

# **NatCen**

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# **Food Security in Wales**

**Prepared for: Food Standards Agency**

**Food and You  
Waves 1-4  
Briefing paper 5  
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# Key findings

The literature in the field indicates complex causal links between poverty, food security and food safety. The results of our research indicate that the levels of food insecurity in Wales are very similar to those found in both England and Northern Ireland. We also demonstrate that food safety behaviour in Wales is similar when compared to England and Northern Ireland with the exception of people in Wales being less likely to wash fruit and vegetables and more likely to wash raw chicken. The below provides a detailed summary of the main findings of the analysis conducted for this report.

## Who experiences low food security?

- 9% of people in Wales experienced low food security. This was consistent with the proportions living in low food security in England and Northern Ireland.
- A fifth of people in Wales worried about running out of food. Families with children were more likely than households without children to say that they were worried about using up their food before they could afford to buy more.
- In the past 12 months, 14% of people in Wales had run out of food before they could afford to buy more.
- In Wales, younger people (aged 16-34) were more likely than those aged 65 and over to experience low food security.
- A quarter of 16-34 year olds surveyed (26%) said that they had run out of food at some point in the past year, compared to only 4% of people aged 65 and older. This did not differ significantly to the figures for Northern Ireland where 19% of younger people and 5% of older people said they had run out of food in the past year.

## Shopping and eating behaviours

- 87% of the people in Wales living in low food security had changed their eating or shopping behaviour for financial reasons in the past 12 months.
- The most frequently reported changes to shopping habits related to buying cheaper food.
- Overall, few people reported keeping food longer or eating food past its use by date, but those with low food security were more likely to say that they had done this more often in the last 12 months.

## Food safety

- In general, food safety behaviours in Wales do not vary significantly according to food security, indicating that those living in low food security are not more likely to act in a way that increases their chance of contracting food poisoning than those living in high food security.
- 63% of people living in low food security in Wales always check use-by-dates when buying food. 58% said they always check use-by-dates when cooking or preparing food.
- People living in low food security were slightly less likely (31%) than those in high food security (36%) to ever wash chicken.

## Introduction

The Food Standards Agency is an independent government department responsible for food safety and hygiene in England, Wales and Northern Ireland. The Agency's key priorities are ensuring that food is safe, that it is what it says it is, and that consumers have access to an affordable healthy diet. It is important to understand what impact, if any, socio-demographic factors have on food safety behaviours and food security.

In 2016, for the first time, Wave 4 of Food and You included questions on food security and food affordability. These data show that 43% of respondents in the UK report making a change in their buying and/or eating practices for financial reasons in the last 12 months. This figure was higher in Wales at 46%. As shown in the table below, levels of reported marginal food insecurity are also higher in Wales than in the other countries.

**Table 1 Food security status, by country**

<i>Wales, England and Northern Ireland, Wave 4</i>	<b>Wales</b>	<b>England</b>	<b>Northern Ireland</b>
	%	%	%
High food security	74 (70, 78)	80 (77, 82)	78 (74, 82)
Marginal food security	17 (13, 21)	12 (11, 14)	12 (9, 15)
Low food security	6 (4, 9)	5 (4,7)	5 (3, 8)
Very low food security	3 (2, 5)	3 (2, 4)	5 (3, 8)
<b>Base</b>	<b>492</b>	<b>2105</b>	<b>521</b>

Figures in brackets indicate 95% confidence intervals

## Food security and poverty

***“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”.***

(World Food Summit, 1996)

There is growing concern about the continuing combined impacts of slow economic growth, austerity, increases in food prices and decreased food affordability on health and levels of food insecurity in the UK.<sup>1</sup> The drivers of food insecurity are complex, but poverty is one clear causal factor that determines access to food.<sup>2</sup> After a long-term decline in poverty rates over the last 20 years, the recent report by the Joseph Rowntree Foundation (December 2017) demonstrates that since 2012/13 poverty rates in the UK have been increasing.<sup>3</sup> According to Department for Work and Pensions data,<sup>4</sup> in Wales, 23% of the population lived in relative poverty<sup>5</sup> and 14% of children were in material

deprivation<sup>6</sup> and low-income households. Alongside this has been an increase in the use of food banks by children in both England and Wales.<sup>7</sup> Regional data from The Trussell Trust show that the number of emergency food supply parcels distributed to adults and children in Wales rose from 9,626 and 5,070 in 2011/2012 respectively to 60,387 and 34,803 in 2016/2017.<sup>8</sup>

The latest Family Food Survey data from 2015 show that across the UK, households in the lowest 20% of equivalized<sup>9</sup> income are spending considerably more of the household budget on food making them particularly sensitive to any increases in food prices.<sup>10</sup>

The measures are slightly different, but the data from the 2016 Food and You wave (see Table 1) show 23% of people reporting marginal or low food security in Wales suggesting there might be an increase. Those most at risk of food insecurity were the young (aged 16-24), households in the lowest income quartile, those categorized as having “other working status”, and women.

<sup>1</sup> Dowler, E. and Lambie-Mumford, H. (2015). How can households eat in austerity? Challenges for social policy in the UK. *Social Policy and Society*. 14(3): 417-428.

Stuckler, D., Reeves, A., Loopstra, R., Karanikolos, M. and McKee, M. (2017). Austerity and health: the impact in the UK and Europe. *European Journal of Public Health*. 27(supplement 4): 18-21.

<sup>2</sup> Dowler, E., Turner, S., Dobson, D. (2001). *Poverty Bites: Food, Health and Poor Families*. Child Poverty Action Group.

<sup>3</sup> Joseph Rowntree Foundation (December 2017). *UK Poverty 2017: A Comprehensive Analysis of Poverty Trends and Figures*. London: Joseph Rowntree Foundation.

<sup>4</sup> Department for Work and Pensions (2017). *Households Below Average Income: An Analysis of the UK Income Distribution: 1994/95-2015/2016*. London: DWP.

<sup>5</sup> For a person to be in relative income poverty it means they are living in a household where the total household income from all sources is less than 60% of the average UK household income (as given by the median).

<sup>6</sup> Households with a total household income below 70% of the UK average household income (as given by the median).

<sup>7</sup> Lambie-Mumford, H. and Green, M.A. (2017). Austerity, welfare reform and the rising use of food banks by children in England and Wales. *Area* 49.3: 273-279.

<sup>8</sup> <https://www.trusselltrust.org/news-and-blog/latest-stats/end-year-stats/#fy-2016-2017>

<sup>9</sup> The income a household needs to attain a given standard of living depends on its size and composition. Equivalization is a way of adjusting a household's income for size and composition so that the incomes of all households are on a comparable basis.

<sup>10</sup> As originally observed in the nineteenth century by the German statistician Engels, the proportion of household expenditure spent on food varies with household income such that food budget share increases with decreasing income, even if actual expenditure falls. This statistic has been used as an indicator of welfare and as an indicator of levels of household poverty.

## Effects of food insecurity/Food practices in poverty

Increases in food prices have been shown to decrease nutritional value of dietary intake, increase obesity and significantly exacerbate existing health conditions.<sup>11,12</sup> The Family Food survey data shown below (see Figure 1) shows that the proportion of household income spent on food peaked in 2011-2012 at 16.6% in households in the lowest equivalized income decile. They were also spending 22% more of their budget on food in 2012 than in 2007 and also purchased 5.7% less food (in terms of quantity).

Qualitative studies also provide insight into how households manage food when the cost of living rises. These studies show that the food budget is often cut where people can economise.<sup>14</sup> The food strategies that people describe include making use of price promotions and offers. Other reported strategies involve simply buying what is needed for that day or even for a particular meal, resulting from having insufficient money to do anything other than live ‘hand-to-mouth’. A recent poll by the Living Wage Foundation (November 2017) also found that one third of people earning less than the living wage reported skipping meals.<sup>15</sup>

**Figure 1 The proportion of household income spent on food and non-alcoholic drinks<sup>13</sup>**



<sup>11</sup> Lake et al. (2012). Climate Change and Food Security: Health Impacts in Developed Countries. *Environmental Health Perspectives*. 120(11): 1520-1526.

<sup>12</sup> Tarasuk (2001). Household Food Insecurity with Hunger Is Associated with Women’s Food Intakes, Health and Household Circumstances. *The journal of nutrition*. 131(10): 2670-2676.

