Wales Centre for Public Policy
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Poverty and social exclusion: review of international evidence on food insecurity

Irene Bucelli and Abigail McKnight
Centre for Analysis of Social Exclusion, LSE
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Contents

Summary

- Lacking stable access to affordable, good quality food can be extremely damaging to a range of outcomes, entrenching poverty and social exclusion.
- Income levels and volatility, as well as exposure to adverse experiences and ill-health increase households' vulnerability to food insecurity. Younger people, people with disabilities and people with complex needs experience greater risks.
- Food banks and community-based services have become more common, but their effectiveness is limited and they cannot replace policies that tackle the drivers of food insecurity.
- Free or reduced-price meals can ameliorate food insecurity experienced by children and their families, while social security policies play a pivotal role in protection from both personal and macro-economic shocks and in mitigating the severity of food insecurity – but their protective role has been weakened in the past decade.
- There are connections between food insecurity and policy areas covered in other reviews, for instance:
    - **Household debt; Fuel poverty; Transport disadvantage; Affordable housing supply:** Factors that impose heavy demands on household resources (such as housing costs, fuel costs, debts) exacerbate risks of food insecurity.
    - **Neighbourhood environment:** Place-based interventions and regeneration strategies can disrupt informal networks of support that play an important mitigating role for families experiencing food insecurity.
- The review concludes with some promising actions, including:
    - While limitations of community-based interventions should be acknowledged, they can be designed to promote greater service coordination and diversified support. Key challenges with this type of provision are highlighted.
    - Expansion of free school meals should be considered. Actions that can be evaluated (individually or jointly) are: revision of eligibility criteria, universal expansion (including for a selected group), or complementary area-based solutions.

Background

The Wales Centre for Public Policy (WCPP) was commissioned by the Welsh Government to conduct a review of international poverty and social exclusion strategies, programmes and interventions. As part of this work, the Centre for Analysis of Social Exclusion (CASE)[1] at the LSE was commissioned to conduct a review of the international evidence on promising policies and programmes designed to reduce poverty and social exclusion across twelve key policy areas. This report focuses on food insecurity.

The key questions addressed in each of the twelve policy reviews are:

- What effective international poverty alleviation policies, programmes and interventions exist?
- What are the key or common characteristics/standards and features of these different approaches?

The questions are addressed by providing:

- The Welsh context of each policy area and main initiatives being undertaken by the Welsh Government;
- Detailed information on the relationship between the policy area and poverty and social exclusion;
- A summary of evidence of lived experience, which could help to understand how people may experience and respond to policy interventions;
- An overview of the international evidence of policy effectiveness (including case studies); and
- Challenges and facilitating factors associated with policy implementation.

In addition to the twelve policy reviews, we have produced an overview report which summarises the key evidence from each of the individual reviews, highlights connections between different policy areas and reflects on all the evidence to make a number of policy recommendations, or promising actions, within each of the twelve

[1] The Centre for Analysis of Social Exclusion (CASE) at the London School of Economics and Political Science (LSE) was established in 1997. It is a multi-disciplinary research centre exploring social disadvantage and the role of social and public policies in preventing, mitigating or exacerbating it. Researchers at CASE have extensive experience in conducting policy reviews covering evidence in the UK and international literature.

areas. Please refer to the Annex for detail on methodology, including how the twelve policy areas of focus were chosen.

This work forms part of a suite of reports produced by WCPP as part of its work on poverty and social exclusion for the Welsh Government. As well as this work by CASE, there are two reports on the nature, scale and trajectory of poverty and social exclusion in Wales – one focusing on quantitative data and evidence, and a second focusing on lived experience evidence (Carter, 2022a; 2022b). WCPP also commissioned the New Policy Institute to conduct a review of international poverty alleviation strategies (Kenway et al., 2022) which examines overarching governmental approaches to tackling poverty.

Introduction

Food insecurity refers to the limited or uncertain availability of nutritionally adequate and safe foods, or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (USDA, 2020). Food insecurity can affect diet quality in different ways, potentially leading to undernutrition as well as overweight and obesity (FAO, 2020). As a phenomenon, food insecurity is thus multi-dimensional in nature – pertaining to both quantity and quality of food while also encompassing psychological and social aspects experienced by people with low food security.

Four pillars of food security are widely recognised (FAO, 2016):

1. **Availability** (related to the 'supply side' of food security and determined by the national level of food production, stock levels and net trade).
2. **Access** (related to barriers people face in accessing affordable and healthy food, e.g. prices, insufficient incomes, lack of healthy options).
3. **Utilisation** (related to the practices, food preparation, and intra-household distribution of food).
4. **Stability** (related to inadequate access to food on a periodic basis, for instance due to economic factors such as unemployment or rising food prices).

