public sector employment have impacted on residents and communities in the post-2011 period.

The impacts of recession, austerity and welfare reform

The UK economy experienced negative growth during much of 2008 and entered recession in the last quarter of that year, lasting until mid-2009. Subsequently, there was modest economic growth in most quarters with the occasional contraction^{1,2}. At the same time, the UK was deemed to have a structural deficit in its public finances, the response to which was announced by the UK coalition government's 2010 comprehensive spending review and budget which introduced a set of measures over the period 2010-11 to 2014-15 which included: tax rises, such as an increase in VAT; a freeze in public sector pay; and cuts in public expenditure across most departments of government, with a third of the reductions coming from the welfare budget³. These fiscal consolidation measures have been described as a mixture of 'random cuts' and 'strategic measures' to rebalance responsibilities between the individual and the state, and are expected to affect both welfare payments to low-income groups as well as 'middle class benefits'⁴.

However, there are a number of ways in which low-income households living in deprived areas might be particularly badly affected by the economic downturn, austerity measures and welfare reforms. First, there are the impacts of the economic downturn on employment including: reductions in employment opportunities, for example in the low-skill service sector; the conversion of full-time to part-time jobs; reductions in wages and earnings, through direct cuts as well as lower up-ratings; and cut-backs in employment in both the private and public sectors. Second, cuts in public services may disproportionately impact on deprived communities and on low-income households who make regular use of such support and services. The effects of such service cuts may be particularly felt by low-income groups for two reasons: they are dependent on a larger number and wider range of public services and so the cumulative effects of cuts on them will be greater; and they have less ability than others to replace public services with other arrangements⁵. Third, residents in deprived areas are likely to be dependent on welfare benefits that are subject to reforms, reducing the amount provided to recipients and making such benefits harder to obtain, or retain. Other research has already established that, within Scotland, Glasgow (where the GoWell surveys are carried out) will face the biggest loss of welfare income under the reforms, largely due to reforms of incapacity benefits⁶ (Glasgow has a high rate of long-term sickness, and sickness-related benefit claimants, among people of working age).

Financial stress and mental health

All of the factors outlined above can add to financial and other stresses for householders, and in turn affect their mental health and wellbeing. This is confirmed by recent research from the UK on the links between debt and psychological health.

Evidence over a period of more than a decade from the British Household Panel Survey (BHPS) shows that the onset of housing payment difficulties and of other problem debts are both associated with a worsening of psychological health in householders and their partners, measured using both a mental health scale (GHQ12) and the reporting of long-term anxiety-related problems⁷. What is more,

these relationships hold even if account is taken of the possibility of reverse causation.

Further evidence comes from the Families and Children Survey (FCS) over a six-year period. This shows that although objective indicators of a household's financial position are only weakly related to self-reported psychological problems (long-term problems of depression or nerves), adverse financial circumstances nevertheless increase the probability that people will report financial stress and debt problems, and these self-reported financial difficulties *are* related to being in a depressed psychological state, i.e. the effects of financial circumstances are indirect rather than direct⁸.

Overall, based on evidence from past recessions, the Institute of Health Equality predicts that the economic downturn will lead to a widening of health inequalities by socioeconomic group and area⁹. Moreover, they cite evidence from North America, Europe and Far East Asia which suggests that the expected health effects of the economic downturn include “an increase in mental health problems, including depression, and possibly lower levels of wellbeing”. This highlights the relevance of studying the impacts of the economic downturn and welfare reforms on residents in some of the most deprived areas in Scotland.

Recession and regeneration in deprived areas

Since GoWell is studying the impacts of housing improvements and area regeneration on the health and wellbeing of deprived communities, it is worth considering that both deprived areas and regeneration processes may be adversely affected by the recession. What is more, the impacts of financial stress on households' mental health and wellbeing could cancel out some of the potentially positive effects of regeneration. Therefore, the ways in which recession, austerity and welfare reforms impact on households in our sample are highly relevant to the overall aim of studying the effects of housing investment and regeneration on health and wellbeing, given the macroeconomic and political context within which the study is being conducted. Furthermore, the impacts on households may be exacerbated

where they live in areas that are also experiencing wider problems as a result of the recession and public expenditure cuts.

Research on the implementation of the UK coalition government's 2010 comprehensive spending review budget decisions has indicated that local authority budgets are among the most curtailed, with consequences for the provision of local services. The research also suggested that there could be a cascading impact on deprived areas with cuts to services being greatest (in absolute and relative terms) in the most deprived authorities, and within authorities, the cumulative effects of service reductions would be most acute in deprived neighbourhoods least able to cope with less support. Very few authorities were planning to protect services to deprived neighbourhoods as a priority⁵.

Other research confirms that the most deprived authorities in Britain will also be hit hardest by welfare reforms, particularly post-industrial areas (like Glasgow), seaside towns and some London boroughs¹⁰. At its most extreme, the loss of income to the population of an authority, for every adult of working age, can be equivalent to £900 a year, twice the national average. We can expect that the impact within particular localities and neighbourhoods within the most deprived districts will be even greater. This represents a substantial loss of income to local economies, with consequent effects on local business, services and communities – who would be far less able to support and assist their own members if most local people face these kinds of income losses.

Research into the effects of the recession on deprived communities in Scotland portrays a range of physical, psychological and social impacts¹¹. Local physical environments were reported to have deteriorated due to cuts in maintenance and repair budgets, and this in turn had deterred further investment into the areas. This physical decline had behavioural and psychological consequences: people were said to be less civil and helpful to one another, and to feel abandoned. Social support mechanisms within deprived communities were further eroded due to the withdrawal

of grants to local social projects, and a lesser willingness to volunteer in the context of a sense of helplessness and decline.

We can see that the effects of affordability difficulties for individual households as they seek to manage their budgets in difficult times must be considered against the backdrop of other effects of the recession, austerity and welfare reforms on the areas and communities in which people live. Having less to spend and facing rising costs puts pressure on households, but the experience of that pressure, and the ability to cope with it might also be influenced by the presence of other factors that can make life even more difficult for people in deprived areas. This includes the withdrawal of local services and amenities; having neighbours who are also in financial difficulty and less able or inclined to help, and who collectively have less money to spend locally; and seeing the regeneration process slow down and the environment deteriorate so that feelings of decline and uncertainty are exacerbated.

There is, however, a counter-argument to be considered which is particularly relevant to our study of the effects of affordability difficulties on people's mental health and wellbeing in deprived areas. Studies of social norm effects have found that the negative effects of experiences such as unemployment on psychological health¹², and of bankruptcy on social stigma¹³, are reduced where the local unemployment rate is higher and where the reference group bankruptcy rate is higher, respectively. Therefore, it might be the case that the effects of affordability problems on mental health for people in deprived areas are lessened by the fact that their neighbours also have such problems. But this depends on the impacts of financial problems being partly a product of shame or stigma rather than solely or mainly due to material deprivation and the psychological pressure to meet household needs out of the available budget. Again, though, the issue highlights the importance of studying the psychological effects of financial difficulties, at this time, in the particular context of deprived communities.

2. Research aims and methodology

This section sets out the aims of the study, describes the GoWell surveys and sample sizes and details the measures used and the approach to analysis adopted in this report.

Key points

- This report examines the relationship between financial stress and mental health and wellbeing for people living in deprived areas.
- It addresses a set of questions about the changing prevalence of affordability difficulties for six household budget items and their relationship to four measures of mental health and wellbeing.
- These issues and relationships are examined for nine groups (plus sub-groups) identified as being particularly at-risk from the economic downturn and associated austerity measures and welfare reforms.
- The analysis is conducted using three cross-sectional samples and three longitudinal samples from the GoWell study, spanning the period 2006-2011, i.e. pre- and post-recession.

Research aims

The aim of this research is to investigate the relationship between financial stress and mental health and wellbeing for people in deprived areas, using the GoWell survey data.

Specifically, we address the following questions:

- How prevalent within the GoWell samples are some of the groups identified as being at-risk from the effects of the economic downturn and particularly from welfare reforms?
- Are there notable changes over time in the presence of particular groups?

- How do affordability difficulties vary across the essential items over time?
- Which groups face particular affordability difficulties for particular items? For which groups and items are problems getting worse?
- Are there differences in mental health and wellbeing indicators between those experiencing affordability difficulties and others?
- Are changes in affordability difficulties over time associated with changes in mental health and wellbeing indicators, and if so, is this in the expected direction, i.e. those experiencing increasing affordability difficulties also experience worsening psychological health, while those experiencing decreasing affordability difficulties also experience improved psychological health?

The GoWell surveys and samples

GoWell uses a prospective quasi-experimental design to evaluate the effects of regeneration on a broad range of housing, neighbourhood and health outcomes. A major component of the evaluation is the GoWell repeat cross-sectional community survey conducted in 15 study areas. All the study areas are very deprived, lying within the 15% most deprived areas in Scotland at the start of the study in 2006¹⁴.

We have undertaken three waves of data collection: wave 1 (W1) in 2006, wave 2 (W2) in 2008 and wave 3 (W3) in 2011, with a further wave, wave 4 (W4) planned for 2015. The aim of this survey is to describe changes in GoWell areas and the residential, neighbourhood and health changes for individuals living in these areas.

Sampling

The sampling frames differed for the three waves of data collection, reflecting changes in population size in some of these areas (e.g. due to demolition plans, populations in regeneration areas have decreased from wave 1 to the next two waves) and to further develop a nested longitudinal cohort.

Table 1. Sampling for the three survey waves.

Year and wave	Sampling
2006 – W1	All areas: random property selection
2008 – W2	Regeneration areas: all properties Other areas: random selection
2011– W3	Regeneration areas: all pre-existing properties, plus all new builds Other areas: return to all previous interview addresses, plus all new builds.

Response rates

Table 2 provides information on the sample size and response rates for each wave.

Table 2. Achieved samples and response rates for the GoWell cross-sectional surveys.

Year and wave	Sample size	Response rate %
2006 – W1	6,004	50.3
2008 – W2	4,869*	47.5
2011 – W3	4,275*	45.4

*Includes a small number of interviews with people who moved out of GoWell regeneration areas, and who no longer lived in one of the GoWell study areas: 172 at wave 2; 29 at wave 3.

Longitudinal samples

Subsets of respondents were interviewed at two or more waves and therefore constitute a longitudinal dataset. This is divided into three subsets between each of the waves, with the number of cases used in this report shown in Table 3.

Table 3. GoWell longitudinal samples.

Waves	Dates	Sample
Wave 1-2	2006-2008	1,050
Wave 2-3	2008-2011	1,179
Wave 1-3	2006-2011	1,011

Measures of financial stress

The GoWell survey includes five measures of financial stress (six in wave 3). At each survey wave, respondents are asked to state ***'How often do you find it difficult to meet the cost of the following things?'***. The list of essential items is as follows:

- Council tax
- Food
- Gas, electricity and other bills
- Rent or mortgage
- Repairs, maintenance or factor charges
- Clothes (wave 3 only).

There are four response categories: never; occasionally; quite often; and very often. In all cases the majority of respondents reported never having difficulty affording each item. Therefore for some of this analysis the categories occasionally, quite often and very often have been combined to compare those who never struggle with those that do. At other times we refer to those who respond 'very often' or 'quite often' as having frequent affordability difficulties, as opposed to those who have occasional difficulties.

In the longitudinal analyses we compare people's answers on each item between waves and categorise the change in affordability of an item as follows: no change; increased difficulty; decreased difficulty. It is worth remembering that even those in the 'no change' group could still be experiencing affordability difficulties, and that this could be at levels higher than some of those in the 'increased difficulty' group (e.g. someone might have said they 'very often' have affordability difficulties for an item on two occasions). In the final stage of analysis, the three change groups were further disaggregated into three categories each (nine categories in total) according to each permutation of change in responses on an item between waves. These categories are further explained towards the end of Section 5 of this report.

Measures of mental health and wellbeing

Four measures of mental health and wellbeing are used in this report.

Self-reported, long-term psychological problems. Respondents are asked if they have had problems of stress, anxiety or depression over the past twelve months, lasting twelve months or more, excluding temporary conditions^a.

GP visits for psychological reasons. Respondents are asked if they have spoken to a GP or family doctor in the past twelve months 'about being anxious or depressed or about a mental, nervous or emotional problem (including stress)'

SF12 mental health. At all waves, the SF12 short form general health questionnaire was administered to respondents. The form asks about physical and mental health problems over the past four weeks. From the answers to the twelve questions, a mental health score is computed, ranging from 0-100, with higher scores indicating better mental health.

WEMWBS mental wellbeing. At waves 2 and 3, the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) was administered to all respondents. Fourteen questions ask people how they have been feeling and functioning over the past two weeks. From the answers to the 14 questions, a score is computed ranging from 14 to 70, with higher scores indicating better mental wellbeing.