<sup>13</sup> Recreated from: Department for Environment, Food and Rural Affairs (2017) *Food Statistics Pocketbook 2017*. London. Department for Environment, Food and Rural Affairs.

<sup>14</sup> Dowler, E. and Lambie-Mumford, H. (2015). How can households eat in austerity? Challenges for social policy in the UK. *Social Policy and Society*. 14(3): 417-428.

<sup>15</sup> <https://www.theguardian.com/society/2017/nov/05/working-poor-skip-meals-living-wage-foundation-poll>. Accessed 02/02/2018

People living on low incomes also often say they have become very resourceful in avoiding food waste, potentially raising concerns about the safety of the food that they consume. A qualitative longitudinal study of families' food practices, conducted in the context of rising food prices, found that in addition to trading down and 'shopping around', parents reported throwing less food away and eating more leftovers.<sup>16</sup>

## Research questions

As 23% of the Welsh population live in relative poverty and marginal food security is common (as shown above), we set out to profile the characteristics and food safety practices of food insecure households.

## Data and analysis

This briefing is the fourth in a series of five based on secondary data analysis of the most recent wave, Wave 4, of the FSA's Food and You survey. It aims to use data from the Food and You survey to explore food safety behaviours in households with low food security in Wales.

Food and You is a biennial, random probability, cross-sectional survey of adults living in private households in the UK. The first three survey waves, conducted in 2010, 2012 and 2014, covered England, Scotland, Wales and Northern Ireland. The fourth wave was carried out in 2016 and covered England, Wales and Northern Ireland.

The survey includes a range of questions about reported behaviour, attitudes and knowledge relating to food along with demographic and socio-economic variables and other household information.

The sample for the fourth wave of the Food and You survey was boosted in both Wales and Northern Ireland, allowing for analysis of these populations in greater depth. It also contained a new module of questions related to food security including:

- Worry about food availability;
- Whether respondents were able to afford balanced meals;
- Skipping meals or cutting food intake.

These are reported by demographic (e.g. age, sex, and country of residence) and socioeconomic factors (e.g. household income and employment status).

Data for analysis have been weighted to correct for lower probability of selecting adults in multi-adult homes and to correct for over-representation of Wales and Northern Ireland relative to England. The data are also weighted to match the distribution of working status, gender, age and region in each country.<sup>17</sup>

Throughout the report Northern Ireland has been used as a comparison group to provide context for the Welsh findings. It was not possible to use any of the English regions as a comparison group as the base sizes in these regions were too small for sub-group analysis.

All tables are presented in the appendix.

<sup>16</sup> O'Connell, R. and Brannen, J. (2016). Food, Families and Work. London: Bloomsbury.

<sup>17</sup> For further details about the survey methodology, including the weighting, please see The Food & You Survey Wave 4 Technical Report: <https://www.food.gov.uk/sites/default/files/food-and-you-w4-tech-report.pdf>



## Findings

### Key findings

- 9% of people in Wales experienced low food security. This was consistent with the proportions living in low food security in England and Northern Ireland.
- 20% of people in Wales worried about running out of food. Families with children were more likely than households without children to say that they were worried about using up their food before they could afford to buy more.
- In the past 12 months, 14% of people in Wales had run out of food before they could afford to buy more.
- In Wales, younger people (aged 16-34) were more likely than those aged 65 and over to experience low food security.
- A quarter of 16-34 year olds surveyed (26%) said that they had run out of food at some point in the past year, compared to only 4% of people aged 65 and older.
- In Northern Ireland, 19% of 16-34 year olds had run out of food before they could afford to buy more, while only 5% of over 65s had run out of food.

### Who experiences low food security?

People are food secure when they are able to access sufficient, safe, nutritious food to maintain a healthy and active life.<sup>18</sup> In order to assess food security the Food and You survey asks participants a series of questions designed to measure their ability to access food.<sup>19</sup> This included questions about the ability to afford balanced meals, missing meals and worrying about food. These questions were combined to give an overall food security score.

### People's overall food security status

Levels of low food security were consistent across England, Wales and Northern Ireland. In Wales, 9% of participants had experienced low food security, compared to 8% of the English and 10% of the Northern Irish participants (Table 2).

Within Wales itself, younger people (aged 16-34) were more likely than those aged 65 and over to experience low food security;<sup>20</sup> 14% of people aged 16-34 compared to 2% of those 65 and older (Table 3). Women (13%) were more than twice as likely as men (5%) to experience low food security (Table 4),<sup>21</sup> and people living in urban areas (12%) were over twice as likely as those in rural areas (5%) to experience low food security (Table 7).<sup>22</sup>

The pattern was similar in Northern Ireland. Younger participants were also more likely to experience low food security than older participants (3% of over 65s compared to 20% of 16 to 34 year olds).<sup>23</sup> However, unlike in Wales, in Northern Ireland there was no significant difference between the proportion of men and women who experienced low food security.

<sup>18</sup> <https://www.wfp.org/node/359289> Accessed 18/12/2017

<sup>19</sup> Bates, B. et. al. The Food & You Survey Wave 4 Technical Report. Food Standards Agency. <https://www.food.gov.uk/sites/default/files/food-and-you-w4-tech-report.pdf>

<sup>20</sup> p=0.009

<sup>21</sup> p=0.001

<sup>22</sup> p=0.026

<sup>23</sup> p<0.001

## Who worries about running out of food?

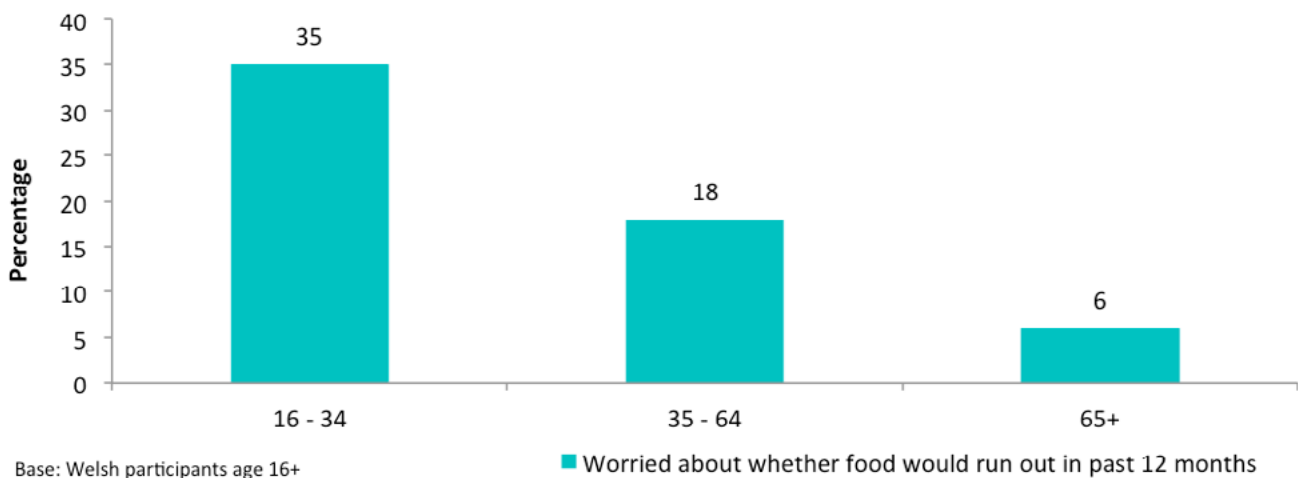
Welsh participants were as likely (20%) as participants from England (17%) and Northern Ireland (18%) to say that in the last 12 months they had worried about their food running out before they could afford to buy more (Table 8).