According to the Food Standards Agency (2018), in 2016/17 9% of people in Wales experienced low food security (on a par with England and Northern Ireland) and 74% experienced high food security – lower than in England (80%) and Northern Ireland (78%). In Wales, 20% of people reported being worried about running out of food, with certain groups disproportionately more likely to experience food insecurity. Younger cohorts (16-34 year olds) were the most likely to report being worried about food (35% compared to 18% of 35-64 year olds and 6% of over 65s) and 26% of 16-

34 year olds reported that they ran out of food at some point in the past year (compared to 12% of 35-64 year olds and 4% of over 65s).

Evidence at the UK level shows that **low income, disability and unemployment** are the characteristics more significantly associated with severe food insecurity. The likelihood of low food security increased among low-income adults from 27.7% in 2004 to 45.8% in 2016 and among people with ill-health or disabilities from 37.7% in to 53.5% (Loopstra et al., 2019). Moreover, **food is the most lacked essential for people living in destitution,** which is itself more likely among younger people, people reporting limiting health conditions or disabilities, or people who have complex needs (Fitzpatrick et al., 2021). People with a disability are also disproportionately more likely to be referred to food banks (accounting for 62% of working age people referred), as are families with three or more children (Bramley et al., 2021).

Low-income households are more likely to report changes to their eating or shopping behaviour for financial reasons (FSA, 2018) and disadvantaged children are also more likely to live in households for whom a healthy diet is increasingly unaffordable (SWFPA, 2019). This can contribute to negative health outcomes: the latest data from the Childhood Measurement Programme shows that reception-age children in Wales are significantly more likely than the Welsh average to be obese, if they live in areas of higher deprivation (CMP, 2021). The difference in obesity prevalence between the most and least deprived children has increased from 4.7% to 6.9% between 2015/16 to 2018/19. Those who are most deprived are also less likely to be of healthy weight (69.1%) than the least deprived (78.9%).

Prior to the pandemic, data from the Trussell Trust (2021) show that between April 2019 and March 2020 food banks in Wales provided 134,892 three-day emergency parcels (51,222 for children) – the highest number over the previous five years, increasing from 87,935 parcels in 2014/2015. Importantly, as a strategy of 'last resort', access to foodbanks underestimates the number of people experiencing food insecurity – in the UK, people referred to food banks are a very deprived group, with average household incomes of around 13% of the national average, 95% living in destitution, and 20% being homeless (Bramley et al., 2021). During the pandemic in Wales, emergency food parcels increased to 145,828 between April 2020 and March 2021 (54,217 for children). The increase of 8% in Wales was lower than the UK average (33%) and of that of England (41%).

It is well established that **financial hardship is a key driver of food insecurity** (Food Foundation, 2021; Bramley et al., 2021; SWFPA, 2019; Food Standards Agency, 2018). Poorer households pay proportionally more of their income on essential goods and services compared to those not in poverty but also find it harder to access good value shops, with the result that food contributes significantly to the

poverty premium (Davies et al., 2016). A comparison of the estimated costs of following the UK 'Eatwell Diet' shows that while the richest 50% of Welsh households would need to spend 12.5% of their disposable income to meet the government's dietary recommendation, the poorest half of Welsh households would need to spend 29.5% – a figure that rises to 65.5% for households in the lowest income decile (Scott et al., 2018). While there is evidence that prior to the pandemic the cost of food rose faster than inflation, hitting poorer households particularly hard (SWFPA, 2019), prices have been fluctuating during the pandemic, with a sharp increase at the beginning of lockdown which was then largely reversed (Xaravel and O'Connell, 2021; ONS, 2021). There are also suggestions that food prices will increase in Wales as a consequence of Brexit (The Bevan Foundation, 2020).

Policy context

Different policy strategies and interventions are appropriate to different stages of food insecurity (Hendrick, 2015). These range from preventive strategies that encourage the development of sustainable livelihoods and boost financial resilience at food secure stages in order to protect families from future shocks and risks, to mitigation strategies at food insecure stages, for instance boosting income (e.g. through social protection) in order to protect against consumption reduction. Relief strategies would then be necessary at more acute food insecure stages, for instance providing food and other essentials.

The pandemic saw the introduction of a number of policies that made a difference for low-income households, for instance around free school meals, the £20 Universal Credit (UC) uplift, and the reversal of some conditionality and sanctioning measures. These policies need to be understood in the context of reforms to the UK social security system which have hit some disadvantaged households hard over the past ten years, with a bearing on their risk of experiencing food insecurity (Jenkins et al., 2021). There is evidence showing that the rollout of UC was associated with a 52% increase in demand for foodbanks 12 months after its rollout, compared to 13% in areas where UC had been in place for three months or less (Jitendra et al. 2018).[2]

The five-week wait for the first payment, delays in payments, and paying back benefit-related debt are some of the key issues associated with UC that lead to food insecurity and foodbank use (Bramley, 2021; Perry et al., 2014), but the overall level of UC is also critical. Jitendra et al. (2018) found that only 8% of surveyed recipients

[2] See Cooper and Hills (2021) for a review of the relationship between Universal Credit, austerity and sanctions more widely, and foodbank use.

reported that UC payments were sufficient to cover their basic costs – 5% among those with poor health or a disability.