Identification of at-risk groups

We reviewed recent commentaries on the impacts of the economic downturn and welfare reforms in order to decide which groups to investigate within the GoWell survey data.

Groups have been identified within the GoWell sample using the best available data. Nevertheless a number of assumptions have been made in order to identify target groups. Table 4 outlines the methodology for identifying the groups. The groups are not mutually exclusive, since different groups are of interest in respect of different issues, e.g. households with part-time workers as a category includes families with part-time workers which are identified as a separate group of interest. Because we cannot tell how household finances are structured (e.g. who pays which bills; who

^a At wave 1, this question was worded differently, and asked about 'a psychological or emotional condition' lasting 12 months or more.

does or does not contribute to household budgets and so on), we have taken a broad view of the household rather than focusing only on the head of household and/or partner. Therefore, we have identified households containing any full- or part-time workers (not necessarily the householder), and households containing any disabled people of working age (again, not necessarily the householder).

We have tried to be as accurate as possible in identifying the groups. However, the GoWell survey only collects information about how members of the household are related to the respondent and not to each other. Therefore we only know of couples where the respondent is part of the couple. If this is not the case and where there may be complex family structures then identification of groups may not be entirely accurate.

Table 4. Definition of at-risk groups.

Group	Description
<i>Housing benefit</i>	All those households who said they are in receipt of full or partial housing benefit (wave 1 only)
<i>Family with children</i>	Household with dependent children
Working	Household with dependent children where any adult works
Working full time	Household with dependent children where any adult works full time (not necessarily a parent. Another adult in the hh could be working PT)
Working part time	Household with dependent children where any adult works part time (not necessarily a parent. Another adult in the hh could be working FT)
Large families	Household with more than three children
<i>Working household without children</i>	Household with no dependent children, where any adult in the household works
Working full time	Household with no dependent children, where any adult in the household works full time.
Working part time	Household with no dependent children, where any adult in the household works part time.
<i>Under-occupiers</i>	<p>A household which has more rooms than the bedroom standard, is in the social rented sector, and where there are no adults over 65.</p> <p>We have assumed one reception room so the number of bedrooms a property is assumed to have is one less than the response in the survey which asks the number of rooms not counting kitchen and bathroom.</p> <p>We have allowed one room per couple. The relationship of each person in the household to the respondent is known, but other relationships within the household are not. Therefore it is feasible that there is a couple in the hh not accounted for. In this case they will be assumed to need a bedroom each.</p> <p>For children of any sex under ten years of age there is one bedroom per two children.</p> <p>For children aged between ten and 16 there is one bedroom per two children of the same sex. For example three girls and one boy are assumed to need 3 bedrooms. 1 for 2 of the girls, and one each for the remaining girl and the boy.</p> <p>In some cases the age and sex of children are not known. In such cases they are assumed to be over ten and of different sexes. Except where there are 3+ children, where a least two must be of the same sex so the allocation is reduced by 1.</p>
<i>Disabled working age</i>	A household where at least one adult's employment status is long term sick/disabled
<i>Household with non-dependants</i>	A household with an adult over the age of 18, not a partner or spouse of the respondent, not in full-time education and not unemployed.
<i>Single-parent household</i>	A household where there is not a couple and where there are children
Working	A household with children, where there is not a couple and where an adult is working
Working full time	A household with children, where there is not a couple and where an adult is working full time
Working part time	A household with children, where there is not a couple and where an adult is working part time
<i>Part-time workers</i>	A household where an adult is working part time
<i>Private rented sector tenants</i>	A household in the private rented sector

Analyses

We begin by identifying the prevalence of at-risk groups within the GoWell cross-sectional samples and report their relative sizes at wave 3 (2011) and note any significant changes in the size of particular groups since 2006.

We look at the changing rate of affordability difficulties for each item within the entire GoWell sample at each wave. A similar analysis is carried out using the three longitudinal samples.

We then examine the rate at which different groups report affordability difficulties for each item of interest at each survey wave. We compare the rate at which each at-risk group has affordability difficulties against the rate for the entire sample at the wave in question in order to identify particular financial difficulties for specific groups.

We commence the examination of the relationship between affordability difficulties and mental health and wellbeing by examining the prevalence of mental health problems and GP visits, and the mean scores for the two mental health continuous measures (SF12 and WEMWBS), for those respondents with/without affordability problems by item, at each wave. We further look at how the two continuous measures vary according to the number of affordability difficulties faced by households at each wave.

We proceed to examine the longitudinal samples, comparing the four outcome measures (rates of psychological problems and GP visits, and mean SF12 and WEMWBS scores) between three affordability groups (increase, decrease, no change) for each item, within each of the three longitudinal samples. This is then repeated using a nine-fold affordability-change classification, rather than three.

In the longitudinal analyses, we use shorthand terms for improved and reduced mental health as follows: reduced psychological health problem is defined as someone who no longer reports a problem that they had reported at the previous wave; increased psychological problem is defined as someone who reports a problem that they had not reported at the earlier wave; increased GP visits for psychological reasons is defined as someone who reports that they visited their GP in the past year for this reason, where they did not similarly report this at the previous wave; reduced GP visits for psychological reasons is defined as someone who does not report a visit to their GP in the past year, where they had reported going to their GP for this reason at the previous wave.

3. Estimating the size of at-risk groups in the GoWell samples

This section presents the groups we have identified as potentially being at risk from welfare reforms introduced by the UK coalition government. We identified the main reforms likely to affect a significant proportion of those in the GoWell sample and then identified groups likely to be disproportionately or significantly affected by the reforms. The groups are not necessarily mutually exclusive. Although our approach has been to identify groups at risk from welfare reforms and associated austerity measures (such as cuts to public services), it is also the case that groups may be affected by other consequences of the global economic downturn that serve to increase household costs.

Key points:

- This section identifies groups within the GoWell samples who are potentially at risk from adverse financial effects as a result of welfare reform measures introduced by the UK coalition government in light of the financial crisis and economic recession.
- The largest groups within the samples who may be affected are the following:
 - Those in receipt of housing benefit.
 - Families with children, particularly single parents.
 - Households comprising working adults without children.
 - Those under-occupying their homes in the social rented sector.
 - Households containing non-dependent adults.
 - Disabled adults of working age.
- There has been a steady increase over time in the prevalence of some of the at-risk groups, in particular: under-occupants; households with non-dependents; and households containing part-time workers (including those with children).

In addition, single adults under 34 will have their housing benefit restricted to the rate for a room with shared facilities. This younger adult age group have not been separately identified in what follows as not many such people are included in GoWell's survey of householders.

Households with children

Households with children are likely to be affected by changes to child benefit as well as the rising costs of food. Changes to support for childcare mean that single parent households in particular may struggle.

Table 5 shows the proportion of households who have children, single-parent households and households with children where an adult works.

Table 5. Households with children.

	hh with children	3+ children	Single-parent hh	Single-parent hh where an adult works	Single-parent hh where an adult works FT	Single-parent hh where an adult works PT	hh with children where an adult works	hh with children where an adult works FT	hh with children where an adult works PT
Wave 1	32%	6%	17%	4%	2%	2%	12%	9%	4%
Wave 2	30%	6%	17%	4%	2%	2%	13%	9%	6%
Wave 3	31%	6%	16%	4%	1%	2%	14%	9%	7%

FT = full time; hh = household; PT = part time.

Working households without children

A recent report by the Joseph Rowntree Foundation (JRF) entitled 'Monitoring Poverty and Social Exclusion in Scotland' suggests the poverty among working-age adults without children rose between 2000/01 and 2010/11¹⁵. Other research suggests that this may be because those without children have not benefited to the same extent as families from real increases in most state benefits and tax credits during the pre-austerity period¹⁶. This group may therefore also be at risk from further cuts due to welfare reform. As Table 6 shows, around a fifth of the GoWell sample comprises this type of household.

Table 6. Working households without dependent children.

	Households with an adult working FT (no children)	Households with an adult working PT (no children)	Households where any adults work [FT or PT] (no children)
Wave 1	17%	4%	19%
Wave 2	18%	5%	21%
Wave 3	16%	7%	20%

FT = full time; PT = part time.

Under-occupants

A reduction in housing benefit for social housing tenants who are under-occupying by one room or more; the ‘spare room subsidy’, otherwise known as the ‘bedroom tax’, is one of the most high profile changes to welfare support and has been the subject of much media attention. There is a differential reduction for those under-occupying by one bedroom (14% deduction), and those under-occupying by two or more bedrooms (25% deduction). Scottish Government data collected from local authorities since the introduction of the under-occupancy deduction indicate that 5% of all households in Glasgow and 13% of those in social housing were affected by under-occupancy reductions by May 2013¹⁷.

We calculated under-occupancy based on the Department of Work and Pensions (DWP) recommendations which allow one bedroom for every two children under the age of ten, one bedroom for every two children of the same sex aged 10-16, one bedroom per couple and one bedroom per other adult^b.

Table 7 shows the occupancy levels of GoWell respondents at each survey wave.

Table 7. Over- and under-occupancy (all households as proportion of GoWell sample).

	Over-occupying	At occupancy level	Under-occupying one bedroom	Under occupying two or more bedrooms
Wave 1	17%	44%	32%	8%
Wave 2	23%	51%	23%	4%
Wave 3	15%	42%	31%	12%

^b In GoWell a couple is only classified as such if the respondent is a member of the couple. Therefore if there is a couple in the household, neither of whom is the respondent they will be treated as separate adults. Where only the age category of a child is recorded (under 16) they are assumed to be a different sex and allocated a room each. The number of rooms excluding kitchen and bathroom is recorded by the survey. Assuming one reception room, the number of bedrooms is assumed to be the number of rooms recorded minus one.

However, not all of those who are under-occupying will be at risk of housing benefit deductions as it only applies to social housing tenants. Furthermore, those over 65 are excluded. Table 8 shows the numbers of households (as a proportion of the total sample) who fall into groups liable for housing benefit deductions. Looking at the findings from wave 1, 14% of households are expected to be affected by the spare room subsidy, with 11% at wave 2 and 19% at wave 3.

Table 8. Under-occupancy: groups affected (social renters under 65) as proportion of GoWell sample).

	Over-occupying	At occupancy level	Under-occupying one bedroom	Under-occupying two or more bedrooms
Wave 1	12%	27%	12%	2%
Wave 2	16%	30%	10%	1%
Wave 3	10%	27%	14%	5%

The vast majority of under-occupiers are only under-occupying by one bedroom and will therefore be liable for the lower rate of reduction (wave 1: 84%; wave 2: 90% and wave 3: 74%).

The figures for all households affected are higher in the GoWell areas, compared with the predicted 5% of all Glasgow households. This is expected, given the dominance of social rented households. Focusing only on social rented households likely to be affected by the relevant housing benefit changes, the proportions are much more comparable to the Scottish Government estimate of 13%, being: wave 1: 19%; wave 2: 14%; and wave 3: 25%. The increased number of social rented sector households under-occupying in wave 3 could indicate that under-occupancy is an increasing problem, which the housing benefit reform is intended to address. However, unless there are suitable properties to move to, it will not necessarily reduce the rate of under-occupancy.

Disabled adults of working age

Those who are currently in receipt of Incapacity Benefit, paid to working age disabled adults, are to be moved to either Employment and Support Allowance (ESA) or

Jobseekers Allowance, if they are deemed capable of working. Claimants have to be re-assessed for these benefits. Furthermore, Disability Living Allowance (DLA), paid to disabled adults whether working or not, is to be replaced by Personal Independence Payments (PIP) and will be reassessed based on objective measures.

This analysis is based on those whose occupation status was given as long-term sick or disabled and therefore are not currently in employment. A significant proportion of households have at least one adult who is long-term sick or disabled (not necessarily the householder or partner), and where household income may be affected by these reforms. The proportion of households containing disabled adults of working age rose to nearly one-in-six by 2011 (Table 9).

Table 9. Households with adults who are long-term sick and unemployed.

	Percentage of households with adults long-term sick and unemployed		
	0	1	2+
Wave 1 (2006)	87%	12%	1%
Wave 2 (2008)	87%	12%	1%
Wave 3 (2011)	83%	16%	1%

Of the groups considered so far, those in receipt of Disability Living Allowance (DLA) and under-occupiers have received the most media attention and have been subject to much debate in recent months. In particular, individuals who may fall into both these categories and who make use of an extra bedroom for either use by an overnight carer or for the storage of specialist equipment (neither of which is considered in the calculation of bedroom requirements) are deemed particularly vulnerable to extra costs. Therefore, we have further assessed the number of people within the samples falling into *both* these categories. Those who are disabled, of working age and under-occupying their homes comprise 4% of the sample at wave 1, 3% at wave 2 and 6% at wave 3. Furthermore, Table 10 shows that a greater proportion of those who are under-occupying are long-term sick and unemployed than those not under-occupying.

Table 10. Percentage of households with long-term sick and disabled adults by occupancy level.