Among Welsh participants, around a third of people (35%) aged 16-34 said that they had worried their food would run out, compared to only 6% of older people aged 65 and older (Table 9).<sup>24</sup> This was similar in Northern Ireland, where 27% of people aged 16-34 said they had worried their food would run out but only 8% of people aged over 65 had experienced the same concern.<sup>25</sup>

Families with children under 16 in Wales were more likely to have worried that their food would run out than families without children (29% compared to 16%) (Table 11).<sup>26</sup> There were also higher levels of concern about using up food among people who described their health as 'fair' or 'bad' (30%) than among people who felt that their health was 'good' (17%) (Table 12).<sup>27</sup> People in Wales were also more likely to be concerned about running out of food if they lived in an urban area (24%) than in a rural area (14%) (Table 13).<sup>28</sup>

In Northern Ireland, families with children were no more likely than families without children to say that they were worried that their food might run out.<sup>29</sup> But as in Wales, people in 'bad' or 'fair' health (26%) were more likely than people whose health was 'good' (15%) to say that they had worried about food in the past 12 months.<sup>30</sup>

**Figure 2 Worry about whether food would run out in the past 12 months, by age**



<sup>24</sup> p<0.001

<sup>25</sup> p<0.001

<sup>26</sup> p=0.032

<sup>27</sup> p=0.002

<sup>28</sup> p=0.005

<sup>29</sup> p=0.032

<sup>30</sup> p=0.006



## Who ran out of food in the last 12 months?

In Wales, 14% of people reported that in the last 12 months they had run out of food and did not have enough money to buy more. This was similar to the proportion that reported running out of food in England (11%) and Northern Ireland (12%) (Table 14).

A quarter of 16-34 year olds surveyed (26%) said that they had run out of food at some point in the past year, compared to only 4% of people aged 65 and older (Table 15).<sup>31</sup>

This was also the case in Northern Ireland where 19% of 16-34 year olds had run out of food before they could afford to buy more, while only 5% of over 65s had run out of food.<sup>32</sup>

## Who cannot afford balanced meals?

Around a tenth of respondents across the three countries reported that in the past 12 months they had difficulty affording balanced meals at least sometimes. 12% of Welsh participants reported that they could not afford balanced meals; this was consistent with 10% of the English and 12% of the Northern Irish participants who struggled to afford a healthy diet (Table 20).

Younger people in Wales (18%) were more likely than the oldest groups (3%) to say that they had been unable to afford balanced meals in the past year (Table 21).<sup>33</sup> Women (15%) were nearly twice as likely as men (8%) to say they could not afford balanced meals (Table 22).<sup>34</sup> Those living in urban areas were more likely to not be able to afford balanced meals than people living in rural areas (14% compared to 8% respectively) (Table 25).<sup>35</sup>

Unlike in Wales, in Northern Ireland there was no difference in the proportion of men and women who said that sometimes they couldn't afford to eat balanced meals. However, there was a difference by age. Almost a fifth (19%) of 16-34 year olds said that sometimes they could not afford balanced meals, but only 3% of over 65s said they couldn't afford a healthy diet.<sup>36</sup>

<sup>31</sup>  $p < 0.001$

<sup>32</sup>  $p = 0.019$

<sup>33</sup>  $p = 0.002$

<sup>34</sup>  $p = 0.017$

<sup>35</sup>  $p = 0.050$

<sup>36</sup>  $p < 0.001$

## Shopping and eating practices

### Key findings

- 87% of people in Wales living in low food security had changed their eating or shopping behaviour for financial reasons in the past 12 months.
- The most frequently reported changes to shopping habits related to buying cheaper food.
- Overall, few people reported either keeping food longer or eating food past its use by date. There were no absolute differences in the proportion who reported these behaviours by food security status. However, in Wales, those living in low food security were more likely than those living in high food security to say that they had done either of these more frequently in the past 12 months.

### Changes in the last 12 months

Previous research has shown that people living on the lowest incomes spend a higher proportion of their finances on food than other groups.<sup>37</sup> This makes them particularly sensitive to increases in food prices. In light of this, it is not surprising that more than half (59%) of people living in households with the lowest incomes in Wales (less than £10,399 per year) reported changing their eating or shopping behaviour, for financial reasons, in the past 12 months (Table 30).

This is even more marked when looking at food security. Most households living in low food security (87%) said they had made changes to their food shopping behaviours in the past 12 months for financial reasons, while only a third (34%) of households living in high food security had made similar changes.<sup>38</sup>

There was a similar pattern in Northern Ireland, where a larger proportion of households in low food security (87%) reported making changes to their food shopping behaviour when compared to households in high food security (37%) (Table 31).<sup>39</sup>

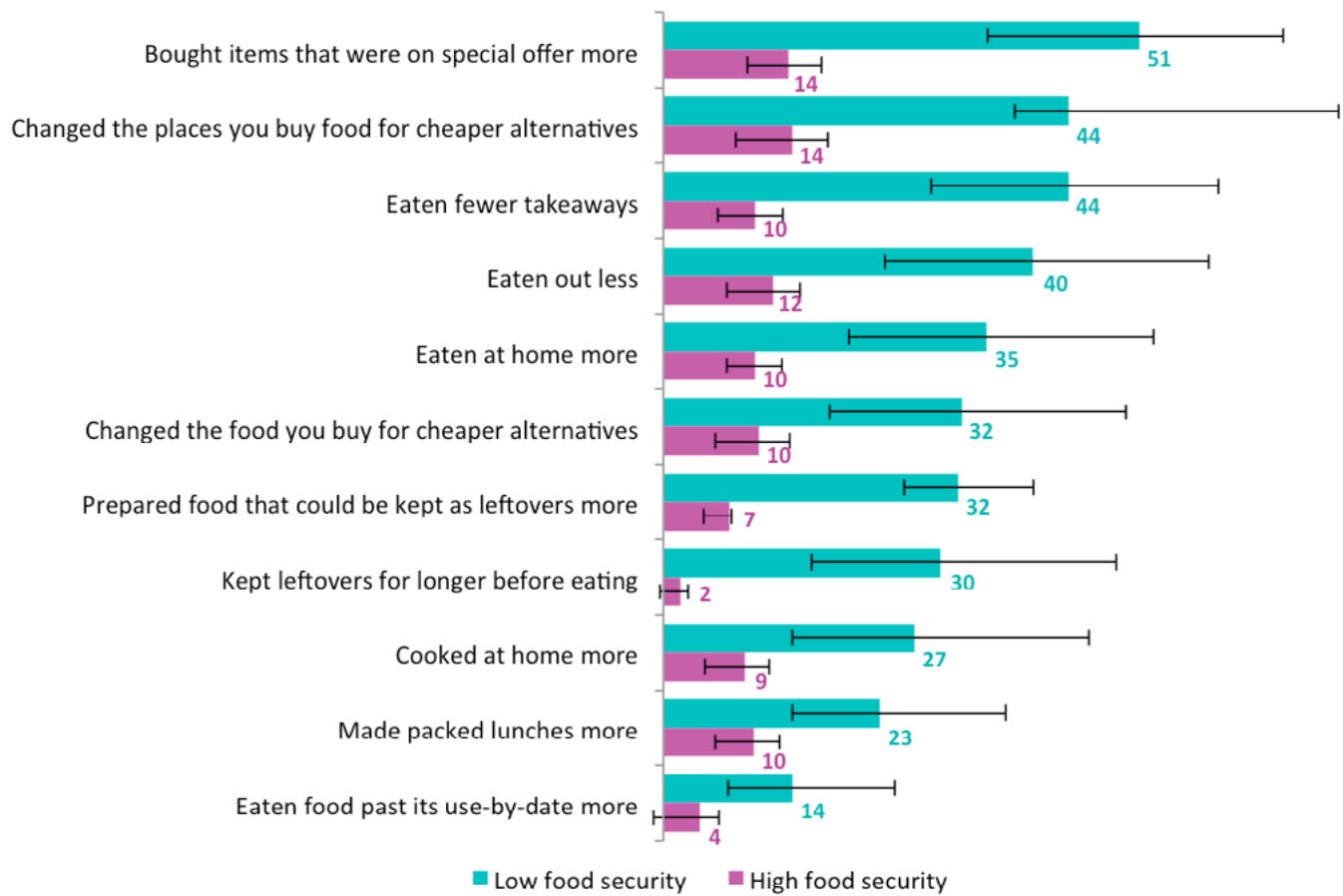
Households who had made changes were most likely to say that they had switched to buying cheaper foods than those they had bought previously (Figure 3). This included buying items on special offer, shopping at cheaper shops and eating fewer takeaways. Half of participants living in low food security in Wales (51%) said that in the past 12 months they had bought more items on special offer (Table 27), 44% said that they had started buying food at a cheaper shop (Table 28) and 44% said that they had eaten fewer takeaways (Table 32). A third (32%) said that they had changed the food they bought for cheaper alternatives (Table 29).