In recent years the Welsh Government has been active in this policy area, including through the establishment of a Food Poverty Alliance in Wales in 2015 and consultations such as 'Rethinking Food in Wales' in 2018, connecting the food sector to other areas of policy interest such health, well-being, sustainability and economic growth. In 2015, the Welsh Government identified tackling food poverty as one of its Poverty Action Plan priorities. As part of its Child Poverty Strategy (Welsh Government, 2020), around £1m was allocated for projects related to food distribution under a new Voluntary Services Emergency Fund grant scheme; £98,000 was allocated to FareShare Cymru to develop a sustainable mechanism for tackling food poverty and insecurity; and £2m was allocated to support action to tackle food poverty and address food insecurity as part of Brexit preparations. In 2021, the Welsh Government launched a new food poverty and food insecurity grant scheme to support community food organisations and initiatives, open to local authorities, third sector and not-for-profit organisations, with priority for cooperatives and collaborative partnerships.

As a temporary measure within its Coronavirus response, Wales was the first nation to make direct cash payments to families in lieu of free school meals, while the school holiday food programme was extended, free school meals expanded to include children in families with no recourse to public funds and the value of healthy start vouchers increased. The Discretionary Assistance Fund (DAF) was also made temporarily more generous and more accessible (Trussell Trust, 2021).

Relationship to poverty and social exclusion

Food security is commonly conceptualised as being multi-dimensional in nature – pertaining to both quantity and quality of food while also encompassing psychological and social aspects experienced by people with low food security.

Food insecurity has long been identified as a key social determinant of health and is thus a factor that can exacerbate health inequalities (Loopstra et al., 2019). Negative physical health consequences connected to food insecurity include obesity, malnutrition, hypertension, iron deficiency, and impaired liver function (Casey et al., 2001; 2005; Bhattacharya et al., 2004; Gitterman et al., 2015; Thompson et al. 2018; Loopstra, 2018). Food insecurity also has negative consequences on mental health and well-being, causing stress and anxiety for both adults and children (King et al., 2015; Byker Shanks et al., 2020; Loopstra, 2018). Food insecurity has negative

repercussions on cognitive and emotional development and on behavioural and educational outcomes (Walker et al., 2007; Ke and Ford-Jones, 2015; Ralston, 2017). Finally, food insecurity can lead to a lack of food items that allow participation in everyday social activities (e.g. having people over for meals, celebrating occasions), and can lead to conflict within households and isolation from extended family and broader social relations (Hendricks, 2015).

At the same time, poverty, social exclusion and ill-health are themselves drivers of food insecurity. Income has been widely shown to be the most consistent and strongest predictor of risk of food insecurity (Loopstra, 2018). Lack of access to savings and income volatility also increase risks, as do factors that impose heavy demands on household resources such as housing costs, childcare costs, debts, ill-health and food prices. In relation to drivers of food bank need, Bramley et al. (2021) distinguish between direct, immediate drivers such as low levels of income and inadequate social security support, and background drivers, such as adverse life events, ill-health and lack of informal support (e.g. family, friends, local social networks) and formal support (e.g. local public, charitable or independent services). Ill-health (physical or mental) is intertwined with adverse life experiences such as homelessness, family breakdown, domestic abuse, eviction and bereavement, as well as work-related adverse experiences (e.g. job loss or varying working hours). These experiences can increase living costs, negatively affect employment outcomes, and make it more difficult to access social security benefits and sustain claims without specialist support. At the same time, poverty itself increases households' exposure and vulnerability to these experiences.

Intra-household dynamics bear on food distribution in food-insecure households. On the one hand, some members of the household may reduce their food intake – for instance, it is widely recognised that mothers are likely to reduce their own food intake to ensure children have enough food. This is supported by evidence that shows children's dietary intakes are less affected by food insecurity than adults' (Rose, 1999; Rose and Oliveira, 1997) and that food intakes for women in deprived households are sensitive to household resources (Tarasuk et al., 2007; Olson, 2005, DeVault, 1991). Families also adopt coping strategies (further explored in the next section) which may lead them to cut expenditure on other essentials or to get into debt – thus connecting food insecurity to other related outcomes such as fuel poverty and household debts (covered in the other reviews in the series). For instance, there is evidence of 'heat or eat' trade-offs in the UK (Beatty et al., 2014).

Moreover, food has long been acknowledged as a catalyst for physical and psychological violence against women in abusive domestic relationships (Ricks et al., 2016; Breiding et al., 2017). There is also evidence that domestic abuse may lead to food insecurity (Power, 2006): on the one hand, domestic abuse may increase the

risk of food insecurity through denied access or control over household financial resources; on the other hand, economic and food insecurity and the severe stress associated with these may precipitate violence and intra-household conflict. Overall, this area of research suggests the importance of considering food insecurity as one dimension of a more pervasive vulnerability which sees disadvantaged households exposed to a range of physical, mental and social health problems.