	Not under occupying	Under-occupying
Wave 1	10%	29%
Wave 2	11%	26%
Wave 3	14%	30%

Households with non-dependants

Housing benefit recipients with non-dependent adults (the latter assumed to be contributing to the household budget), will be subject to deductions from housing benefit. There are a number of conditions outlined by DWP¹⁸. For the purposes of this analysis a non-dependent is defined as someone within the household who is an adult over the age of 18, not a partner or spouse of the respondent, not in full-time education and not unemployed. The identification of this group within the samples is not limited to housing benefit recipients as we do not know this after wave 1. Table 11 shows the number of households with non-dependents who are likely to experience some level of deduction from housing benefit.

Table 11. Households with non-dependents.

	Number of non-dependents in household			
	0	1	2	3+
Wave 1	87.4%	9.7%	2.6%	0.3%
Wave 2	86.5%	10.0%	2.3%	0.4%
Wave 3	83.1%	13.1%	3.3%	0.6%

Part-time workers

Part-time workers and particularly those who have moved into part-time work from unemployment may struggle due to the loss of benefits following their change in status. There are also decreases in tax credits for part-time workers, which may affect those who cannot work full-time. The number of households containing part-time workers within the GoWell study areas has risen at each survey wave from 8% in wave 1 to 10% at wave 2 and 14% at wave 3, which itself is possibly related to reductions in full-time work as a result of the economic climate.

Private rented sector tenants

At present households who receive housing benefit but rent privately receive a housing benefit bonus of £15 per week if their private rent is lower than the Local Housing Allowance (LHA), which was previously the median of market rents in the area but changed to track the Consumer Price Index (CPI) from April 2013. This benefit bonus is to be removed, potentially affecting those who rent privately. There are also other reforms which serve to restrict the levels of LHA for those in the private rented sector. Estimates suggest that, after the new rules on under-occupancy for social sector tenants, private tenants are the second largest group affected by housing benefit reforms¹⁹.

Households in the private rented sector make up a relatively small proportion of the GoWell sample: wave 1: 1.7%; wave 2: 1.7%; wave 3: 3.8%. Receipt of housing benefit is only known for wave 1 respondents. Of those privately renting in wave 1, 50% were in receipt of full or partial housing benefit. Nonetheless, Table 16 in the following section shows that privately renting households are those struggling most to afford rent payments, with 25% of private renters experiencing difficulty paying their rent at wave 3, compared with 16% of the sample overall and 16% of social sector tenants.

Summary

This section has identified groups who might be at particular risk of poverty as a result of welfare reform measures. Table 12 shows the groups identified as being at risk and the associated welfare reforms, along with the proportion of the wave 3 (2011) GoWell sample who fall into each group. Wave 3 is used here as a baseline prior to the introduction of the majority of welfare reforms, although some were introduced in April 2011 just prior to the wave 3 survey. Table 12 is ordered according to the prevalence of each group in the sample. This highlights the reforms most likely to affect those in the GoWell sample, but does not necessarily mean that the largest groups will be most affected as the impact of specific reforms may differ.

By far the largest of our at-risk groups are households in receipt of housing benefit, who will be affected in various ways by some of the reforms, not least by the fact that tenants will become personally responsible for paying the rent to their landlord irrespective of whether or not they are entitled to receive housing benefit. In addition, we have seen an increase over time, from 2006 to 2011, by around a third, in the prevalence of two groups affected by specific housing benefit reforms, namely under-occupiers and households containing non-dependent adults. Another group whose prevalence in our samples has increased over time is households containing part-time workers, whose incomes may be squeezed both by reforms to tax credits for working families and by the freezing of child benefit. This finding echoes other research on poverty in Scotland which has found a reduction in full-time employment and an increase in part-time employment over the period 2008 to 2012¹⁵. The same research also found there to be an increase in recent years in the prevalence of low income among households in work without children, which is a group we found to have increased significantly in prevalence over time in our samples.

The following section identifies how these groups have reported their financial difficulty over the current three survey waves.

Table 12. Groups potentially at risk from welfare reforms.

Group at risk from welfare reform	Prevalence in sample (W3)	Changes which mean group is at risk	Date of change
<i>Housing benefit recipients</i>	70% (wave 1 estimate)	Local Housing Support rates will be increased in line with CPI instead of market rents. Further specific reforms to housing benefit apply to specific groups outlined below.	April 2013
<i>Households with children</i>	31%	Child benefit rates frozen for three years Couples with children must work at least 24 hours a week between them, with one working at least 16 hours to qualify for WTC.	April 2011
In particular:			April 2012
containing an adult working part time	7%	The proportion of childcare costs covered by the childcare element of WTC reduced from 80% to 70%.	April 2012
more than three children	6%	Child benefit to be withdrawn (at a rate of 1% per £100) where someone in the household has an income over £50k per annum.	January 2013
<i>Households without children where an adult works</i>	20%	Research has reported an increased rate of poverty among working age adults without children	N/A
<i>Social renter under-occupiers</i>	19%	Size criteria to be applied in social rented sector. Housing benefit reductions of 14% if under-occupying by one bedroom and 25% if two or more bedrooms.	April 2013
<i>Disabled working age</i>	17%	Disability Living Allowance (DLA) to be replaced with Personal Independence Payments (PIP), objective measurements to determine eligibility. Incapacity benefit to be replaced with Employment and Support Allowance (ESA) or Jobseekers Allowance (JSA)	New claimants from June 2013, existing until March 2016 From October 2010
<i>Households with non-dependants</i>	17%	Increase in rate of reductions in housing benefit for non-dependants, assumed to be contributing.	April 2010
<i>Single-parent household</i>	16%	Child benefit rates frozen for three years If claiming Income Support as a lone parent and youngest child is five or older will move from Income Support to JSA.	April 2011
containing an adult working full time	1%	Child benefit to be withdrawn (at a rate of 1% per £100) where someone in the household has an income over £50k per annum.	April 2012
containing an adult working part-time	2%	decrease in tax credits for PT workers.	January 2013
<i>Households containing part-time workers</i>	14%	Decrease in tax credits for PT workers-may affect those who cannot work more hours.	April 2012
<i>Private sector tenants</i>	4%	Will no longer receive a housing benefit bonus (£15 per week if private rent is lower than LHA).	April 2011 for new claimants*

*existing claimants will be affected nine months after the anniversary of their claim.

4. The prevalence of affordability difficulties over time

This section examines how measures of affordability for essential household expenditures have changed both cross-sectionally and longitudinally over the three waves of the GoWell survey. As explained earlier, the measures are respondents' own reports of the frequency with which they have difficulty meeting specific costs at the time in question.

These self-reported affordability difficulties are examined specifically for the groups identified in Section 3 as being potentially at risk from welfare reform and austerity measures being introduced from 2011 onwards. The analysis is done in two ways: first, using the three cross-sectional samples; second, using the three longitudinal samples across particular survey waves.

Key points:

- There has generally been an improvement in affordability over time. The mean number of affordability difficulties per household, and the prevalence of severe, multiple affordability problems (four or more items), have dropped over the period 2006 to 2011.
- However, for households with difficulties, the balance between frequent and occasional affordability problems has shifted more towards frequent difficulties.
- Housing costs have consistently become more affordable over time. This is true of both rent/mortgage payments and maintenance costs.
- Fuel costs have become less affordable over time, with an increase in particular in the numbers experiencing frequent difficulties. The longitudinal evidence points to the later, 2008-2011 period as one where fuel payment difficulties became worse.
- There was little overall change in the prevalence of affordability difficulties for council tax and food. However, the longitudinal evidence points towards a shift between the two time periods, with more people reporting increased food payment problems in the 2008-2011 period, and fewer reporting decreasing problems, than in the 2006-2008 period.
- Analysis by the at-risk groups identified several instances where a third or more of the group in question reported affordability problems in 2011:
 - Disabled people of working age paying for fuel and clothes.
 - Under-occupiers in social renting paying for fuel.
 - Two-parent families with children paying for fuel, particularly where an adult is working part-time or there are three or more children.
 - Single-parents paying for fuel and clothes.
- There were also several instances where affordability difficulties had increased for specific items for particular groups, despite a general trend of improved affordability or no change over time:
 - Two-parent and single-parent families with an adult working (full-time or part-time) paying for council tax.
 - Disabled people of working age paying for food.
 - Two-parent families with an adult working (FT or PT), single-parent families with an adult working full-time, and private sector tenants paying rent/mortgage costs.

Cross-sectional evidence

The cumulative extent of affordability difficulties

Table 13 shows the number of items which respondents reported difficulty affording and the mean number of items for which a difficulty was reported at each wave. At all waves, over 60% of respondents reported no difficulty with any items. Interestingly, although 11% of respondents reported difficulty with all five items at wave 1, this had decreased substantially by waves 2 and 3. Overall, the extent of cumulative affordability difficulties declined over time: at wave 1, 15% of respondents reported difficulty with four or more items, but this stood at 13% by wave 3, notwithstanding that one additional item was enquired about by this wave.

Table 13. Respondents reporting difficulty affording one or more items.

Number of affordability difficulties	Wave 1	Wave 2	Wave 3*
0	65.2%	65.7%	63.1%
1	8.4%	10.3%	9.3%
2	6.2%	9.3%	7.9%
3	5.2%	6.6%	7.0%
4	4.1%	4.3%	6.4%
5	11.0%	3.7%	3.8%
6	n/a	n/a	2.4%

*Six items were enquired about at wave 3.

We can also look at the mean number of items for which affordability difficulties were reported at each wave, as shown in Table 14. Here we see that the number of items for which each household has difficulty has been steadily falling over time, but within this we can also see that the relative importance of frequent as compared with occasional difficulties has increased.

Table 14. Mean number of items with reported difficulty at each wave.

	Wave 1	Wave 2	Wave 3
Frequent difficulty	0.38 (1.12)	0.3 (0.86)	0.36 (0.92)
Occasional difficulty	0.7 (1.34)	0.55 (1.04)	0.47 (0.96)
Difficulty (all)	1.08 (1.74)	0.85 (1.41)	0.83 (1.35)

Standard deviation given in brackets. Base used in this Table is five items at each wave.

Affordability difficulties compared across items

Table 15 shows the frequency with which respondents reported difficulty with each item, at each survey wave. In most cases the percentage who have some level of difficulty paying has remained the same or fallen over the three waves of the survey. The exception is fuel bills where more people report some level of difficulty at each wave. Indeed, the prevalence of frequent affordability difficulties is higher for fuel than any other item by wave 3, with 13% of respondents saying they ‘very often’ or ‘quite often’ find it difficult to meet the cost of fuel bills. Apart from fuel, clothes are the only other item where over a fifth of respondents at wave 3 report affordability difficulties, perhaps indicating the pressures on discretionary budget items.

Table 15. Respondents reporting difficulty paying for items at each wave.

	Council tax			Food			Gas, electricity and other bills		
	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3
Very often	1%	3%	2%	2%	1%	2%	2%	3%	3%
Quite often	6%	7%	7%	5%	4%	5%	7%	7%	10%
Occasionally	13%	13%	11%	12%	12%	12%	16%	17%	15%
Never	79%	78%	80%	81%	84%	81%	75%	73%	71%
Total	5,659	4,122	3,843	5,778	4,599	4,144	5,776	4,556	4,052

	Rent or mortgage			Repairs, maintenance or factor charges			Clothes
	Wave 1	Wave 2	Wave 3	Wave 1	Wave 2	Wave 3	Wave 3
Very often	2%	1%	2%	1%	1%	1%	2%
Quite often	6%	5%	4%	7%	4%	2%	7%
Occasionally	18%	13%	10%	15%	11%	6%	13%
Never	74%	81%	84%	77%	85%	91%	77%
Total	5,553	3,600	3,390	5,678	3,590	3,286	4,127

Although there was a decrease in those struggling to afford food between waves 1 and 2, the numbers rose again by wave 3. Council tax and food were both problematic for a fifth of households by wave 3, though council tax affordability has remained stable across the three waves.

Difficulties with housing costs have reduced substantially over time, with a 10% difference in the numbers having difficulty paying rent or mortgage costs between waves 1 and 3, and a 14% difference in the numbers reporting difficulties with maintenance costs over the same period.

Housing costs

Reductions in housing affordability difficulties over time may reflect two things: revisions to social sector rental policies, particularly by Glasgow Housing Association (GHA); and ongoing investment in the improvement of the social (and associated owner-occupied) housing stock under the requirements of the Scottish Housing Quality Standard. However, changes to housing benefit payments through Universal Credit will mean that in future tenants will be responsible for their own rent payments rather than housing benefit payments being made directly to housing associations. Furthermore, single monthly payments to the householder may mean that some households struggle to manage their budgets²⁰. The Scottish Government suggests that many local authorities are already seeing increases in arrears among tenants as a result of the spare room subsidy²¹. This may mean that by the time of the GoWell wave 4 survey in 2015 there will be an increase in those struggling to pay rent.