<sup>37</sup> As originally observed in the nineteenth century by the German statistician Engels, the proportion of household expenditure spent on food varies with household income such that food budget share increases with decreasing income, even if actual expenditure falls. This statistic has been used as an indicator of welfare and as an indicator of levels of household poverty.

<sup>38</sup>  $p < 0.001$

<sup>39</sup>  $p < 0.001$

**Figure 3 Changes made for financial reasons in last 12 months, by food security status**



Error bars indicate 95% confidence intervals

In Northern Ireland, we also found that participants living in low food security reported purchasing cheaper foods over the past 12 months. More than half (57%) said that they had bought items that were on special offer more frequently (Table 34), half (48%) said that they had eaten at home more often (Table 35), 46% said they had bought cheaper food items (Table 33) and 45% said they had started buying food at cheaper shops (Table 37).

People living in low food security in Wales were more likely than those in high food security to have eaten or prepared food at home more in the past 12 months than they had previously. 40% of people in low food security said that they had eaten out less in the past 12 months, compared with only 12% of people in high food security (Table 40).<sup>40</sup> Just under a quarter of Welsh participants living in low food security (23%) said that they had made packed lunches more often, while 10%

<sup>40</sup> p=0.001

of Welsh participants living in high food security said that they had made more packed lunches in the past year (Table 41).<sup>41</sup> Cooking at home more frequently (27%) (Table 39)<sup>42</sup> and eating at home more often (35%) (Table 38)<sup>43</sup> were also reported by a larger proportion of people in low food security than people in high food security (9% and 10% respectively).

This was also true in Northern Ireland. Northern Irish participants living in low food security (39%) were more likely than participants living in high food security (9%) to say they had eaten out less in the last 12 months (Table 42).<sup>44</sup> 17% of those living in low food security had made more packed lunches at home compared to only 10% of those living in high food security (Table 43).<sup>45</sup> In Northern Ireland people living in low food security were also more likely to say they had cooked (37%) (Table 44)<sup>46</sup> or eaten at home (48%) (Table 45)<sup>47</sup> more frequently in the past 12 months than people living in high food security (10% and 11% respectively).

While the overall proportion was very low, people living in low food security in Wales were more likely (30%) than people in high food security (2%) to say that they were more likely to keep leftovers for longer now than they were 12 months ago (Table 46).<sup>48</sup>

They were also more likely to say they have eaten food past its use by date more often (14% vs 4% of people in high food security) (Table 47).<sup>49</sup> This may put households living in low food security at higher risk of contracting food poisoning as food eaten past its use-by date or leftovers eaten more than two days after cooking are more likely to contain high levels of disease causing germs.<sup>50</sup>

Again, there was a similar pattern in Northern Ireland where 4% overall said they had eaten food past its use-by-date more often (Table 48) and 6% had kept leftovers for longer before eating them in the past year (Table 49). As in Wales, people living in low food security were more likely than people living in high food security to have kept leftovers for longer (27% and 2% respectively).<sup>51</sup> However, unlike in Wales, people living in low food security in Northern Ireland were not more likely than those living in high food security to say they had eaten food past its use-by-date more often in the past 12 months.

Households living on the lowest incomes in Wales (less than £10,399 per year) showed a similar pattern of behaviour to those living in low food security, with a larger proportion reporting that they had bought cheaper foods and a small proportion reporting that they had attempted to reduce food waste either by keeping leftovers for longer or eating food past its use-by date. In contrast with the differences by food security, we did not find many significant differences in reported changes in behaviour according to income.

<sup>41</sup> p=0.002

<sup>42</sup> p=0.002

<sup>43</sup> p<0.001

<sup>44</sup> p<0.001

<sup>45</sup> p=0.015

<sup>46</sup> p<0.001

<sup>47</sup> p<0.001

<sup>48</sup> p<0.001

<sup>49</sup> p=0.04

<sup>50</sup> <https://www.food.gov.uk/news-updates/campaigns-0/germwatch/science-fsw/leftovers>

<sup>51</sup> p<0.001

## Food safety

### Key findings

- In general, food safety behaviours did not vary significantly according to food security, indicating that those living in low food security are not more likely to act in a way that increases their chance of contracting food poisoning than those living in high food security.
- 63% of people living in low food security in Wales always check use-by-dates when buying food. 58% said they always check use-by-dates when cooking or preparing food.
- People in Wales living in low food security are as likely as people living in high food security to keep leftovers for more than two days before eating.
- Handwashing before cooking or preparing food was equally likely across all food security groups.
- People living in low food security were slightly less likely (31%) than those in high food security (36%) to ever wash raw chicken.

As discussed in the previous chapter, people living in low food security reported that over the past 12 months they had eaten and prepared food at home more frequently in order to save money and extend their food budget. This means that good home hygiene standards are likely to be of increasing importance for this group.

Adequate kitchen equipment allows households to store and prepare safe meals at home. We found that virtually all participants in Wales had access to both a fridge and freezer, ensuring that they are

able to store perishable foods safely. We also found that almost all homes had access to grills, hobs, microwaves and kettles. While most homes had access to an oven, a small proportion of people living in low food security (5%) did not have an oven in their home (Table 50).<sup>52</sup>

In general, food safety behaviours did not vary significantly according to food security, indicating that those living in low food security are not more likely to act in a way that increases their chance of contracting food poisoning than those living in high food security.

The likelihood of checking use-by dates was similar regardless of the food security status of the household in both Wales and Northern Ireland; although overall use of use-by dates when cooking or preparing food was higher in Northern Ireland (72%) than in Wales (59%) (Table 51).<sup>53</sup>

In Wales, 70% of people said that they always check use-by-dates when buying food and 58% of people said they always check use-by-dates when cooking or preparing food. Among those living in low food security, 63% always check use-by-dates when shopping and 58% always check use-by-dates when cooking (Table 52).

Although people in Wales living in low food security were more likely than people living in high food security to say that over the past 12 months they had kept leftovers for longer before eating them more often than they had previously, there was no difference in the overall proportion who said that they would consider eating leftovers more than two days after they were initially cooked.<sup>54</sup> 18% of people in Wales said that if they prepared food on a Sunday they would consider eating any leftovers on Wednesday or later in the week (Table 53).

<sup>52</sup>  $p < 0.001$

<sup>53</sup>  $p = 0.002$

<sup>54</sup> FSA recommends that all leftovers should be stored in the fridge and eaten within 2 days.  
<https://www.food.gov.uk/news-updates/campaigns-0/germwatch/science-fsw/leftovers> Accessed 03/01/2018

Similarly, most people surveyed in Wales said that they would only consider reheating leftovers once (83%). Only 8% said that they would reheat food more than once: again, this did not vary with food security status. This was consistent with the results in Northern Ireland, where 6% of people said that they would consider reheating leftovers more than once (Table 54).

Handwashing before cooking or preparing food was equally likely across all groups. 88% of people in Wales (including 82% of people living in low food security, and 88% of people living in high food security) said that they always wash their hands before cooking or preparing food. This was similar to the 88% of people in Northern Ireland who said that they always wash their hands before starting to cook or prepare food (Table 55).

More than half (62%) of people surveyed in Wales said that they always wash raw vegetables before eating them, and 48% said that they always wash raw fruit before eating it. These were also consistent across the different food security statuses. A larger proportion of participants in Northern Ireland (78%) of people surveyed said that they always wash raw vegetables before eating them (Table 56).<sup>55</sup> Participants from Northern Ireland were also more likely (59%) than respondents in Wales to always wash fruit before eating it raw (Table 57).<sup>56</sup>

Most people in Wales (61%) reported that, in line with FSA guidelines,<sup>57</sup> they never wash raw chicken. This was the only food safety behaviour included which varied by food security status.<sup>58</sup> People living in low food security were slightly less likely (31%) than those in high food security (36%) to ever wash chicken and are, therefore, at lower risk of contracting food poisoning due to the decreased risk of cross-contamination. In contrast to Wales, the proportion of people in Northern Ireland (62%) who said they never wash chicken did not vary by food security status (Table 58).