Relationship to lived experience of poverty and social exclusion

As highlighted above there are psychological and social aspects that characterise food insecurity. Understanding the lived experience of adults and children living in low food security can highlight the psycho-social consequences of food insecurity as well as reveal barriers people face to accessing support. This is particularly important because programmes and services aimed at improving people's food security may have limited success if users are not inclined (or able) to use them or maintain sustained participation.

Experiences of food insecurity among children and adults are characterised by high levels of stress and anxiety, exclusion from social activities, and shame of being labelled as 'poor' as a result (Thompson et al., 2018; Connell et al., 2005). Families adopt a range of coping mechanisms, largely as a result of financial constraints or shocks affecting their overall financial resilience. These include cutting back food amounts and/or quality, getting into debt, and relying on informal networks (Bramley et al., 2021; Perry et al., 2014). These strategies may still leave families in the position of eating less and having no choice in the food eaten, but are largely preferred to reliance on food banks, the use of which is often highly stigmatised (Connors et al., 2021; Loopstra, 2018; Trussell Trust, 2021; Perry et al., 2014). The stigma and shame associated with food bank use poses a significant question over the extent to which these forms of assistance can address food insecurity, as they largely do not represent a 'socially acceptable' way to acquire food. Other services provided in the context of acquiring food from food banks (e.g. around parenting) may also not be welcome and can be experienced as stigmatising (Thompson et al., 2018).

Qualitative evidence of the experiences of food bank users (Thompson et al., 2018) emphasises users' anxiety related to trying to provide for children, while restricted availability of needed items requires users to navigate the system in order to find what they need. Moreover, non-perishable foodstuffs which is most commonly donated may not help maintain a healthy diet (Garthwaite et al., 2015), while

restricted choice may also leave users unable to cater for their tastes and cultural preferences.

The Coronavirus pandemic has augmented risks of food insecurity; imposed changes to shopping practices (e.g. restricted access to budget options, delivery fees for online shopping, reliance on others to complete shopping activities); and disrupted normal social networks. These impacts may act to complicate food sharing practices that had previously been used as a means of stretching food budgets (Connors, et al., 2020). The pandemic also changed what people eat (as they sometimes had less choice), which impacted on nutritional quality. In a UK-based lived experience study (Connors, et al., 2020) some participants reported being unable to afford the foods they needed to manage their food intolerances.

While new delivery models by food banks have decreased the stigma of physically visiting a food bank, they have also seen many people not accessing services, believing food banks to be closed or experiencing delays to deliveries (Trussell Trust, 2021).

Evidence of policy effectiveness

Intervention	Strength of evidence	Effectiveness
Policies related to food deserts and food swamps	Mixed (strong in relation to impact on health outcomes, limited in relation to food insecurity)	Limited effectiveness
Social protection policies (cash assistance, food subsidies)	Strong	Effective
Food banks and community-based interventions (e.g. 'community cupboards' and 'pantries')	Mixed (scarce in relation to food banks, more robust but still limited in relation to community-based interventions)	Limited effectiveness
Free or reduced-price school meals	Strong	Effective

Of the four food security pillars (availability, access, utilisation and stability), access and stability are particularly important in relation to the contextual drivers of food insecurity, discussed above. General availability of food is largely not an issue in high-income countries. Utilisation requires access as a precondition, but poor dietary quality (e.g. over-consumption of high energy foods, reduced intake of fruit and vegetables, limited diet diversity) can be the result of people's personal knowledge and skills. While there is some evidence – e.g. from the US (Dollhaite et al., 2007) – that programmes aiming to improve low-income families' food selection and resource management skills can decrease the risk of food insecurity, a growing body of evidence from high-income countries such as Canada, Australia suggests that differences in budgeting or food skills are not significant drivers of food insecurity (Loopstra, 2018; Huisken et al., 2017). This is because limited material and financial resources hinder the implementation of healthy eating principles promoted by such interventions (Gallegos, 2016). The literature thus stresses that food literacy programmes can play a complementary role and need to be accompanied by measures to improve access to food to prove more effective (Begley et al., 2019).

In this section we will primarily address policies aiming at facilitating stable access to quality food via: a) policies addressing challenges posed by food deserts and food swamps; b) social protection policies; c) food banks and community-based interventions and; d) free or reduced-price school meals.

Policies related to food deserts and food swamps

Both financial resources and geographical disparities shape access to food. Food deserts are areas which are likely to be inadequately served by (or sufficiently close to) retailers offering affordable, nutritious food. As such, they limit people's access to the food they need and can potentially reduce their food security. Food deserts can lead to households increasing the amount of income spent on transport to access food or having to choose lower quality, cheaper and/or more conveniently accessible food.