Table 16 shows the frequency of difficulty affording rent or mortgage payments broken down by tenure. Although at wave 1 a greater percentage of those renting from a housing association were struggling compared with other types of tenure this had changed by waves 2 and 3 when a greater percentage of private renters were having difficulties compared with other types of tenure. Over time, there was an increase in the number of private tenants reporting occasional difficulties and a drop in the numbers reporting frequent affordability difficulties. Private renters have already been identified as a group likely to be at risk from welfare reforms, although they represent a small proportion of the GoWell sample. In contrast, the number of GHA tenants reporting either frequent or occasional affordability difficulties has steadily reduced over time. Across all waves, owner-occupiers are least likely to report difficulty struggling with mortgage costs.

Table 16. Affordability of housing costs by tenure, across survey waves.

		Frequency of difficulty meeting cost: rent or mortgage				
		Very often	Quite often	Occasionally	Never	Total
Wave 1	Rented from a private landlord or friend/family member	1%	14%	12%	74%	117
	Owner-occupied	3%	3%	11%	83%	1,152
	Rented from housing association	2%	7%	20%	72%	4,126
	GHA	2%	7%	22%	69%	3,274
	Other HA	1%	4%	11%	84%	876
	Other	6%	3%	20%	72%	158
	Whole Sample/Overall	2%	6%	18%	74%	5,553
Wave 2	Rented from a private landlord or friend/family member	8%	6%	15%	71%	80
	Owner-occupied	1%	5%	9%	86%	643
	Rented from housing association	1%	5%	14%	80%	2,822
	GHA	1%	5%	13%	81%	2,511
	Other HA	1%	8%	18%	73%	311
	Other	0%	9%	18%	73%	55
	Overall	1%	5%	13%	81%	3,600
Wave 3	Rented from a private landlord or friend/family member	2%	7%	16%	75%	154
	Owner-occupied	1%	3%	8%	87%	518
	Rented from housing association	2%	4%	10%	84%	2,642
	GHA	2%	4%	9%	84%	1,748
	Other HA	1%	5%	12%	82%	894
	Other	1%	3%	8%	88%	76
	Overall	2%	4%	10%	84%	3,390

Table 17 shows that those in receipt of partial housing benefit at wave 1 were more frequently struggling to pay rent than those in receipt of full or no housing benefit.

Table 17. Affordability of rent/mortgage by receipt of housing benefit, wave 1.

		Frequency of difficulty paying rent or mortgage				Total
		Very often	Quite often	Occasionally	Never	Total
Full		2%	6%	16%	75%	2,919
Part		2%	11%	37%	49%	587
None		1%	4%	12%	83%	1,782
Other		0%	33%	17%	50%	6
Don't know/not sure		4%	8%	35%	53%	115
Refused		7%	8%	22%	63%	144
Total		2%	6%	18%	74%	5,553

Affordability difficulties compared across at-risk groups

So far the analysis has looked at cross-sectional trends in measures of affordability across the whole sample. However, it is likely that these trends differ across social groups and particularly among the at-risk groups identified in Section 3.

Table 18 shows the percentage of those in each of the at-risk groups identified in Section 3 who report difficulty paying for each item. Those highlighted in red have a higher rate of affordability difficulty than the sample as a whole at the wave in question, and those in green have a lower rate of affordability difficulty compared with the sample as a whole.

As Table 18 shows, by wave 3 the majority of the at-risk groups were more likely than the sample as a whole to report affordability difficulties for all items, with the exception of food, where households in work (families, single-parent families, households without children) were all less likely to report affordability difficulties than the sample as a whole.

There were several instances at wave 3 where a third or more of the group in question reported affordability difficulties, with the most notable being the following:

- Disabled people of working age paying for fuel and clothes.
- Under-occupiers in social renting paying for fuel.
- Households with children paying for fuel, particularly where either an adult is working part time or there are three or more children.
- Single parents paying for fuel and clothes.

The general trends in affordability noted earlier are reflected in the findings for the at-risk groups shown in Table 15, though with some notable exceptions.

- Whereas there was little overall change in the numbers reporting difficulties paying for council tax, Table 15 shows that there have been quite large increases in affordability difficulties for this item for families with an adult in work, and for single-parent households where an adult works. To a lesser extent, there have also been increases in affordability difficulties in respect of

- In the case of food, where the overall trend is one of no change in the prevalence of affordability difficulties, there are two notable exceptions: an increase in the numbers of disabled people of working age reporting problems paying for food; and a large decrease in the reporting of difficulties paying for food by families with three or more children – here we may be seeing evidence of the prioritisation of food over fuel payments.
- Housing costs have become more affordable over time, except for three of the at-risk groups where the reporting of affordability difficulties has been steadily increasing: private sector tenants; families with adults in work (full time or part time); and single-parent households where an adult is working full time.

Table 18. Proportion of respondents in each group reporting difficulty affording items at each wave

	<i>Council tax</i>			<i>Food</i>			<i>Fuel</i>			<i>Rent</i>			<i>Repairs</i>			<i>Clot hes</i>	<i>Mean no. items difficulty reported</i>		
	<i>W1</i>	<i>W2</i>	<i>W3</i>	<i>W1</i>	<i>W2</i>	<i>W3</i>	<i>W1</i>	<i>W2</i>	<i>W3</i>	<i>W1</i>	<i>W2</i>	<i>W3</i>	<i>W1</i>	<i>W2</i>	<i>W3</i>	<i>W3</i>	<i>W1</i>	<i>W2</i>	<i>W3</i>
Disabled working age	20%	23%	25%	21%	19%	28%	25%	32%	40%	24%	17%	14%	19%	12%	9%	34%	1.04	0.86	1.37
Under occupiers (SR)	22%	24%	26%	23%	16%	26%	25%	30%	38%	25%	21%	20%	22%	14%	8%	31%	1.10	0.88	1.34
Social renters	23%	24%	21%	22%	18%	21%	28%	28%	31%	28%	20%	16%	26%	15%	8%	25%	1.19	0.88	1.12
Private sector tenants	27%	26%	29%	17%	16%	26%	23%	26%	28%	19%	29%	25%	20%	18%	10%	29%	1.02	1.04	1.34
Non-dependents	18%	20%	17%	16%	13%	17%	21%	23%	25%	24%	20%	15%	21%	16%	8%	22%	0.94	0.77	0.93
Family with children	25%	27%	26%	24%	20%	21%	29%	33%	35%	30%	24%	22%	27%	18%	10%	30%	1.28	1.0	1.29
Family with adult working	18%	28%	27%	14%	16%	15%	19%	27%	31%	24%	25%	27%	19%	18%	12%	25%	0.90	1.03	1.29
Family with adult working FT	16%	25%	24%	12%	14%	13%	16%	24%	29%	21%	22%	25%	17%	17%	12%	21%	0.78	0.95	1.19
Family with adult working PT	21%	31%	30%	17%	18%	16%	20%	31%	33%	25%	30%	29%	19%	18%	14%	29%	0.99	1.13	1.41
Family with 3+ children	32%	23%	31%	31%	20%	18%	39%	37%	42%	36%	22%	23%	36%	17%	7%	30%	1.64	0.94	1.14
Single parent family	21%	29%	28%	23%	23%	25%	29%	38%	39%	29%	26%	22%	26%	19%	10%	34%	1.24	1.08	1.39
Single parent adult working	18%	37%	31%	13%	19%	15%	20%	34%	33%	31%	31%	31%	21%	21%	14%	28%	1.0	1.29	1.45
Single parent working FT	12%	32%	28%	10%	18%	11%	18%	22%	32%	29%	25%	34%	19%	20%	15%	23%	0.84	1.08	1.37
Single parent working PT	25%	43%	33%	16%	20%	17%	23%	44%	33%	34%	37%	29%	22%	23%	13%	31%	1.18	1.47	1.51
HH no children, emp FT	17%	21%	18%	12%	12%	12%	18%	21%	18%	24%	21%	16%	19%	14%	7%	15%	0.87	0.81	0.82
HH no children, emp PT	21%	24%	23%	15%	14%	15%	19%	24%	27%	24%	28%	25%	18%	27%	10%	19%	0.95	0.95	1.12
HH no children, emp	18%	22%	20%	13%	12%	13%	19%	22%	21%	25%	22%	19%	19%	15%	8%	17%	0.90	0.84	0.93
HH with PT workers	21%	27%	26%	16%	16%	16%	20%	28%	30%	25%	29%	27%	19%	17%	12%	24%	0.97	1.04	1.27
Housing benefit	24%			24%			29%			29%			27%				1.27		
Whole sample	21%	22%	20%	19%	16%	19%	25%	27%	29%	26%	19%	16%	23%	15%	9%	23%	1.08	0.85	1.05

Green = group has lower rate of affordability difficulty than sample as a whole; Red = group has higher rate of affordability difficulty than sample as a whole.

Longitudinal evidence

The previous section showed trends in measures of affordability cross-sectionally for all three waves of the survey data. A subset of the sample has been interviewed on more than one occasion, which allows us to explore further the patterns of change in affordability over time.

Table 19 shows the percentage of longitudinal cases who have reported a change in their level of affordability difficulty between survey waves. The majority of respondents (typically 65-70%) did not report any change in their levels of difficulty over time. Where they have reported a change, in general a greater percentage of respondents reported a decrease in the frequency of difficulty than an increase, reflecting the cross-sectional findings that in general affordability has eased over time.

However, it is also worth noting the following changes over time for fuel, food and council tax:

- Whereas between 2006 and 2008 (W1-W2) equal numbers of respondents reported increases and decreases in their affordability difficulties for fuel, this had changed between 2008 and 2011 so that more people reported an increase in difficulty paying for fuel than reported a decrease in difficulty. This suggests that fuel has become less affordable in general for people in deprived areas during the recession period. This later trend is consistent with the earlier cross-sectional findings.
- A similar situation is revealed for food. Between 2006 and 2008, nearly twice as many people reported a decrease in affordability difficulties as reported an increase, but in contrast, between 2008 and 2011, more people reported an increase in problems paying for food than reported a decrease. Again, this suggests that food has become slightly less affordable for people in deprived

- Both between 2006 and 2008, and from 2008 to 2011, slightly more people reported an increase in difficulty paying for council tax as reported a decrease in difficulty. The finding for the earlier period concurs with the cross-sectional findings, but the finding for the later period runs counter to the cross-sectional findings, although in both cases the trend is for a marginal change in the overall position.

Table 19. Longitudinal cases reporting change in difficulty affording each item.

		W1-W2	W2-W3	W1-W3
Rent	No change	65%	70%	72%
	Increase	12%	12%	12%
	Decrease	23%	19%	16%
Repairs	No change	68%	75%	81%
	Increase	10%	8%	6%
	Decrease	22%	17%	13%
Fuel bills	No change	61%	65%	59%
	Increase	20%	22%	20%
	Decrease	20%	14%	21%
Food	No change	68%	74%	72%
	Increase	12%	15%	14%
	Decrease	20%	11%	14%
Council tax	No change	67%	70%	65%
	Increase	17%	16%	16%
	Decrease	15%	13%	19%

Summary

This section has looked at changes in the reporting of affordability difficulties by GoWell respondents, and by at-risk groups within the sample. Generally, during the period studied here, 2006-2011, affordability difficulties have been easing. The notable exception to this is fuel costs, where difficulties have been steadily

increasing. In the case of both fuel and food, there are indications that affordability problems worsened in the recession period of 2008-2011. Our findings are not dissimilar to those from our surveys of people in deprived areas across Greater Glasgow. The NHS health and wellbeing survey also found that affordability difficulties (in this case, finding money for unexpected expenses) were higher in 2008 than in 2005, but had dropped again by 2011, though not to their 2005 levels. For people in deprived areas, affordability difficulties in 2011 were less than they had been a decade earlier²².

The evidence from our study shows several instances where particular groups, in respect of specific items, exhibit either high rates of affordability difficulty by 2011, or show trends towards increased problems, counter to the general trend. This was the case particularly for the following: families containing an adult in work in respect of fuel, council tax and rent/mortgage; single-parents in respect of fuel, clothes and rent/mortgage (where working part-time in the case of the last item); and, disabled people of working age paying for fuel, clothes and food.

5. How is reported financial stress related to wellbeing?

There is evidence from elsewhere to suggest that financial stress has implications for psychological health. Therefore, we might expect the impacts of either the economic recession or of austerity and welfare reform measures to manifest in mental health outcomes for the groups most affected. This section explores measures of affordability presented in Section 4 in relation to four mental health and wellbeing outcomes:

- Self-reported long-term problems related to stress, anxiety or depression.
- Reported visit to GP in previous 12 months for problems related to stress, anxiety or depression.
- The SF12 (mental) health survey.
- The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS).