<sup>55</sup> p=0.003

<sup>56</sup> p=0.011

<sup>57</sup> <https://www.food.gov.uk/news-updates/campaigns/campylobacter/fsw-2014> Accessed 03/01/2018

<sup>58</sup> p=0.023



## Discussion

This analysis has provided a more detailed delineation of who is at risk of food insecurity in Wales. Food insecurity in Wales, as we demonstrate, is similar to the food insecurity levels across England and Northern Ireland. Young participants in Wales, just like in England and Northern Ireland are more likely to experience low food security than older people. The proportions of people worrying about running out of food were similar for respondents in Wales, England and Northern Ireland. We have demonstrated that in Wales, England and Northern Ireland, women are at higher risk of experiencing food insecurity. We have also shown that geographical location is associated with food insecurity: those in urban areas are at higher risk than people living in rural areas. In Wales, as well as in England and Northern Ireland people are more likely to worry about food if they also report bad health.

Similarly, to people in Northern Ireland, people in Wales report making changes to their food shopping behaviour when they experience low food security. By the same token, people in both countries report cooking and eating at home more frequently when they are facing food insecurity.

People in Wales differed in terms of their food safety behaviour from their counterparts in Northern Ireland as they were being less likely to wash fruit and vegetables before eating. While few people reported keeping food longer or eating food past its use by date and there were no absolute differences in the proportion who reported these practices by food security status, these practices had increased more among people those living in low food security in Wales and they were more likely than those in high food security to say that they were doing this more frequently in the past 12 months. Other studies have shown a link between

the incidence and severity of foodborne illness with deprivation and socioeconomic status,<sup>59</sup> suggesting that more exploration of the impacts of food insecurity on food safety practices is needed. Targeted messages on the use of leftovers may benefit at risk groups.

This study has shown that low food security is a bigger concern for young people and families than for older people. It is important to note that this study does not explain why there is greater concern among these groups. While it is possible that the difference is fully explained by lower levels of food security among younger people, it is also possible that other factors might contribute to this difference. For example, previous analysis of Food and You data has shown that older people have poorer knowledge of nutrition guidelines than younger people.<sup>60</sup> It might be that younger people are more concerned about their food consumption because they have a better understanding of nutritional requirements. Similar factors might also partly explain the differences between men and women and residents or urban versus rural residents. However, further analysis and expanded datasets would be needed to prove the connection.

As we demonstrate, low food security affects a larger proportion of people who consider their health to be bad or fair than people who consider their health to be good. Therefore, there is a risk that low food security could exacerbate pre-existing health conditions.

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<sup>59</sup> Gillespie, I.A., Mook, P., Little, C.L., Grant, K.A., McLauchlin, J. (2010). Human listeriosis in England, 2001-2007: An association with neighbourhood deprivation. *Euro Surveill.* 15: 7-16.

Rose, T., Adams, N.L., Barr, B., Hawker, J., O'Brien, S.J., Violato, M., Whitehead, M., Taylor-Robinson, D.C. (2017). Socioeconomic status is associated with symptom severity and sickness absence in people with infectious intestinal disease in the UK. *BMC Infectious Diseases.* 17: 447.

<sup>60</sup> Saunders, C., Irdam, D., Draper, A. (2017) Engagement with labelling: informing the Calorie Wise scheme. Retrieved from <https://www.food.gov.uk/sites/default/files/caloriewisepaper.pdf#overlay-context=science/research-reports/ssresearch/foodandyou>

Future research should further engage with the food security questions in the questionnaire. Some important data (such as skipping meals) can be used for further analysis on health outcomes (for example negative outcomes in patients with diabetes and research from the USA<sup>61</sup> shows that food insecurity is linked with poor glycaemic control due to skipping meals). Further research attempts should also look into the connection between food insecurity and wellbeing (again, research from the USA shows that food insecurity negatively impact on both adult and child wellbeing). The consequences of food insecurity are thus broad.<sup>62</sup> They include, but extend beyond food safety risks. As well as the importance of increasing household incomes, the cost of food is vital and should be kept in mind when reforming regulation.

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<sup>61</sup> Heerman W.J., et al (2016). Food insecurity is associated with diabetes self-care behaviours and glycaemic control. *Diabetic Medicine*. 33: 844-850.

<sup>62</sup> Knowles M, et. al. (2016). "Do you wanna breathe or eat?": parent perspectives on child health consequences of food insecurity, trade-offs, and toxic stress. *Maternal and Child Health*. 20: 25-32.

## Appendix

Figures in brackets indicate 95% confidence intervals

**Table 1 Food security status, by country**

<i>Wales, England and Northern Ireland, Wave 4</i>	<b>Wales</b>	<b>England</b>	<b>Northern Ireland</b>
	%	%	%
High food security	74 (70, 78)	80 (77, 82)	78 (74, 82)
Marginal food security	17 (13, 21)	12 (11, 14)	12 (9, 15)
Low food security	6 (4, 9)	5 (4, 7)	5 (3, 8)
Very low food security	3 (2, 5)	3 (2, 4)	5 (3, 8)
<b>Base</b>	<b>492</b>	<b>2105</b>	<b>521</b>

**Table 2 Overall food security status, by country**

<i>Wales, England and Northern Ireland, Wave 4</i>	<b>Wales</b>	<b>England</b>	<b>Northern Ireland</b>	<b>Total</b>
	%	%	%	%
High food security	74 (70, 78)	80 (77.2, 81.7)	78 (74, 82)	79 (77, 81)
Marginal food security	17 (13, 21)	12 (11, 14)	12 (9, 15)	13 (11, 14)
Low food security	9 (7, 12)	8 (7, 10)	10 (7, 14)	8 (7, 10)
<b>Bases</b>	<b>492</b>	<b>2105</b>	<b>521</b>	<b>3118</b>

**Table 3 Overall food security status, by age**

<i>Wales, Wave 4</i>	<b>16 - 34</b>	<b>35 - 64</b>	<b>65+</b>	<b>Total</b>
	%	%	%	%
High food security	56 (45, 67)	76 (70, 80)	93 (87, 96)	74 (70, 78)
Marginal food security	30 (20, 42)	15 (11, 19)	5 (2, 11)	17 (13, 22)
Low food security	14 (8, 24)	10 (7, 14)	2 (1, 6)	9 (7, 12)
<b>Bases</b>	<b>101</b>	<b>236</b>	<b>155</b>	<b>492</b>

**Table 4 Overall food security status, by sex**

<i>Wales, Wave 4</i>	<b>Male</b>	<b>Female</b>
	<b>%</b>	<b>%</b>
High food security	78 (70, 85)	70 (63, 76)
Marginal food security	16 (10, 26)	17 (12, 23)
Low food security	5 (3, 8)	13 (10, 18)
<b>Bases</b>	<b>185</b>	<b>307</b>

**Table 5 Overall food security status, by self-reported health status**

<i>Wales, Wave 4</i>	<b>Good</b>	<b>Fair or bad</b>
	<b>%</b>	<b>%</b>
High food security	77 (72, 81)	65 (56, 73)
Marginal food security	16 (12, 21)	19 (13, 28)
Low food security	7 (5, 11)	16 (10, 24)
<b>Bases</b>	<b>363</b>	<b>129</b>

**Table 6 Overall food security status, by family type**

<i>Wales, Wave 4</i>	<b>Children under 16 in the household</b>	<b>No children under 16 in the household</b>
	<b>%</b>	<b>%</b>
High food security	64 (54, 73)	79 (73, 84)
Marginal food security	25 (17, 37)	13 (8, 19)
Low food security	11 (7, 17)	9 (6, 12)
<b>Bases</b>	<b>125</b>	<b>365</b>

**Table 7 Overall food security status, by urban/rural location**

<i>Wales, Wave 4</i>	<b>Urban</b>	<b>Rural</b>
	<b>%</b>	<b>%</b>
High food security	70 (64, 76)	80 (73, 86)
Marginal food security	18 (13, 25)	14 (9, 23)
Low food security	12 (8, 16)	5 (3, 9)
<b>Bases</b>	<b>313</b>	<b>179</b>

**Table 8 Worry about running out of food, by country**

<i>Wales, England and Northern Ireland, Wave 4</i>	<b>Wales</b>	<b>England</b>	<b>Northern Ireland</b>	<b>Total</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Often true	5 (3, 7)	4 (3, 5)	4 (3, 7)	4 (3, 5)
Sometimes true	15 (12, 19)	13 (11, 15)	14 (11, 18)	13 (11, 15)
Never true	80 (76, 83)	83 (81, 85)	82 (78, 85)	83 (81, 85)
<b>Bases</b>	<b>492</b>	<b>2105</b>	<b>520</b>	<b>3117</b>