There have been a growing number of US-based studies exploring the effects of food deserts on nutrition and health disparities over the past ten years. Living in a food desert has been linked to a poor diet based on consumption of cheap, nutrient poor foods and a greater risk of obesity (Cooksey-Stowers, 2017; Testa and Jackson, 2019). However, robust quasi-experimental and longitudinal studies of initiatives that involve opening healthy food retailers in neighbourhoods where they were lacking have resulted in little or no evidence that this improves diet quality and body mass index (BMI) (Cummins et al., 2014; Olstad et al., 2017; Tseng et. al., 2018; Zhen,

2021). These initiatives may not alter important demand factors that shape people's preferences for less healthy foods, especially prices. To positively impact diet quality and BMI, policies that affect this demand would thus be necessary, e.g. policies that aim to boost household income, reduce healthy-unhealthy food price ratios, extend food subsidies to online shopping (e.g. as piloted with SNAP food stamps in the US, discussed in the following section), and improve education and skills (Zhen, 2021). A number of community-based interventions (further explored below) have also been adopted in many countries (Loopstra, 2018), with programmes providing alternative places to acquire healthy food (e.g. mobile, low-cost healthy food provision, and community provision of spaces to grow food).

Mixed results of policies around food deserts suggest that the impact of introducing healthier foods into a neighbourhood may be limited by the continued accessibility of unhealthy foods (Cooksey-Stowers, 2017). A connected literature explores the effects of food swamps – areas with a high concentration of establishments selling high-calorie fast food relative to healthier food options. The increase in energy-dense, processed food products has contributed to increasing obesity rates over recent decades in many countries – these products have been shown to be cheaper than healthier alternatives and such price differences have been associated with lower likelihoods of a high-quality diet (Kern et al., 2017). A recent Unicef report has warned of the challenges posed by food swamps in the UK (UNICEF, 2019) and while not termed 'food swamps', concerns with the proliferation of unhealthy food outlets in certain areas have been part of the recent UK Government consultation on childhood obesity (DHSC, 2019).

There is international evidence – for example, from the US (Reitzel et al., 2014) and New Zealand (Sushil et al., 2017) – showing that unhealthy food outlets cluster in more deprived areas or in areas with higher concentrations of certain ethnic minority groups. The presence of a food swamp is a stronger predictor of obesity than a food desert and the food swamp effect is stronger in less mobile areas (e.g. where people have limited access to either private or public transport) (Cooksey-Stowers, 2017). These studies suggest that there is a role to be played by the regulation of these outlets, but where affordable, healthy alternatives are not provided this could decrease access to food. Creating buffer zones (e.g. around schools); incentivising the opening of healthy retailers; improving transport services; and increasing access to farmers' markets (including supporting use of food subsidies) are the types of initiatives that have been recommended and whose effectiveness currently needs evaluation.

Social protection policies

There is good evidence that social protection policies, including cash transfers and food-specific social security interventions, such as food subsidies, reduce household food insecurity (Loopstra, 2018) – this is aligned with substantial research on the topic from developing countries (Hidrobo et al., 2018). Simple comparisons between participants and non-participants in these programmes underestimate their effectiveness, because vulnerable households participating in these programmes are more likely to experience food insecurity in the first place – it is thus important to focus on studies accounting for this selection bias.

There is a rich literature on the effects of the US Supplement Nutrition and Assistance Program (SNAP) – the US's largest federal food assistance programme, which provides means-tested benefits via Electronic Benefit Transfer (EBT) card to purchase eligible food in authorised retailers. **The programme is found to be effective in reducing the severity and prevalence of food insecurity** among recipients but does not completely eliminate or prevent it – see Loopstra (2018) for a review. Nord (2012) estimated the ameliorative impact of SNAP in the range of a 20-50% reduction in the prevalence of severe food insecurity. There is also evidence that SNAP has positive effects on child and adult health (Miller and Morrissey, 2017; Keith-Jenkins, 2019).

Schmidt et al. (2016) compared the effects of cash assistance, public health insurance and food assistance (including SNAP but also programmes providing free or subsidised lunches for school children and food packages for pregnant and postpartum women and young children) among lone-parents. They found that both cash and food are effective in reducing food insecurity and found **no evidence that food assistance is more effective than cash programmes**. Case Study 1 explores evidence around the effectiveness of comprehensive poverty strategies in Canada.

In turn there is evidence that social security retrenchment and increased use of sanctioning and conditionality have negative effects on food security. In a cross-comparative study in the EU, Loopstra et al. (2016) found that food insecurity rose in countries which saw low levels of per capita investment in social protection spending following the financial crisis, whereas strong investments in social protection programmes appeared to have a protective effect and insulated these countries from rises in food insecurity in the face of increasing unemployment and declining wages. This is aligned with evidence that found that food insecurity in the UK increased following cuts to social welfare spending (Loopstra et al., 2019; Cooper and Hills, 2021; Jenkins et al., 2021).

Case Study 1. Social security reforms and regional poverty reduction strategy in Canada

Food insecurity has been monitored in Canada since 2005 and some robust studies have examined the effects of social security reforms which took place in 2005 and 2007. A Universal Child Care Benefit was introduced in 2006 and it provided parents with $100 per month per child (under six years). The policy reduced the proportion of respondents reporting food insecurity by 2.4 percentage points, corresponding to around a 25% reduction in the pre-policy level of food insecurity, with effects even greater among low-income and single-headed households (4.3 and 5.4 percentage points respectively). Evaluations of more recent reforms to the Canada Child Benefits (an income-based tax-free financial assistance scheme) also found significant declines in severe food insecurity, especially among low-income households (Brown and Tarasuk, 2019).