Key points:

- In the case of every item at all three waves, those people who reported having affordability difficulties were more likely to also report long-term stress and anxiety.
- In respect of fuel, food and council tax, those who experience affordability difficulties are at least one-and-a-half times more likely to have seen their GP about a psychological issue in the past year. This was the case at all three survey waves, and suggests potential reductions in primary health care usage if affordability problems were reduced.
- During the period of recession, 2008 to 2011, those people who reported increased affordability problems were more likely than others to also report chronic problems of stress and anxiety which they had not done before, and to have visited their GP for a psychological reason.
- Across the survey waves, there were substantial differences in mean SF12 mental health scores between those who reported financial difficulties and those who did not. In the case of food, fuel, council tax and clothes the difference in mean scores was substantive (i.e. equivalent to at least a half standard deviation). Either those with worse mental health are more likely to get into affordability difficulties, or affordability difficulties contribute to worse mental health, or both.

Key points continued...

- Differences in WEMWBS scores between those with and without affordability difficulties were less than in the case of SF12 scores, though they were still apparent. For both SF12 and WEMWBS the difference in mean scores was greatest in the case of food.
- There was a modest, negative correlation between mean SF12 and WEMWBS scores on the one hand, and the number of affordability problems experienced by households on the other. The findings also indicated that the threshold of number of problems at which mental health declines the most may have fallen over time, e.g. by wave 3 mean SF12 scores notably declined between those with two and those with three affordability difficulties.
- A study of the associations between changes in the affordability of items over time (in three classes) and changes in respondents mental health and wellbeing scores indicated that the two are related:
 - Mean SF12 scores declined for those who reported increased affordability difficulties over time, while increasing among those who reported decreasing affordability problems. This pattern held true in all the longitudinal samples, and for all items.
 - The pattern of movements in WEMWBS scores was less clear. However, there were two items, food and council tax, where those who reported increased affordability difficulties between 2008 and 2011 reported a larger decline in WEMWBS scores than anyone else.
- A more detailed study of affordability dynamics divided respondents into nine classes of affordability-difficulty change. This further showed that:
 - In the case of rent, fuel and council tax, the initial move into occasional affordability difficulties was consistently associated with a drop in mental health (SF12 scores).
 - Where people moved from having to not having affordability problems, they also reported an improvement in mental health. This was true for all items.

As shown by the analysis of affordability measures in Section 3 some groups are already struggling more than others to pay for certain items. Austerity measures are likely to exacerbate these affordability issues which might have negative impacts on mental health and wellbeing and put a strain on healthcare services. Anecdotal evidence from mental health practitioners suggests that this is already the case in Glasgow as a result of the recession and anxiety about welfare changes. Although the main effect of changes due to happen cannot be detected in the current GoWell dataset, we have examined the relationship between financial stress and mental wellbeing to develop an understanding of what changes might occur if financial stress increases.

Recent studies have observed associations between debt problems and psychological health based on large UK panel surveys (Families and Children Survey and British Household Panel Survey FACS and BHPS)^{7,23}. Given these associations between affordability and mental wellbeing, it could be expected that increased financial stress would lead to increased use of healthcare services.

In this section the measures of affordability already described in Section 4 are examined in relation to four outcome variables:

- Self-reported long-term psychological problems such as stress/anxiety/depression.
- Having visited the doctor in the previous 12 months for such psychological problems.
- SF12 mental health score. SF12 is a short form health questionnaire used to assess generic health status and is reported as two summary measures, a mental and physical component. We are interested in mental wellbeing in relation to measures of affordability and therefore use the mental component in this analysis.
- The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS), which measures positive mental health and was included in GoWell from wave 2.

These relationships are examined both cross-sectionally and longitudinally.

Cross-sectional evidence

In this section we consider the relationship between affordability difficulties and the four measures of mental health and wellbeing, using the three GoWell cross-sectional samples to assess associations.

Experience of stress and anxiety and seeking medical assistance

If we examine self-reported long-term psychological problems in relation to affordability difficulties for specific items, we see that in all cases those reporting difficulty affording an item have a higher rate of self-reported mental health problems (Table 20). The percentages are lower at wave 1 due to a different wording of the question to that used at waves 2 and 3. At wave 1, respondents were asked if they had long-term psychological problems, whereas at waves 2 and 3 this was rephrased to ask if they had long-term stress or anxiety problems.

We can see that reported psychological problems have increased over time (e.g. between waves 2 and 3), both for those with and without affordability difficulties. However, in the case of most items, the difference in reported psychological problems between those with and without affordability difficulties has increased over time.

Table 20. Self-reported anxiety and stress according to affordability difficulties by item.

Self-reported anxiety/stress problems						
	Wave 1		Wave 2		Wave 3	
	No difficulty	Difficulty	No difficulty	Difficulty	No difficulty	Difficulty
Rent	6%	8%	11%	15%	19%	22%
Repairs/maintenance	6%	9%	11%	22%	17%	30%
Fuel	6%	9%	11%	22%	17%	30%
Food	6%	10%	12%	22%	18%	34%
Council tax	6%	10%	11%	19%	17%	31%
Clothes					17%	34%

Note: the question was phrased differently at wave 1, see text above for explanation.

A similar pattern emerges when we look at visits to the GP. In wave 1, 21% of the sample had spoken to their GP about anxiety, depression or a mental/nervous/emotional problem. This increased to 24% in wave 2 and to 29% in wave 3. Therefore, seeking medical assistance for psychological issues is increasing over time. Across all three survey waves, 19% of those who reported no financial difficulties had spoken to their GP about anxiety, depression or a mental/nervous/emotional problem. This increased to 27% of those having difficulty affording one or two items and 31% of those who had difficulty with three or more items. Table 8 in Section 3 shows this split according to each item. In all cases respondents are more likely to have visited their GP for a psychological reason if they have difficulty paying for a particular item. In the case of fuel, food and council tax, those experiencing affordability difficulties are at least one-and-a-half times (if not even more) as likely to visit the doctor for a psychological reason as those who do not have such difficulties.

Table 21. Visits to the GP for psychological reasons, according to difficulty paying for each item.

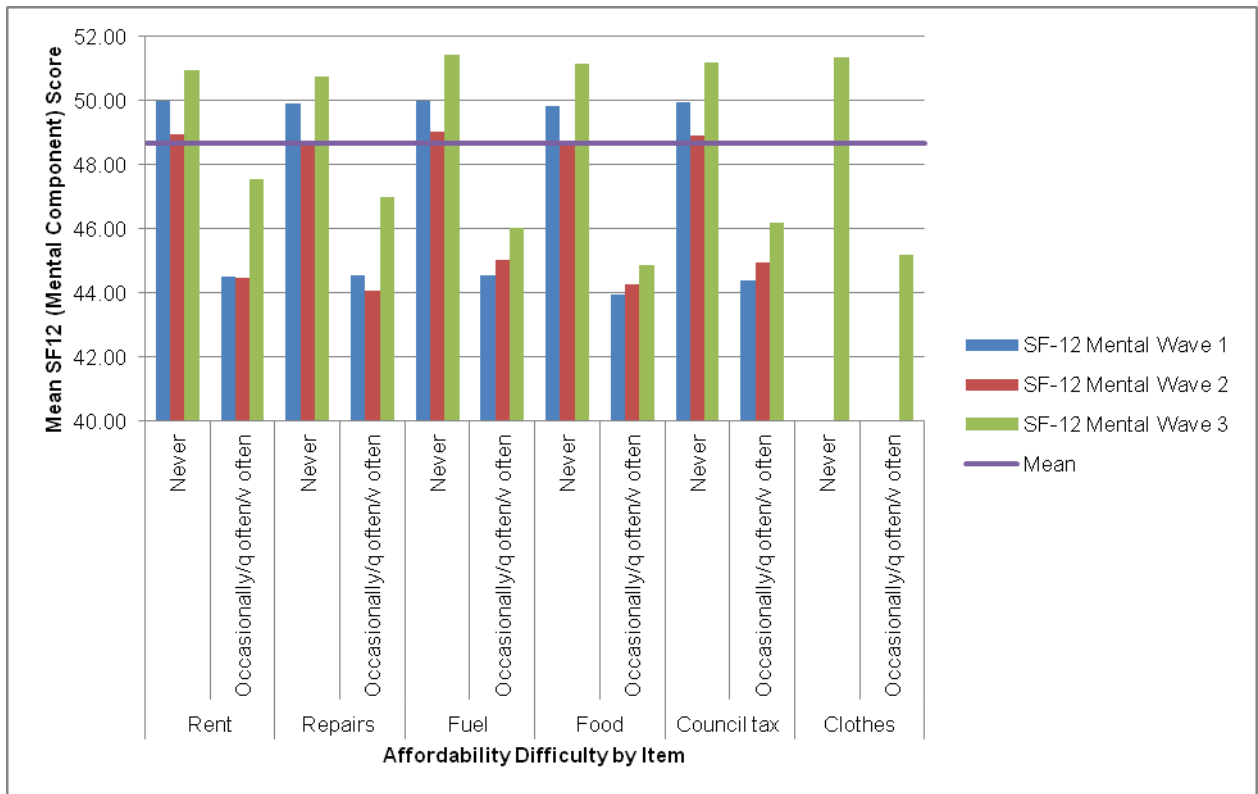
	Visits to the GP					
	Wave 1		Wave 2		Wave 3	
	No difficulty	Difficulty	No difficulty	Difficulty	No difficulty	Difficulty
Rent	18%	21%	20%	30%	25%	30%
Repairs/maintenance	18%	22%	21%	27%	25%	27%
Fuel	17%	24%	20%	34%	23%	39%
Food	17%	25%	21%	37%	24%	40%
Council tax	18%	24%	21%	32%	24%	38%
Clothes					23%	41%

Additionally, the mean number of items for which difficulty is reported is greater at all three waves for those who report anxiety and stress problems and for those who have visited the GP for such problems (results not shown).

SF12 mental health

Figure 1 shows the mean SF12 (mental component) for those who do or do not report financial difficulty with each item. In all cases the mean SF12 mental component score is higher for those who never have difficulty paying than for those who report difficulty. The difference is statistically significant in all cases (*t*-tests) and the gap is greatest for food, followed by clothes. Furthermore, in most cases the difference is large enough to be considered substantively significant: in the case of fuel, food, council tax and clothes, there is at least a half-standard deviation difference between the mean SF12 mental health score between those who experience affordability difficulties and those who do not.

Figure 1: Mean SF12 (mental component) by experience of affordability difficulties for each item.

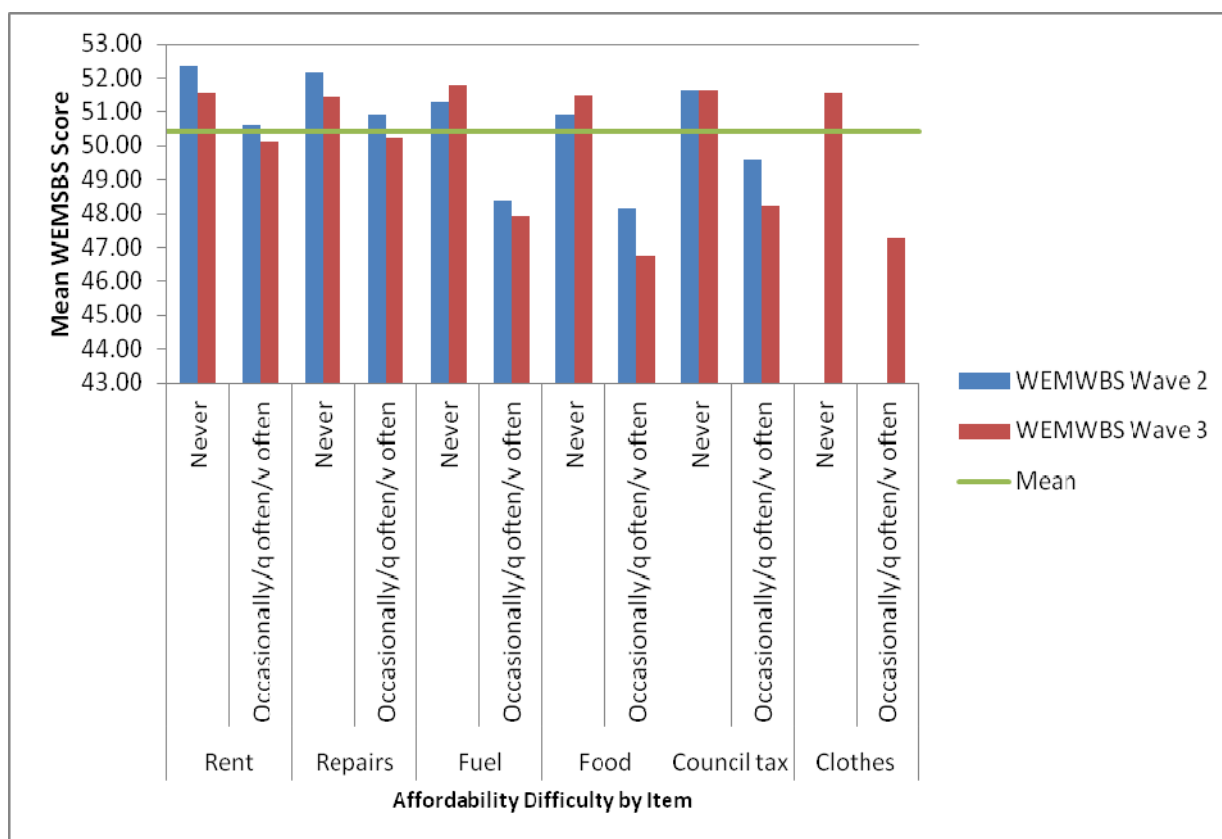


Whole sample: mean = 48.67; sd = 10.72.