**Table 9 Worry about running out of food, by age**

<i>Wales, Wave 4</i>	<b>16 - 34</b>	<b>35 - 64</b>	<b>65+</b>	<b>Total</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Often true	8 (4, 17)	3 (1, 7)	2 (1, 7)	5 (3, 7)
Sometimes true	27 (17, 40)	15 (11, 19)	4 (2, 8)	16 (12, 19)
Never true	65 (53, 75)	82 (77, 86)	94 (90, 97)	80 (76,83)
<b>Bases</b>	<b>101</b>	<b>236</b>	<b>155</b>	<b>492</b>

**Table 10 Worry about running out of food, by sex**

<i>Wales, Wave 4</i>	<b>Male</b>	<b>Female</b>
	<b>%</b>	<b>%</b>
Often true	3 (1, 8)	6 (3, 10)
Sometimes true	13 (8, 20)	18 (14, 23)
Never true	84 (77, 89)	76 (70, 82)
<b>Bases</b>	<b>185</b>	<b>307</b>

**Table 11 Worry about running out of food, by family type**

<i>Wales, Wave 4</i>	<b>Children under 16 in the household</b>	<b>No children under 16 in the household</b>
	<b>%</b>	<b>%</b>
Often true	5 (2, 13)	4 (2, 7)
Sometimes true	23 (16, 34)	12 (9, 17)
Never true	71 (60, 80)	84 (79, 88)
<b>Bases</b>	<b>125</b>	<b>365</b>

**Table 12 Worry about running out of food, by self-reported health status**

<i>Wales, Wave 4</i>	<b>Good</b>	<b>Fair or bad</b>
	<b>%</b>	<b>%</b>
Often true	4 (2, 7)	6 (3, 13)
Sometimes true	13 (10, 18)	23 (17, 31)
Never true	83 (79, 86)	70 (62, 77)
<b>Bases</b>	<b>363</b>	<b>129</b>



**Table 13 Worry about running out of food, by urban/rural location**

<i>Wales, Wave 4</i>	<b>Urban</b>	<b>Rural</b>
	<b>%</b>	<b>%</b>
Often true	6 (3, 9)	3 (1, 6)
Sometimes true	18 (14, 24)	11 (7, 17)
Never true	76 (71, 81)	86 (81, 90)
<b>Bases</b>	<b>313</b>	<b>179</b>

**Table 14 Ran out of food in past 12 months, by country**

<i>Wales, England and Northern Ireland, Wave 4</i>	<b>Wales</b>	<b>England</b>	<b>Northern Ireland</b>	<b>Total</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Often true	2 (1, 3)	2 (1, 2)	2 (1, 6)	2 (1, 2)
Sometimes true	12 (9, 17)	9 (8, 11)	10 (7, 14)	9 (8, 11)
Never true	86 (82, 89)	89 (88, 91)	88 (84, 91)	89 (87, 91)
<b>Bases</b>	<b>492</b>	<b>2105</b>	<b>521</b>	<b>3118</b>

**Table 15 Ran out of food in past 12 months, by age**

<i>Wales, Wave 4</i>	<b>16 - 34</b>	<b>35 - 64</b>	<b>65+</b>	<b>Total</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Often true	2 (1, 7)	2 (1, 6)	1 (0, 4)	2 (1, 3)
Sometimes true	24 (16, 35)	10 (6, 16)	3 (1, 7)	12 (9, 17)
Never true	74 (64, 82)	88 (82, 92)	96 (92, 98)	86 (82, 89)
<b>Bases</b>	<b>101</b>	<b>236</b>	<b>155</b>	<b>492</b>

**Table 16 Ran out of food in past 12 months, by sex**

<i>Wales, Wave 4</i>	<b>Male</b>	<b>Female</b>
	%	%
Often true	1 (0, 5)	3 (2, 6)
Sometimes true	13 (8, 21)	12 (7, 18)
Never true	86 (78, 92)	85 (79, 90)
<b>Bases</b>	<b>185</b>	<b>307</b>

**Table 17 Ran out of food in past 12 months, by self-reported health status**

<i>Wales, Wave 4</i>	<b>Good</b>	<b>Fair or bad</b>
	%	%
Often true	2 (1, 4)	2 (1, 6)
Sometimes true	11 (8, 16)	16 (10, 25)
Never true	87 (83, 90)	81 (73, 87)
<b>Bases</b>	<b>363</b>	<b>129</b>

**Table 18 Ran out of food in past 12 months, by family type**

<i>Wales, Wave 4</i>	<b>Children under 16 in the household</b>	<b>No children under 16 in the household</b>
	%	%
Often true	4 (2, 9)	1 (0, 3)
Sometimes true	13 (8, 20)	12 (8, 18)
Never true	83 (76, 89)	87 (82, 91)
<b>Bases</b>	<b>125</b>	<b>365</b>

**Table 19 Ran out of food in past 12 months, by urban/rural location**

<i>Wales, Wave 4</i>	<b>Urban</b>	<b>Rural</b>
	<b>%</b>	<b>%</b>
Often true	1 (1, 3)	2 (1, 6)
Sometimes true	15 (11, 22)	7 (4, 15)
Never true	83 (77, 88)	90 (84, 94)
<b>Bases</b>	<b>313</b>	<b>179</b>

**Table 20 Could not afford balanced meals, by country**

<i>Wales, England and Northern Ireland, Wave 4</i>	<b>Wales</b>	<b>England</b>	<b>Northern Ireland</b>	<b>Total</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Often true	2 (1, 4)	2 (1, 3)	1 (1, 3)	2 (1, 3)
Sometimes true	10 (7, 13)	8 (7, 10)	11 (8, 15)	8 (7, 10)
Never true	88 (85, 91)	90 (88, 91)	88 (83, 91)	90 (88, 91)
<b>Bases</b>	<b>492</b>	<b>2104</b>	<b>521</b>	<b>3,117</b>

**Table 21 Could not afford balanced meals, by age**

<i>Wales, Wave 4</i>	<b>16 - 34</b>	<b>35 - 64</b>	<b>65+</b>	<b>Total</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Often true	1 (0, 7)	2 (1, 7)	1 (0, 5)	2 (1, 4)
Sometimes true	16 (9, 27)	10 (6, 15)	2 (1, 6)	10 (7, 13)
Never true	82 (72, 89)	88 (83, 92)	97 (93, 98)	88 (85, 91)
<b>Bases</b>	<b>101</b>	<b>236</b>	<b>155</b>	<b>492</b>

**Table 22 Could not afford balanced meals, by sex**

<i>Wales, Wave 4</i>	<b>Male</b>	<b>Female</b>
	<b>%</b>	<b>%</b>
Often true	2 (1, 5)	2 (1, 5)
Sometimes true	7 (4, 11)	13 (9, 18)
Never true	92 (88, 95)	85 (80, 89)
<b>Bases</b>	<b>185</b>	<b>307</b>

**Table 23 Could not afford balanced meals, by self-reported health status**

<i>Wales, Wave 4</i>	<b>Good</b>	<b>Fair or bad</b>
	<b>%</b>	<b>%</b>
Often true	2 (1, 4)	2 (1, 7)
Sometimes true	9 (6, 13)	14 (9, 22)
Never true	90 (86, 93)	83 (76, 89)
<b>Bases</b>	<b>363</b>	<b>129</b>

**Table 24 Ran out of food in past 12 months, by family type**

<i>Wales, Wave 4</i>	<b>Children under 16 in the household</b>	<b>No children under 16 in the household</b>
	<b>%</b>	<b>%</b>
Often true	2 (1, 7)	2 (1, 5)
Sometimes true	14 (9, 20)	8 (5, 13)
Never true	84 (78, 89)	90 (86, 93)
<b>Bases</b>	<b>125</b>	<b>365</b>

**Table 25 Could not afford balanced meals, by urban/rural location**

<i>Wales, Wave 4</i>	<b>Urban</b>	<b>Rural</b>
	<b>%</b>	<b>%</b>
Often true	2 (1, 6)	2 (1, 5)
Sometimes true	13 (9, 18)	6 (3, 11)
Never true	86 (81, 90)	92 (87, 96)
<b>Bases</b>	<b>313</b>	<b>179</b>