A case study of Newfoundland and Labrador shows the impact of a broad poverty strategy on food insecurity (Loopstra et al. 2015). Several reforms took place from 2006 as part of the region's poverty strategy: from housing policies reducing costs of living to incremental increases in minimum wage and changes addressing insufficient income and the financial vulnerability of households receiving income support (e.g. increased generosity; indexation to inflation, enhanced childcare support). Prevalence of household food insecurity declined overall in the region between 2007 and 2011 and it was driven by a dramatic decline among those households receiving social assistance. Even when food insecurity rose overall in 2012, it continued to decline among households receiving social assistance, suggesting that the reforms under the region's poverty reduction strategy had a cumulative effect in improving households' resources and protecting them from food insecurity.

Beside income level, income volatility is also a key predictor of food insecurity (Leete and Bania, 2010). Negative household income shocks may be more damaging for households facing cash-flow or liquidity constraints and asset accumulation can be used as a coping strategy to avoid food insecurity. The importance of liquid financial assets as a protective factor against food insecurity has been shown, for instance, in relation to people with disabilities (Huang et al., 2010). Households vulnerable to food insecurity who rely on social assistance are likely to lack or have limited savings or assets (partly due to eligibility criteria for social assistance support) – something that further exacerbates their vulnerability to food insecurity beyond their income levels.

A subsection of food subsidies target specific groups (e.g. women or children) and supports access to specific products, e.g. fruit and vegetables or essential goods such as milk. Women are often the direct recipients of these vouchers, and this can contribute to distributing resources within the household and ameliorating the risks of some household members accessing less food than others. Moreover, there is evidence that labelling a part of the household budget to a certain use shapes the way in which it is spent (Abeler and Marklein, 2017), and this has been shown in relation to food subsidies, for instance in the US (Hastings and Shapiro, 2018). There is evidence from the US, Europe and New Zealand showing the **positive impact of specific food vouchers on increasing the purchasing and consumption of promoted products among disadvantaged households** (USDA, 2013; An, 2013; Carlson and Neubergern, 2021; Bihan et al., 2012). This is in line with UK evidence on the Healthy Start Programme (Griffith et al., 2018).

Evidence directly addressing the impact on food security is sparser. In a pilot study assessing the impact of fruit and vegetable vouchers among low-income families in France, Buscail et al. (2019) found that the intervention alleviated the food insecurity experienced by participating households. In the US there is evidence that the Special Supplemental Nutrition Programme for Women, Infants and Children has positive effects on food insecurity for both children and mothers (Kreider et al., 2016; Metallinos-Katsaras, 2011; Herman, 2004), as well as indirect evidence showing increases in food insecurity as children age out of the programme (Arteaga et al., 2016). More recent evidence shows that the programme is complementary to SNAP and that joint participation helps reduce food insecurity (Jensen et al., 2019).

There are a range of factors which can limit the effectiveness of these food subsidy programmes (McFadden et al., 2014):

- Low take-up and awareness - which have been shown in relation to particular groups for the UK Healthy Start Programme (Browne et al., 2016);
- Rising food prices eroding voucher value;
- Complex registration procedures;
- Exclusionary eligibility criteria; and
- Supply issues (e.g. distance or low registration among suppliers serving culturally diverse communities).

Food banks and community-based interventions

The effectiveness of food banks and community-based interventions (such as 'community cupboards') in preventing people from going hungry and experiencing severe food insecurity has attracted much attention because many countries (e.g. Canada, the US, Australia as well as many countries in Europe including the UK) have seen an increase of these forms of charitable support.

Loopstra (2018) offers a comprehensive review of the evidence of their effectiveness, noting a lack of robust impact studies. In relation to **food banks**, it appears that while **these services can provide immediate relief for severe food deprivation** (Bazerghi et al., 2016), even among those who make regular use of these services, **a high prevalence of severe food insecurity remains** (Loopstra, 2018). Some in-depth studies illuminate the factors that may explain their limited effectiveness: reliance on donations, lack of resources, limited operating times, nutritional inadequacy of foods provided, and entry requirements all make food banks inherently limited in their ability to meet the needs of households experiencing food insecurity (Bazerghi et al., 2016; Loopstra, 2018). The stigma attached to food bank use (discussed above) further limits access to this form of food provision.

Food bank operations determine the characteristics of the users they serve: for instance, opening hours, eligibility criteria and stigma may prevent usage among those in employment (Loopstra and Tarasuk, 2015). This is also why food bank use substantially underestimates the prevalence of food insecurity and is not a reliable indicator of the nature of vulnerabilities experienced by the larger food insecure population (Loopstra and Tarasuk, 2015). Overall, **food banks do not address drivers of food insecurity** – upstream interventions are necessary to ensure that households have the financial means to meet their basic needs.