WEMWBS

Figure 2 shows the mean WEMWBS score for those who do or do not experience difficulty paying for each item. In all cases the mean WEMWBS score is higher for those who do not experience affordability difficulties, although the differences are less substantive than for the SF12. The difference in score is greatest in the case of food, as it was for the SF12 score.

Figure 2: Mean WEMWBS by experience of affordability difficulties for each item.



Whole sample: mean = 50.41; sd = 10.41.

Cumulative affordability difficulties and mental health and wellbeing

Table 22 shows the mean SF12 and WEMWBS scores according to the number of reported affordability difficulties. In all cases there is significant negative correlation between the two, meaning that the more items for which a respondent reported difficulty, the lower their mental wellbeing score. However, the pattern is clearer in the case of the SF12 than the WEMWBS.

There are two other things worth noting in the case of SF12 mental health scores. First, that at each wave, the largest drop in mean SF12 scores occurs between those who have no affordability difficulties and those who have one such difficulty – in other words, entering the realm of financial stress for the first time has a significant impact upon mental health. Secondly, that the position of the next largest decrease

in SF12 scores has been dropping over time: the move from four to five affordability difficulties at wave 1; the move from three to four difficulties at wave 2; and the move from two to three difficulties at wave 3. It may therefore be that the threshold for psychological tolerance of multiple financial problems is reducing over time as the recession has impacts.

Table 22. Mean SF12 and WEMWBS scores by number of affordability difficulties.

Number of difficulties (occasional or frequent)	Mean SF12			Mean WEMWBS	
	Wave 1	Wave 2	Wave 3	Wave 2	Wave 3
0	50.13	49.31	51.93	50.95	51.90
1	48.20	45.97	47.73	49.25	49.28
2	45.40	45.06	47.77	48.14	48.40
3	46.65	45.74	44.99	48.92	46.52
4	46.69	43.97	44.16	49.00	47.19
5	42.30	43.08	46.97	51.25	48.46
6			45.60		49.95
r	-0.256**	-0.179**	-0.214**	-0.057**	-0.150**
Number of frequent difficulties	Wave 1	Wave 2	Wave 3	Wave 2	Wave 3
0	49.41	48.48	51.07	50.63	51.50
1	45.18	45.14	45.06	48.44	46.59
2	41.00	44.80	45.69	48.53	46.53
3	42.84	42.19	42.65	47.00	44.43
4	42.41	42.72	43.00	48.78	44.70
5	40.79	45.11	47.30	52.38	48.33
6			44.71		49.36
r	-0.223**	-0.127**	-0.183**	-0.053**	-0.164**

**Correlation between number of items with reported difficulty and SF12 or WEMWBS is significant at p<0.01.

The cross-sectional data presented here allow us to observe the relationship between affordability difficulties and the two measures of mental health and wellbeing at a point in time, but we cannot ascertain whether a change in levels of

affordability would lead to improved mental wellbeing, hence we turn to longitudinal analysis.

Longitudinal analyses

By examining the measures in the longitudinal dataset we can understand whether a change in affordability is related to a change in mental wellbeing, although the direction of the relationship cannot be ascertained in this descriptive analysis. It is feasible that affordability difficulty could both lead to, or follow changes in mental wellbeing.

In the following analyses, each measure of affordability is split into three categories according to whether a respondent had indicated change between two waves. The categories are: no change in affordability difficulty; increased difficulty affording item; decreased difficulty affording item. It should be noted that those who experience a decrease in frequency of difficulty may still experience some level of difficulty, and it may be more frequent than for some of those who report an increased frequency of difficulty. What is of interest here is the change in reporting of difficulties.

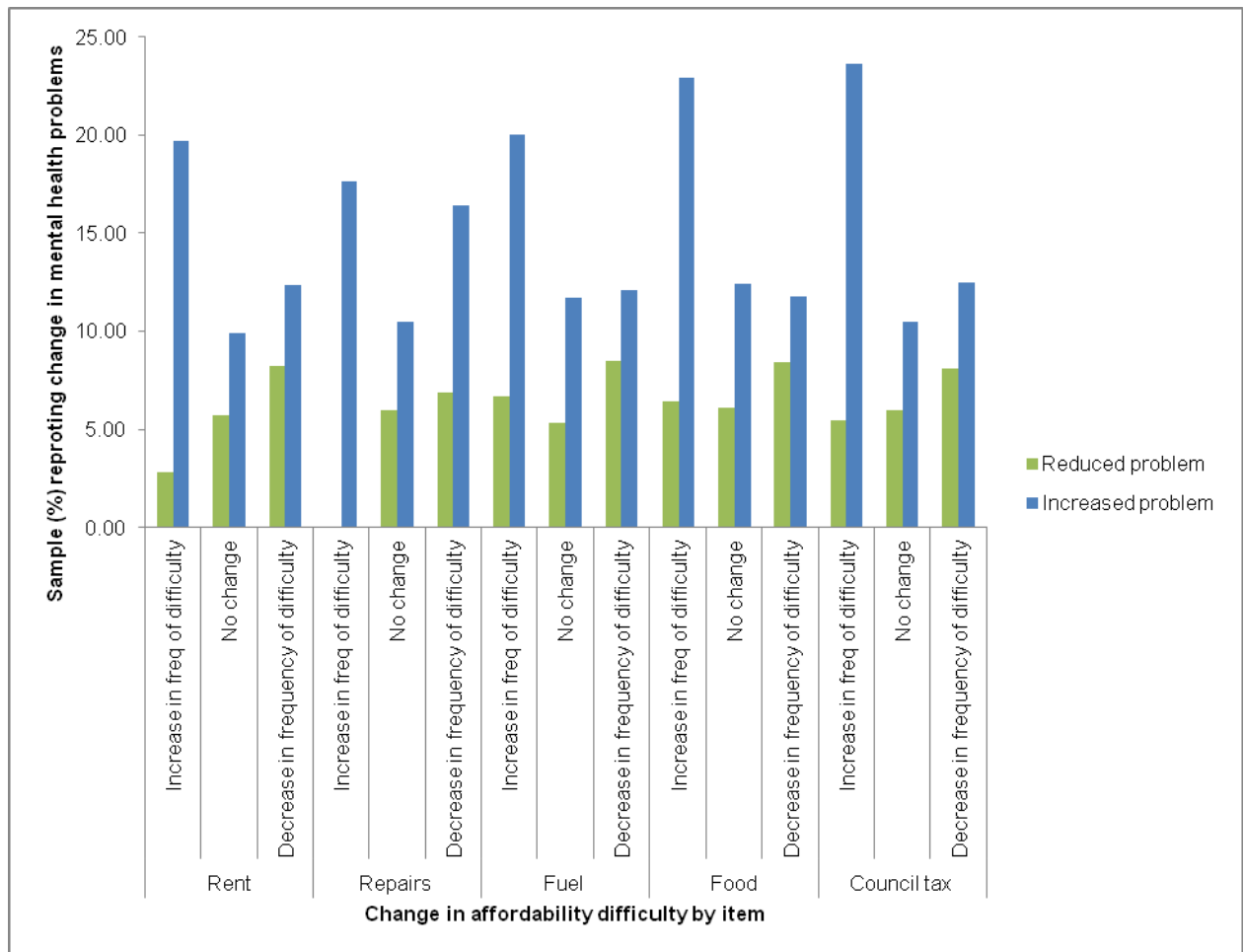
Experience of stress and anxiety and seeking medical assistance

Given the change in question wording relating to respondents' experience of long-term stress and anxiety after wave 1, this issue is only examined longitudinally between wave 2 and wave 3.

At wave 3, 14% of respondents reported a long-term problem with stress and anxiety which they had not reported at wave 2, and 6% of respondents no longer reported a problem which they had reported at wave 2. In other words, the prevalence of self-reported stress and anxiety increased over time. Figure 3 shows that this overall pattern of more people reporting new stress problems than ceasing to report such a problem holds true irrespective of changes in affordability difficulties, i.e. in Figure 3, the blue bar is larger than the green bar for every category of change in affordability problems. However, it is also evident that in the case of every item, the category

representing increased affordability difficulties contains both the largest increase in stress problems (size of blue bar), and the largest net difference in the incidence of stress problems (gap between the blue and green bars).

Figure 3. Change in self report stress/anxiety associated with change in affordability of items, wave 2 to 3.



It is likely that increased experience of stress and anxiety leads to increased use of primary health care services. Table 23 shows the change in visits to the GP among the longitudinal cases. The majority of people reported no change in their visits to the GP for psychological reasons, meaning they either continued to do so, or had not visited at either wave. However, over time, more people started to visit their GP for psychological reasons than ceased to do so (except in the W1-W3 sample).

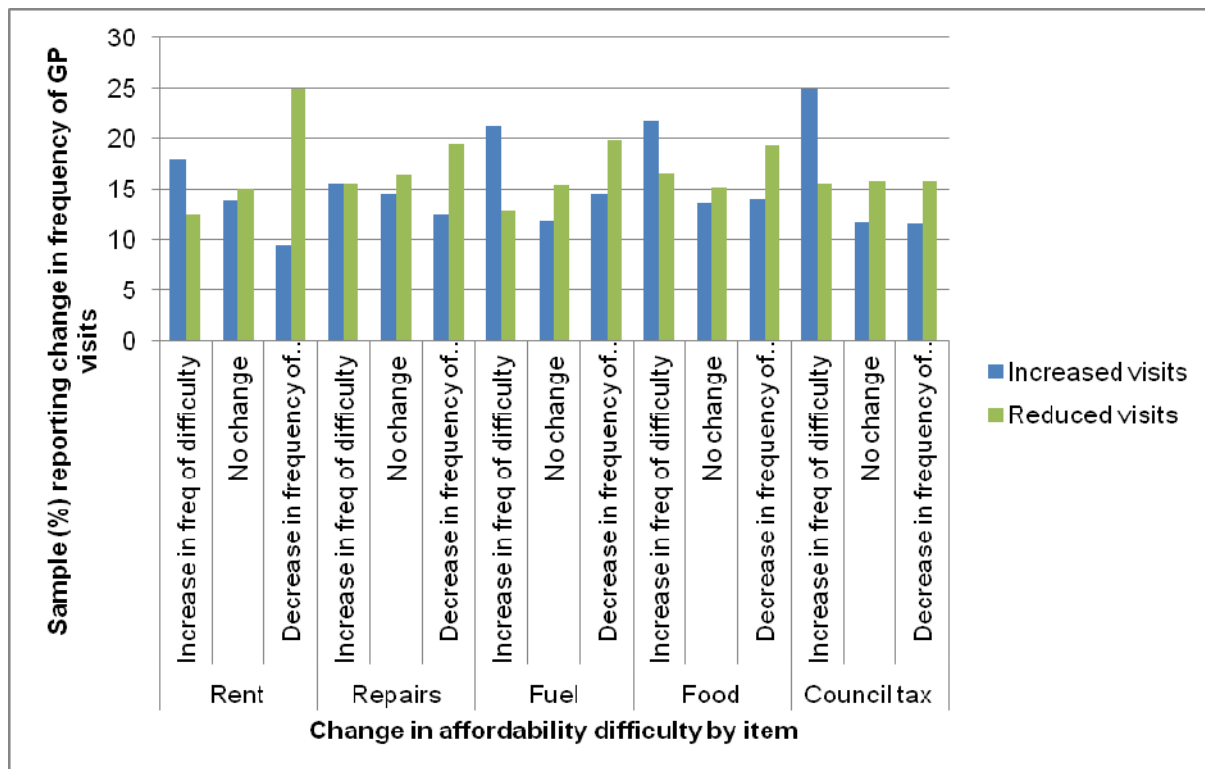
Table 23. Change in visits to the GP for psychological reasons.

	W1- W2	W2- W3	W1- W3
Reduced visits	10%	11%	16%
No change	78%	71%	69%
Increased visits	13%	17%	15%

Figure 4 shows the proportion of respondents who reported increased or decreased visits to their GP for mental health issues against the reported change in affordability difficulty. Across all items except for repairs, those who reported an increase in frequency of affordability difficulty were more likely to have increased GP visits than fewer (blue bar higher than green bar), and those with a reduced frequency of affordability difficulty were more likely to have reduced GP visits than increased visits (green bar higher than blue bar).