**Table 26 Made any change to food shopping or eating behaviour for financial reasons, by food security status**

<i>Wales, Wave 4</i>	<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Made changes for financial reasons	34 (27, 41)	76 (59, 88)	87 (72, 94)	46 (39, 52)
No changes made for financial reasons	66 (59, 73)	24 (12, 41)	13 (6, 29)	54 (48, 61)
<b>Bases</b>	<b>372</b>	<b>68</b>	<b>52</b>	<b>492</b>

**Table 27 Bought more items on special offer in the last 12 months, by food security status**

<i>Wales, Wave 4</i>	<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Not bought more items on special offer	86 (82, 90)	67 (53, 78)	49 (33, 65)	80 (74, 84)
Bought more items that were on special offer	14 (10, 18)	33 (22, 47)	51 (35, 67)	20 (16, 26)
<b>Bases</b>	<b>372</b>	<b>68</b>	<b>52</b>	<b>492</b>

**Table 28 Changed places you buy food for cheaper alternatives, by food security status**

<i>Wales, Wave 4</i>	<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
	%	%	%	%
Not changed the places you buy food for cheaper alternatives	86 (81, 90)	70 (56, 81)	56 (38, 73)	81 (76, 85)
Changed the places you buy food for cheaper alternatives	14 (10, 20)	30 (19, 44)	44 (27, 62)	19, (16, 24)
<b>Bases</b>	372	68	52	492

**Table 29 Changed the food you buy to cheaper alternatives, by food security status**

<i>Wales, Wave 4</i>	<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
	%	%	%	%
Not changed the food you buy to cheaper alternatives	90 (85, 93)	73 (59, 84)	68 (50, 82)	85 (80, 89)
Changed the food you buy to cheaper alternatives	10 (7, 15)	27 (16, 41)	32 (18, 50)	15 (11, 20)
<b>Bases</b>	372	68	52	492



**Table 30 Made any change to food shopping or eating behaviour for financial reasons, by income**

<i>Wales, Wave 4</i>	<b>&lt; £10,399</b>	<b>£10,400 - £25,999</b>	<b>£26,000 - £51,999</b>	<b>&gt; £52,000</b>	<b>Total</b>
	%	%	%	%	%
No changes made for financial reasons	41 (29, 55)	50 (41, 60)	57 (44, 69)	54 (38, 68)	54 (44, 60)
Made changes for financial reasons	59 (45, 71)	50 (40, 60)	43 (31, 56)	46 (32, 62)	46 (40, 56)
<b>Bases</b>	<b>60</b>	<b>148</b>	<b>109</b>	<b>72</b>	<b>492</b>

**Table 31 Made any change to food shopping or eating behaviour for financial reasons, by food security status**

<i>Northern Ireland, Wave 4</i>	<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
	%	%	%	%
No changes made for financial reasons	63 (57, 69)	36 (20, 56)	13 (5, 26)	55 (50, 60)
Made changes for financial reasons	37 (31, 43)	64 (44, 80)	87 (74, 94)	45 (40, 50)
<b>Bases</b>	<b>411</b>	<b>58</b>	<b>52</b>	<b>521</b>

**Table 32 Eaten fewer takeaways, by food security status**

<i>Wales, Wave 4</i>	<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
	%	%	%	%
Not eaten fewer takeaways	90 (86, 93)	75 (60, 86)	56 (40, 71)	85 (79, 89)
Eaten fewer takeaways	10 (7, 14)	25 (14, 40)	44 (29, 60)	16 (12, 21)
<b>Bases</b>	<b>372</b>	<b>68</b>	<b>52</b>	<b>492</b>

**Table 33 Changed food bought to cheaper alternatives, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not changed food bought to cheaper alternatives	95 (90, 98)	85 (71, 93)	54 (37, 69)	90 (85, 93)
Changed food bought to cheaper alternatives	5 (3, 10)	15 (7, 29)	46 (31, 63)	10 (7, 15)
<b>Bases</b>	<b>411</b>	<b>58</b>	<b>52</b>	<b>521</b>

**Table 34 Bought items that were on special offer more, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not bought items that were on special offer more	86 (81, 90)	68 (48, 83)	43 (26, 63)	79 (74, 84)
Bought items that were on special offer more	14 (10, 19)	32 (17, 52)	57 (37, 74)	21 (16, 26)
<b>Bases</b>	<b>411</b>	<b>58</b>	<b>52</b>	<b>521</b>

**Table 35 Eaten at home more, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not eaten at home more	89 (84, 93)	91 (79, 97)	52 (37, 66)	86 (81, 90)
Eaten at home more	11 (7, 16)	9 (3, 21)	48 (34, 63)	14 (10, 19)
<b>Bases</b>	<b>411</b>	<b>58</b>	<b>52</b>	<b>521</b>

**Table 36 Eaten out less, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not eaten out less	91 (86, 94)	81 (68, 90)	61 (41, 77)	87 (82, 91)
Eaten out less	9 (6, 14)	19 (10, 32)	39 (23, 59)	13 (10, 18)
<b>Bases</b>	411	58	52	521

**Table 37 Changed the places you buy food for cheaper alternatives, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not changed the places you buy food for cheaper alternatives	91 (86, 94)	80 (68, 89)	55 (37, 72)	86 (81, 90)
Changed the places you buy food for cheaper alternatives	9 (6, 14)	20 (11, 32)	45 (28, 63)	14 (10, 19)
<b>Bases</b>	411	58	52	521

**Table 38 Eaten at home more, by food security status**

<i>Wales, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not eaten at home more	90 (87, 93)	78 (68, 85)	65 (47, 80)	86 (82, 89)
Eaten at home more	10 (7, 13)	22 (15, 32)	35 (20, 53)	14 (11, 18)
<b>Bases</b>	372	68	52	492

**Table 39 Cooked at home more, by food security status**

<i>Wales, Wave 4</i>	<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
	%	%	%	%
Not cooked at home more	91 (87, 94)	79 (67, 88)	73 (54, 86)	88 (84, 91)
Cooked at home more	9 (6, 13)	21 (12, 34)	27 (14, 46)	12 (9, 16)
<b>Bases</b>	372	68	52	492

**Table 40 Eaten out less, by food security status**

<i>Wales, Wave 4</i>	<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
	%	%	%	%
Not eaten out less	88 (84, 92)	79 (66, 88)	60 (41, 76)	84 (79, 88)
Eaten out less	12 (9, 17)	21 (12, 34)	40 (24, 59)	16 (12, 21)
<b>Bases</b>	372	68	52	492

**Table 41 Made packed lunches more, by food security status**

<i>Wales, Wave 4</i>	<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
	%	%	%	%
Not made packed lunches more	90 (87, 93)	74 (60, 84)	77 (63, 86)	86 (83, 89)
Made packed lunches more	10 (7, 14)	26 (16, 40)	23 (14, 37)	14 (11, 17)
<b>Bases</b>	372	68	52	492

**Table 42 Eaten out less, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not eaten out less	91 (86, 94)	81 (68, 90)	61 (41, 77)	87 (82, 91)
Eaten out less	9 (6, 14)	19 (10, 32)	39 (23, 57)	13 (10, 18)
<b>Bases</b>	<b>411</b>	<b>58</b>	<b>52</b>	<b>521</b>

**Table 43 Made packed lunches more, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not made packed lunches more	90 (86, 93)	72 (53, 85)	83 (65, 92)	87 (83, 91)
Made packed lunches more	10 (7, 14)	28 (15, 47)	17 (8, 35)	13 (9, 17)
<b>Bases</b>	<b>411</b>	<b>58</b>	<b>52</b>	<b>521</b>

**Table 44 Cooked at home more, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not cooked at home more	90 (85, 93)	86 (71, 94)	63 (44, 78)	87 (82, 90)
Cooked at home more	10 (7, 15)	14 (6, 29)	37 (22, 56)	13 (10, 18)
<b>Bases</b>	<b>411</b>	<b>58</b>	<b>52</b>	<b>521</b>

**Table 45 Eaten at home more, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not eaten at home more	89 (84, 93)	91 (79, 97)	52 (37, 66)	86 (81, 90)
Eaten at home more	11 (7, 16)	9 (3, 21)	48 (34, 63)	14 (10, 19)
<b>Bases</b>	411	58	52	521