In relation to community-based interventions (including community-based kitchens, food boxes, programmes offering food as well as nutrition, budgeting, and lifestyle education), Loopstra (2018) found somewhat more robust but still limited evidence regarding their effectiveness. There is some evidence of benefits among participants – in particular **some of these programmes can mitigate adverse experiences and economic shocks that would further entrench households' food insecurity**. However, there is also evidence that people experiencing deteriorating circumstances often struggle to remain in these community programmes. Overall, **food banks and community-based interventions lack the reach to have a significant impact on the prevalence and incidence of food insecurity on a wide scale** because only a small proportion of the food insecure population is inclined or

able to maintain sustained participation in these programmes. Moreover, increased use of food banks and community-based food programmes among those who receive social assistance signals that the support they receive is insufficient to cover basic needs. There is concern that reliance on these types of relief programmes is accompanied by further cuts to social security spending and social assistance (Tarasuk, et al., 2014), rather than focusing on expanding the coverage and generosity of insufficient safety nets.

Free or reduced-price school meals

Free or reduced-price school meals have been shown to alleviate food insecurity. There is a rich body of international evidence, particularly from the US, that shows positive effects – albeit to a lesser extent than household-level programmes like SNAP (Gundersen et al., 2012) – even when controlling for the fact that children in these programmes experience higher levels of food insecurity. See Ralston (2017) for a review. There are also studies that demonstrate effectiveness indirectly, for instance showing that periods when these programmes are absent see increasing food insecurity among recipients (Huang et al., 2015; Nord and Romig, 2006).

Benefits from these programmes also accrue to others in the households as they free up resources that can help to improve household food security (Bartfeld, et al., 2016). Different levels of food insecurity may see variations in these programmes' ability to make a difference: for instance, in relation to the School Breakfast Programme in the US, Bartfeld and Ahn (2011) found that it succeeded in substantially reducing the risk of marginal food insecurity but no significant results were found in alleviating severe food insecurity. Studies looking at the impact of summer programmes find reductions in food insecurity among participants (Nord and Romig, 2006), but also low participation rates, and therefore less widespread reach than programmes like the National School Lunch Programme (Ralston, 2017). In relation to the impact of these programmes on diet and health outcomes (e.g. obesity rates) some find positive results (Ralston et al., 2017), some find mixed and/or weak results (Gundersen, 2015), and some find short-term benefits but no long-term effects (Oostindjer et al., 2017).

Take-up is an issue for most targeted forms of assistance. Next to a lack of information, stigma has been identified as a barrier to participation for many free or reduced-price school meals (Oostindjer et al., 2017). This is the case for both the National School Lunch Programme and National School Breakfast Programme in the US and a range of solutions to increase participation has been adopted, from shifting delivery to 'breakfast in the classroom', to area-based approaches like the Community Eligibility Provision (see Case Study 2).

Universal free school meals have been shown to increase participation rates, and positive associations have been found particularly between free school lunches and food security, diet quality, and academic performance, while more tentative positive effects have been found on BMI. See Cohen (2021) for a recent systematic review. These effects on participation are consistent with UK studies on extending access to free school meals (Holford, 2015), for instance following the introduction of universal infant free school meals in England and Scotland (Sellen et al., 2018; McAdams, 2016).

Case Study 2: Community Eligibility Provision in the US

Community Eligibility Provision (CEP) allows schools to serve breakfast and lunch at no cost to all pupils. Schools or districts can opt into CEP if 40% or more of students are identified as 'categorically eligible' (e.g. based on participation in SNAP or Temporary Assistance for Needy Families). The programme became available nationwide after being piloted for three years in ten states and the District of Columbia – by 2019, 64.6% of nationally eligible schools adopted the programme.

Robust evaluations have been produced during the piloting period and evidence from the nationwide rollout is emerging. Under the scheme, school meals are reimbursed at a 'free' or at a lower 'paid' rate based on the percentage of eligible students. CEP has been shown to significantly improve participation in the National School Lunch Programme and National School Breakfast Programme (Ruffini, 2021; Hecht, 2020) and is linked to a reduction in students' food insecurity (Hecht et al., 2020; Ralston et al., 2017). A simulation study by Poblacion et al. (2017) demonstrated benefits for household food security too, as CEP increases families' purchasing power. Finally, benefits appear to manifest also for ineligible students – indicating that the programme boosted food security for families who may have needed assistance but were missed by eligibility criteria (Hecht et al., 2020).

Challenges and facilitating factors

A summary of the challenges and facilitating factors relating to food insecurity interventions and their effectiveness in addressing poverty and social exclusion is provided in Table 1.