Therefore, it seems that in the longitudinal cases, in respect of almost every item considered, an increase in affordability difficulties over the recession period of 2008 to 2011 was associated both with an increased reporting of chronic anxiety and stress problems (over a year or more) and an increased likelihood of starting to visit their GP for psychological reasons.

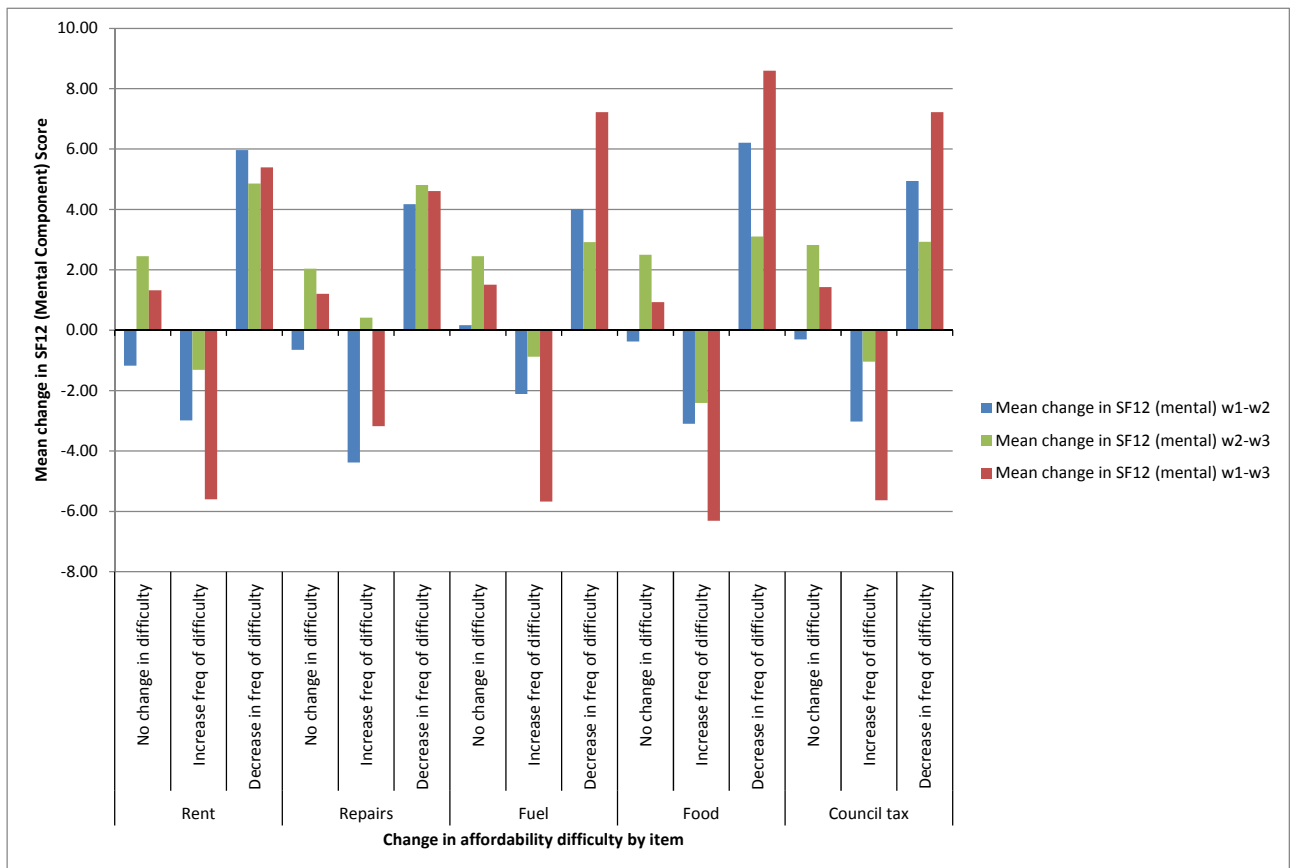
Figure 4. Change in GP visits for psychological reasons associated with change in affordability of items, wave 2 to 3.



SF12 mental health

Figure 5 shows the mean change in the SF12 mental component score across the three categories of change in affordability. In all cases, for those that reported an increase in the frequency of difficulty affording an item, the mean change in SF12 was negative. Conversely for cases where there was a reported decrease in frequency of affordability difficulty, the mean change in SF12 was positive. For those that reported no change in the level of affordability the picture is mixed. In general, the changes in SF12 associated with either an increase or a decrease in affordability difficulties were greater between wave 1 and 2 than between wave 2 and 3. It should also be noted that for wave 2-3 cases, the mean change in SF12 does not differ greatly between those who experienced no change and those who experienced a decrease in frequency of difficulty.

Figure 5. Mean change in SF12 (mental component) for those who report changes in difficulty paying for items.



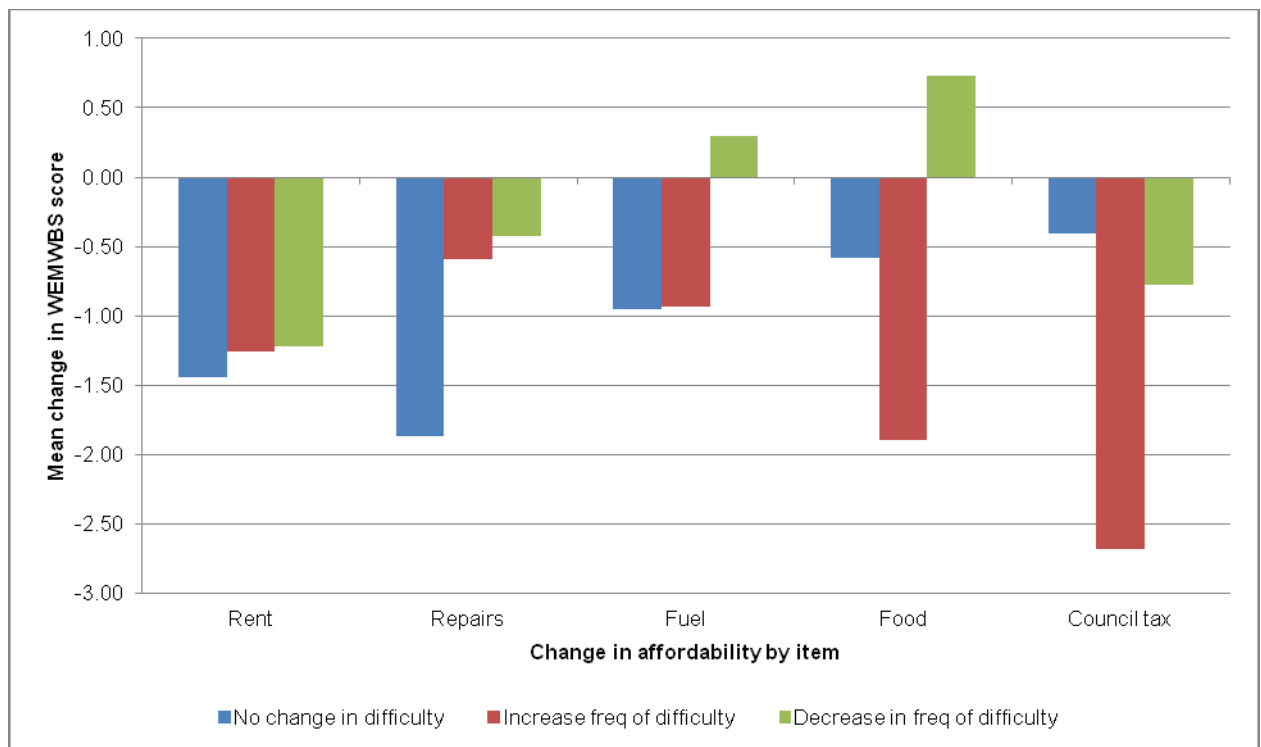
It is also interesting to see in Figure 5 that the drop in SF12 scores associated with an increase in affordability difficulties is, in the case of most items, far greater in the wave 1-3 sample than in the other two samples. It may be the case, therefore, that a longer experience of financial stress is associated with a larger, detrimental effect on mental health, i.e. chronic financial stress is worse for you than shorter-term problems.

WEMWBS

Figure 6 shows the mean change in WEMWBS score between waves 2 and 3 for those who have reported no change, increased, or decreased difficulty affording certain items. For all items there was a decrease in WEMWBS for those who reported an increased frequency of affordability difficulty. However, the overall pattern of changes is less clear-cut than in the case of SF12. In respect of WEMWBS, there were only two items – fuel and food – where a decreased

frequency of affordability difficult was associated with an increase in WEMWBS, while at the same time, an increased frequency of difficulty was associated with a decrease in WEMWBS. There were also two items – food and council tax – where an increased frequency of affordability difficulty was associated with a much larger drop in WEMWBS than for those whose experience of affordability difficulty was unchanged. The findings for the two housing cost items reflect the general cross-sectional finding of a slight drop in mean WEMWBS score between wave 2 and 3 in most GoWell study area types²⁴, though the reductions are greater in the longitudinal sample. Here, those with reduced affordability difficulties for housing experience the smallest drop in WEMWBS, and those with no change in their affordability difficulties experience the largest fall in WEMWBS.

Figure 6. Mean change in WEMWBS for those who report changes in difficulty paying for items.



Studying detailed dynamics

In order to understand the dynamic between initial level of affordability difficulty and the associated changes for individuals, it is possible to classify changes in affordability for each item according to nine categories rather than three, although the danger is that the sample numbers become smaller and the patterns less clear. The nine change categories are given in the box below.

Box 1. Detailed affordability change categories.

<p>No change</p> <p>Remain out of difficulty</p> <p>Remain in occasional difficulty</p> <p>Remain in frequent difficulty</p> <p>Increase in difficulty</p> <p>Change from none to occasional</p> <p>Change from occasional to frequent</p> <p>Change from none to frequent</p> <p>Decrease in difficulty</p> <p>Change from frequent to occasional</p> <p>Change from occasional to none</p> <p>Change from frequent to none</p>

Figure 7 gives the proportion of longitudinal cases at each time period falling into each of the nine affordability change categories. Note that for each item at each wave, around two-thirds of respondents never report any affordability difficulties, so they do not feature in the numbers shown in the figure. Of those who experience affordability difficulties, the largest change groups are of two kinds: those whose affordability problems decline between waves because they change from having occasional difficulties to never having difficulties; and those whose affordability problems increase because they move from never having difficulties to having occasional difficulties. In other words, crossing the boundary between having/not-having any affordability difficulties, in either direction, is the largest dynamic.

There are a few other things worth noting from Figure 7. In all three samples, in respect of council tax, the number of people moving from never having affordability difficulties to having frequent difficulties is very similar to the number moving from never to occasional difficulties. In the case of fuel and food, the number of people