**Table 46 Kept leftovers for longer before eating, by food security status**

<i>Wales, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not eaten food past its use-by-date more	98 (96, 99)	91 (74, 97)	70 (51, 84)	94 (91, 97)
Eaten food past its use-by-date more	2 (1, 4)	9 (3, 26)	30 (16, 49)	6 (4, 9)
<b>Bases</b>	372	68	52	492

**Table 47 Eaten food past its use-by-date more, by food security status**

<i>Wales, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not eaten food past its use-by-date more	96 (92, 98)	94 (87, 97)	86 (75, 93)	94 (91, 97)
Eaten food past its use-by-date more	5 (2, 9)	6 (3, 13)	14 (7, 25)	6 (3, 9)
<b>Bases</b>	372	68	52	492



**Table 48 Eaten food past its use-by-date more, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not eaten food past its use-by-date more	97 (94, 98)	95 (86, 98)	89 (74, 95)	96 (94, 97)
Eaten food past its use-by-date more	3 (2, 6)	5 (2, 14)	11 (5, 26)	4 (3, 7)
<b>Bases</b>	<b>411</b>	<b>58</b>	<b>52</b>	<b>521</b>

**Table 49 Kept leftovers for longer before eating, by food security status**

<i>Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Not kept leftovers for longer before eating	98 (95, 99)	89 (73, 96)	73 (55, 86)	94 (91, 97)
Kept leftovers for longer before eating	2 (1, 5)	11 (4, 27)	27 (14, 45)	6 (4, 9)
<b>Bases</b>	<b>411</b>	<b>58</b>	<b>52</b>	<b>521</b>

**Table 50 Kitchen appliances available in home, by food security status**

<i>Wales, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Oven	100 (99, 100)	100 (100, 100)	95 (73, 99)	99 (97, 100)
Grill	94 (89, 97)	90 (70, 97)	91 (73, 97)	93 (88, 96)
Hob	96 (92, 98)	94 (84, 98)	88 (69, 96)	95 (91, 97)
Microwave	95 (92, 97)	97 (90, 99)	95 (86, 98)	95 (93, 97)
Kettle	98 (94, 99)	99 (95, 100)	96 (75, 100)	98 (95, 99)
<b>Bases</b>	<b>372</b>	<b>68</b>	<b>52</b>	<b>492</b>

**Table 51 Always check use-by dates when you cook or prepare food, by food security status**

<i>Wales and Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Wales	57 (50, 64)	67 (50, 80)	58 (41, 74)	59 (52, 66)
Northern Ireland	72 (68, 77)	63 (45, 77)	83 (67, 92)	72 (67, 77)
<b>Bases</b>	745	121	103	969

**Table 52 Always check use-by dates when you are buying food, by food security status**

<i>Wales and Northern Ireland, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
Wales	68 (60, 74)	81 (68, 90)	63 (49, 75)	70 (63, 76)
Northern Ireland	75 (68, 81)	76 (61, 87)	76 (61, 86)	75 (69, 80)
<b>Bases</b>	751	121	103	975

**Table 53 If you made a meal on Sunday, what is the last day that you would consider eating the leftovers, by food security status**

<i>Wales, Wave 4</i>	High food security	Marginal food security	Low food security	Total
	%	%	%	%
The same day, always finish or throw away immediately	13 (10, 17)	13 (5, 28)	7 (3, 18)	12 (9, 16)
Monday	36 (30, 44)	47 (31, 63)	44 (29, 59)	39 (33, 45)
Tuesday	30 (24, 36)	32 (19, 48)	39 (23, 57)	31 (27, 36)
Wednesday or later	21 (16, 26)	9 (4, 19)	11 (4, 25)	18 (14, 22)
<b>Bases</b>	372	68	52	492

**Table 54 How many times would you consider reheating food, by food security status**

<i>Wales and Northern Ireland, Wave 4</i>		<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
		<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Wales	Not at all	10 (7, 15)	9 (5, 16)	6 (2, 17)	9 (7, 13)
	Once	8 (75, 86)	91 (84, 96)	87 (72, 95)	83 (78, 87)
	Twice or more	9 (6, 14)	-	7 (2, 23)	8 (5, 11)
Northern Ireland	Not at all	8 (6, 12)	4 (2, 11)	5 (2, 14)	8 (5, 11)
	Once	85 (82, 87)	89 (71, 96)	93 (82, 97)	87 (83, 90)
	Twice or more	6 (4, 9)	7 (1, 31)	2 (0, 16)	6 (4, 9)
<b>Bases</b>	<b>Wales</b>	331	64	49	444
	<b>Northern Ireland</b>	379	55	49	483
	<b>Total</b>	710	119	98	927

**Table 55 How frequently do you wash your hands before starting to prepare or cook food, by food security status**

<i>Wales and Northern Ireland, Wave 4</i>		<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
		<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Wales	Never	1 (0, 3)	1 (0, 6)	1 (0, 10)	1 (0, 3)
	Sometimes	4 (2, 7)	4 (1, 13)	7 (2, 24)	4 (3, 7)
	Most of the time	7 (5, 11)	4 (1, 13)	9 (3, 25)	7 (5, 10)
	Always	88 (82, 92)	91 (82, 96)	82 (65, 92)	88 (83, 91)
Northern Ireland	Never	1 (0, 3)	-	-	1 (0, 2)
	Sometimes	4 (2, 7)	10 (3, 29)	8 (3, 21)	5 (3, 9)
	Most of the time	6 (4, 9)	10 (3, 28)	5 (1, 19)	6 (4, 9)
	Always	90 (85, 93)	80 (62, 91)	88 (73, 95)	88 (84, 92)
<b>Bases</b>	<b>Wales</b>	366	67	52	485
	<b>Northern Ireland</b>	396	55	51	502
	<b>Total</b>	762	122	103	987

**Table 56 Always wash raw vegetables before eating, by food security status**

<i>Wales and Northern Ireland, Wave 4</i>		<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
		%	%	%	%
Wales	Always wash raw vegetables (including salad)	64 (58, 69)	47 (31, 63)	71 (54, 84)	62 (56, 67)
Northern Ireland	Always wash raw vegetables	78 (73, 83)	75 (61, 86)	73 (56, 85)	78 (72, 82)
<b>Bases</b>	<b>Wales</b>	360	65	48	473
	<b>Northern Ireland</b>	384	51	49	484
	<b>Total</b>	744	116	97	957

**Table 57 Always wash raw fruit before eating, by food security status**

<i>Wales and Northern Ireland, Wave 4</i>		<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
		%	%	%	%
Wales	Always wash raw fruit	49 (43, 54)	44 (31, 58)	46 (30, 62)	48 (42, 53)
Northern Ireland	Always wash raw fruit	62 (56, 68)	41 (26, 59)	55 (36, 73)	59 (53, 64)
<b>Bases</b>	<b>Wales</b>	361	67	51	479
	<b>Northern Ireland</b>	394	56	51	501
	<b>Total</b>	755	123	102	980

**Table 58 Never wash raw chicken, by food security status**

<i>Wales and Northern Ireland, Wave 4</i>		<b>High food security</b>	<b>Marginal food security</b>	<b>Low food security</b>	<b>Total</b>
		<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Wales	Never	65 (58, 71)	42 (29, 57)	69 (54, 81)	61 (55, 68)
	Sometimes	9 (6, 14)	7 (3, 19)	6 (1, 24)	8 (6, 12)
	Most of the time	4 (2, 7)	3 (1, 8)	7 (2, 19)	4 (2, 6)
	Always	22 (17, 29)	48 (33, 63)	19 (9, 33)	26 (22, 32)
Northern Ireland	Never	63 (57, 69)	62 (43, 78)	54 (38, 69)	62 (57, 67)
	Sometimes	8 (5, 13)	14 (7, 26)	11 (5, 24)	9 (6, 13)
	Most of the time	4 (2, 7)	1 (0, 6)	11 (4, 28)	4 (2, 8)
	Always	24 (19, 30)	23 (11, 43)	24 (13, 41)	24 (19, 29)
<b>Bases</b>	<b>Wales</b>	337	65	48	450
	<b>Northern Ireland</b>	368	52	49	469
	<b>Total</b>	705	117	97	919

## Authors:

Darja Irdam, Lauren Porter  
NatCen Social Research

Alizon Draper  
University of Westminster

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