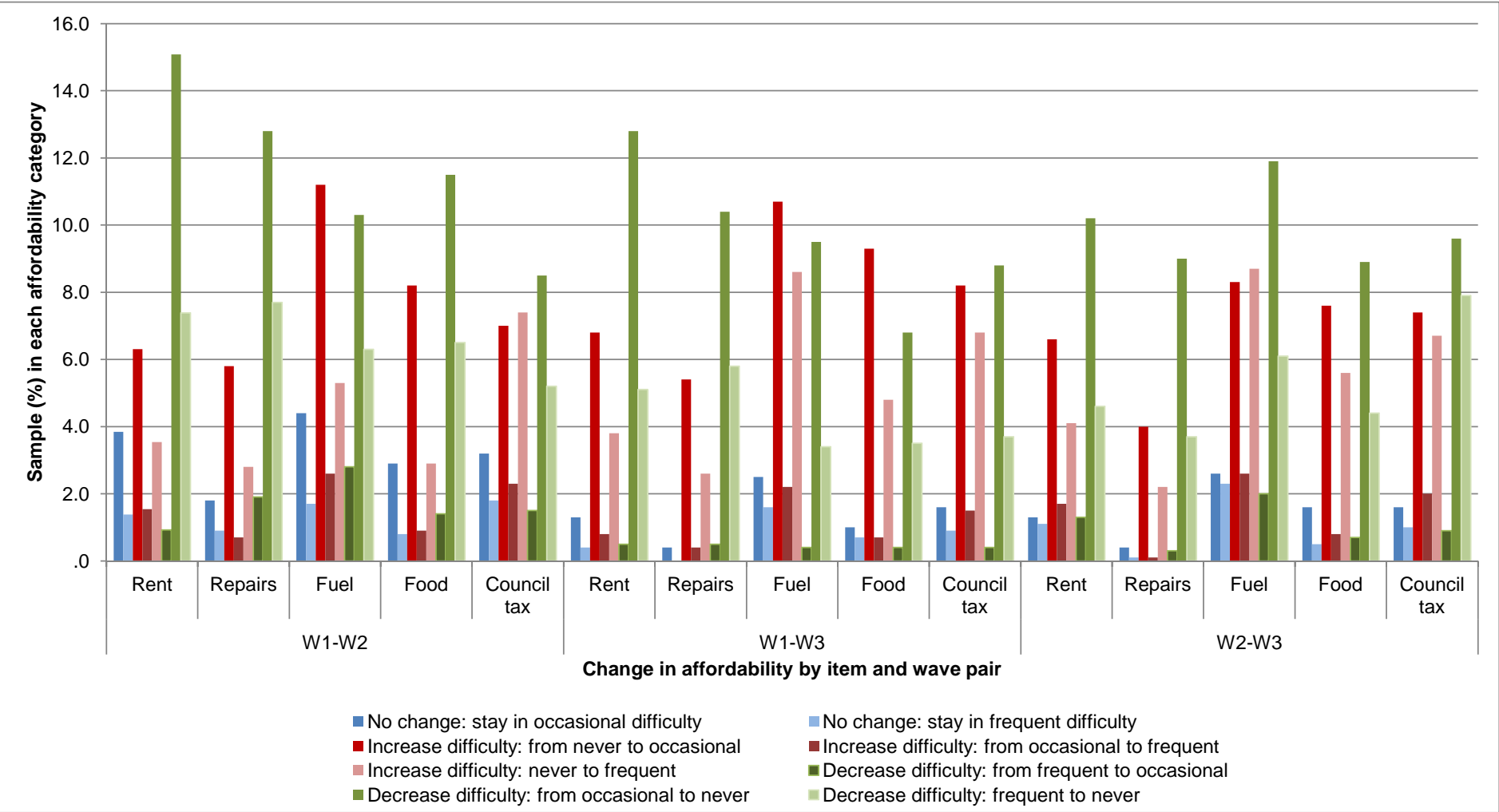
moving from never to frequent affordability difficulties was larger between waves 2 and 3, than it was between waves 1 and 2.

The mean change in SF12 and WEMWBS for each of the nine affordability change groups are given in Appendix 1. The results need to be treated with caution given the low number of cases in some instances, and the patterns are less clear than in the earlier analysis using the three broader change categories. However, the analysis does shed some further light on matters. Across all three longitudinal samples, and for every item, the likelihood of observing a decline in SF12 mental health scores is greatest among the three increased-difficulty groups (though by no means consistently the case), and least likely among the decreased-difficulty groups.

Further, in the case of rent, fuel and council tax (the latter with one exception), those who move from *never* to *occasional* difficulties in each of the three longitudinal samples consistently report a decline in SF12 scores, suggesting that the initial move into affordability difficulties may be detrimental to mental health more so than any other dynamic. Conversely, for every item in each of the three longitudinal samples bar one exception (i.e. in 29 out of 30 instances studied), where people report decreased difficulty such that they move to *never* having problems (from either occasional or frequent problems) they also report an increase in mean SF12 scores. This suggests that moving people out of affordability difficulties may be good for their mental health.

The fact that affordability dynamics may be important is also indicated by looking at the group who report no change in affordability problems by remaining in frequent difficulty. We might have expected this group to report a decline in mental health on the basis of suffering chronic affordability difficulties, but across the five items, those remaining in frequent affordability difficulty often report an increase/improvement in SF12 mental health; only in the case of home maintenance costs do those continuing to experience frequent affordability difficulties consistently report a fall in SF12 mental health scores.

Figure 7: Percentage of respondents moving in and out of difficulty affording each item.



Blue = no change; red = increased difficulty; green = decreased difficulty.

Summary

This section has looked at the associations between the experience of affordability difficulties and measures of mental health and wellbeing among residents in deprived areas. The evidence from both the cross-sectional and longitudinal samples indicates that the two are related, with the evidence being more consistent when using a mental health scale (SF12) than a wellbeing scale (WEMWBS).

Although we cannot be certain of the direction of causality, the evidence strongly indicates that financial stress does contribute to worse mental health, even if the reverse is also true, namely that those with worse mental health are more likely to get into financial difficulties. Moreover, other research has shown two things of relevance to issues of causality. First, that although selection effects are present, in that those with psychological problems are more likely to get into debt, they do not fully explain the relationship between debt and psychological health. And, second, that 'self-reported data on payment difficulties are not severely affected by a perception bias' – in that a respondent's mental health impacts on their perception of problem debts and so makes the latter data unreliable⁷.

Our results which show a relationship between increased affordability problems and worsening mental health are important given that the general trend in Scotland across the period of economic downturn so far has been one of little change in mental health: the Scottish Health Survey reports no change in mental wellbeing, anxiety or suicide over the period 2008 to 2011, but an increase in depressive symptoms^{25,c}. Interestingly given what we found when comparing SF12 with WEMWBS, the Scottish Health Survey also found no relationship between household income or socioeconomic classification and mental wellbeing.

^c The measures referred to here are: mean WEMWBS score; percentage of adults reporting 1 and 2 symptoms of anxiety and depression on the Revised Clinical Interview Schedule (CIS-R); reported suicide attempts.

Our results indicate that there may be savings to primary health care if financial stress was reduced for households, since those people reporting increased affordability problems during the recession period were also more likely to report visiting their GP for psychological reasons. Further, the results show that the point at which mental health substantially declines with financial stress has been falling over time, so that a lower number of cumulative affordability problems may trigger a drop in mental health than in the past.

Affordability dynamics have also been shown to be important. This part of the study indicates two areas where action might protect mental health. First, preventing people getting into occasional affordability difficulties would protect them against a decline in their mental health. Second, helping people to get out of affordability difficulties altogether would also contribute to improved mental health.

6 Conclusion

This report has looked at the experience of financial stress and its associations with mental health and wellbeing for people living in deprived areas of Glasgow. It covers the pre-recession period (2006-8) and the period of the first recession and its aftermath of slow growth (2008-11).

The findings indicate that generally, affordability problems eased for households over the period of study, particularly housing costs, but that fuel costs became more problematic. However, within this general pattern, some of the groups identified as being at risk from the effects of the economic downturn and austerity measures, faced particularly high affordability problems, or a worsening of affordability difficulties.

The report also shows that where there are increased affordability difficulties for households over time, this is associated with a worsening of mental health for the householder. This was true for all four measures of mental health, and was found in the analysis of both the cross-sectional and longitudinal samples. There were also indications that the threshold of multiple affordability difficulties at which point mental health declines is dropping, and that over a longer time period, the drop in mental health associated with worsening affordability difficulties is greater.

This raises the question of what we will find when we return to examine these issues again after the fourth GoWell survey wave in 2015. It has been reported by the Institute of Fiscal Studies that the first recession hit the incomes of middle and higher income groups the most, and that lower income families fared less badly (which tallies with our findings on the lessening of affordability difficulties for most people in deprived areas over the 2006-2011 period). However, lower income groups will be hit relatively hard in the post-recession period of fiscal consolidation¹⁶. Furthermore, the Trades Union Congress has also reported that between 2010 and 2015, families with children with an adult working in the public sector will experience a growth in poverty due to changes to tax credits, benefit reforms, and the freeze on public sector pay²⁶. Annual Population Survey figures indicate that the rate of public sector employment in Glasgow, at 32% of total employee jobs, is above the UK rate by

5%²⁷. Therefore, many of our respondents will be working in the public sector and/or will be in receipt of housing benefit and other welfare benefits, for which the most substantial reforms come into effect in the period after our wave 3 survey in 2011. Therefore, we might expect to see a potential worsening of affordability difficulties and associated mental health issues among our sample between wave 3 and wave 4. By this time, we might also see further evidence of the mental health effects of chronic financial stress among some of our participants.

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Appendix 1. Mean change in SF12 mental health and WEMWBS by detailed affordability change categories.

Rent	Change in SF 12			Change in WEMWBS
	W1-W2	W1-W3	W2-W3	W2-W3
No change: stay out of difficulty	-1.4107	0.1819	1.7070	-0.7073
No change: stay in occasional difficulty	3.3180	-0.6315	-0.7899	-2.2857
No change: stay in frequent difficulty	5.0428	2.9171	9.6659	2.8571
Increase difficulty: from never to occasional	-1.1607	-2.2333	-0.1280	-1.3500
Increase difficulty: from occasional to frequent	-7.3444	10.7521	4.3435	0.1818
Increase difficulty: never to frequent	3.0557	0.3994	6.7548	3.5185
Decrease difficulty: from frequent to occasional	-5.7702	-9.2076	0.1827	1.7778
Decrease difficulty: from occasional to never	4.8012	2.5123	0.4200	2.0448
Decrease difficulty: frequent to never	2.0561	2.1350	2.3690	-1.7879
Repairs	Change in SF 12			Change in WEMWBS
	W1-W2	W1-W3	W2-W3	W2-W3
No change: stay out of difficulty	-0.3037	-0.0969	1.8454	-0.4335
No change: stay in occasional difficulty	3.3069	3.3009	6.9232	-6.6667
No change: stay in frequent difficulty	-5.2854	(n=0)	-0.8215	-5.0000
Increase difficulty: from never to occasional	-1.8246	2.1711	1.6741	-0.4583
Increase difficulty: from occasional to frequent	-0.4236	-3.8277	7.7252	-8.0000
Increase difficulty: never to frequent	-5.4653	4.8553	-2.7151	-0.6923
Decrease difficulty: from frequent to occasional	2.8510	-5.2303	-7.7356	3.0000
Decrease difficulty: from occasional to never	1.9433	4.3072	3.5796	0.4035
Decrease difficulty: frequent to never	5.6987	0.4680	0.0504	-1.5385
Fuel	Change in SF 12			Change in WEMWBS
	W1-W2	W1-W3	W2-W3	W2-W3
No change: stay out of difficulty	0.3359	0.4056	1.8021	-1.2049
No change: stay in occasional difficulty	-0.8679	1.1302	2.4325	-3.6400
No change: stay in frequent difficulty	0.1733	3.9854	0.6670	1.5500
Increase difficulty: from never to occasional	-1.2257	-0.1691	-0.1618	0.1358
Increase difficulty: from occasional to frequent	-2.6223	3.5207	3.0469	1.8214
Increase difficulty: never to frequent	-1.6924	0.1580	0.7009	0.9762
Decrease difficulty: from frequent to occasional	8.3477	-3.3606	2.4171	1.8571
Decrease difficulty: from occasional to never	1.6453	1.5921	2.2518	-0.8696
Decrease difficulty: frequent to never	3.2917	1.3642	5.6615	0.2656

Food	Change in SF 12			Change in WEMWBS
	W1-W2	W1-W3	W2-W3	W2-W3
No change: stay out of difficulty	-0.1374	0.0665	1.5339	-0.7938
No change: stay in occasional difficulty	-0.4703	9.7694	0.3581	-0.1765
No change: stay in frequent difficulty	-2.6162	7.5689	8.3717	0.2500
Increase difficulty: from never to occasional	-1.5565	2.1173	2.4116	-1.2532
Increase difficulty: from occasional to frequent	-13.5605	2.7187	4.6539	7.3750
Increase difficulty: never to frequent	-0.9855	0.4327	-0.8226	-0.8000
Decrease difficulty: from frequent to occasional	8.6347	2.7608	0.7268	2.1250
Decrease difficulty: from occasional to never	4.6935	3.1253	5.1539	0.3708
Decrease difficulty: frequent to never	5.0654	-1.3912	3.1904	-1.1333
Council tax	Change in SF 12			Change in WEMWBS
	W1-W2	W1-W3	W2-W3	W2-W3
No change: stay out of difficulty	-0.2090	0.2749	1.3013	-1.0000
No change: stay in occasional difficulty	2.2040	5.0013	-1.0084	-3.0667
No change: stay in frequent difficulty	3.5455	8.1779	2.2311	-2.1429
Increase difficulty: from never to occasional	-2.6334	-0.8919	2.0072	-0.7879
Increase difficulty: from occasional to frequent	-1.4015	7.3791	3.8109	0.5294
Increase difficulty: never to frequent	-3.0772	0.5386	1.8692	-0.5690
Decrease difficulty: from frequent to occasional	2.5254	-5.0284	-3.4877	0.7778
Decrease difficulty: from occasional to never	3.3663	1.7555	2.4518	0.4713
Decrease difficulty: frequent to never	6.8800	1.0210	5.0932	1.0694

Acknowledgements

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Suggested citation

Curl A, Kearns A. *Financial stress and mental wellbeing in an age of austerity: evidence from the GoWell surveys 2006-2011*. Glasgow: GoWell; 2013.



GoWell is a collaborative partnership between the Glasgow Centre for Population Health, the University of Glasgow and the MRC/CSO Social and Public Health Sciences Unit, sponsored by Glasgow Housing Association, the Scottish Government, NHS Health Scotland and NHS Greater Glasgow and Clyde.

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