Table 1: Challenges and facilitating factors

Challenges	Facilitating factors
• Lack of political will and commitment, and a focus on marginal solutions that are unable to address upstream, systematic drivers, present a challenge to effective and long-term amelioration of food insecurity. • Reliance on localised solutions and charitable aid risks creating long-term challenges and institutionalising relationships which are then difficult to unwind, making it harder to move away from these forms of support. • Design features of the social security system, particularly in relation to Universal Credit (e.g. benefit payment delays, benefit advances and connected debt, repayments, sanctions, reductions), fundamentally undermine its protective role in relation to food insecurity. Increased use of food banks and community-based food programmes among those who receive social assistance signals that the support they receive is insufficient to cover basic needs.	• The recent pandemic has catalysed public attention and support, particularly in relation to tackling food insecurity among children. • Coordination and partnerships between a range of services can facilitate the development of diversified support (particularly in relation to housing, mental health, debt relief, and short-term financial assistance). The relationship between food insecurity and health, for instance, is bi-directional and close connection between social support and public health services can facilitate early intervention. • Social networks offer key informal support which many families would be destitute without, demonstrated by findings that Coronavirus-related disruption of these social and informal networks had created the greatest hardship beyond job losses.

- Reducing food insecurity among particularly vulnerable groups can prove challenging because of the intersecting disadvantages these groups experience and the need for coordinated, diversified support.

Conclusion

Lacking stable access to affordable, good quality food can be extremely damaging to a range of outcomes, entrenching poverty and social exclusion. Income levels and volatility, as well as exposure to adverse experiences and ill-health increase households' vulnerability to food insecurity: younger people, people with disabilities and people with complex needs experience greater risks. Food banks and community-based services have become more common, but their effectiveness is limited and they cannot replace policies that tackle the drivers of food insecurity. Free or reduced-price meals can ameliorate the food insecurity experienced by children and their families, while social security policies play a pivotal role in protection from both personal and macro-economic shocks and in mitigating the severity of food insecurity – but their protective role has been weakened in the past decade.

Transferability to Wales

Reforming the UK social security system is beyond Welsh Government powers, but there is a strong evidence base to advocate for change, for instance in relation to Universal Credit design aspects and repayments. Utilisation of available grants (e.g. the Discretionary Assistance Fund), powers over free school meals and Healthy Start Vouchers can mitigate some of the effects of these upstream drivers of food insecurity and decrease households' vulnerability in relation to food insecurity and beyond. Available planning powers are relevant to tackling food swamps.

Promising actions

This section concludes with **promising actions** to consider in the Welsh context as emerging from the analysis of the international literature

1. **Support for food banks and community-based interventions (e.g. 'community pantries', 'community cafes' etc.) should acknowledge their limitations** in terms of reach, wide-scale impact and ability to address drivers of food insecurity. Upstream interventions are necessary to ensure that households have the financial means to meet their basic needs.
    - Localised solutions should **promote service coordination and provide diversified support** (e.g. in relation to housing, mental health, debt relief).
    - Key challenges to tackle are: uneven provision, lack of sustainability, limited operating times, stigma, restrictive eligibility criteria and limited food choice and availability.
2. The **expansion of free school meals** should be considered in light of evidence that universal provision reduces stigma and increases uptake. Restrictive eligibility criteria undermine their role in improving households' overall resources and work incentives. A range of actions can be evaluated in terms of feasibility (individually or jointly), including:
    - **Revising eligibility criteria** that currently exclude a large number of vulnerable households (e.g. maintaining extensions adopted during the Coronavirus crisis).
    - **Adopting universal free school meals,** for a limited age group as in England and Scotland, or for all school-aged children. Complementary **area-based solutions** could also be assessed.

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Annex: Methodology

Definition of poverty and social exclusion

For the purposes of this project it was agreed that a multidimensional concept of disadvantage, including social as well as economic dimensions, would be adopted. The Bristol Social Exclusion Matrix (B-SEM) (Levitas et al., 2007) provides the theoretical structure that underpins the selection of policy areas. The B-SEM uses the following working definition of social exclusion:

> **"Social exclusion is a complex and multi-dimensional process. It involves the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas. It affects both the quality of life of individuals and the equity and cohesion of society as a whole."** (Levitas et al., 2007, p.9).

It is structured around three main domains and ten sub-domains (see Table A1).

Table A1: B-SEM domains and sub-domains

A. Resources:	
A1: Material/ economic resources	Includes exclusion in relation to income, basic necessities (such as food), assets, debt and financial exclusion.
A2: Access to public and private services	Relates to exclusion from public and private services due to service inadequacy, unavailability or unaffordability. The range of services encompass public services, utilities, transport, and private services (including financial services).
A3: Social resources	Reflects an increasing awareness of the importance of social networks and social support for individual well-being. A key aspect relates to people who are separated from their family and those who are institutionalised.

B. Participation:	
B1: Economic participation	Includes participation in employment – which is not only important for generating resources but is also an aspect of social inclusion in its own right. Whether work is a positive, inclusionary experience depends partly on the financial rewards it brings, and partly on the nature and quality of work. Work is understood broadly and includes caring activities and unpaid work.
B2: Social participation	Comprises participation in common social activities as well as recognising the importance of carrying out meaningful roles (e.g. as parents, grandparents, children).
B3: Culture, education and skills	Covers cultural capital and cultural participation. It includes the acquisition of formal qualifications, skills and access to knowledge more broadly, for instance digital literacy inclusion. It also covers cultural and leisure activities.
B4: Political and civic participation	Includes both participation in formal political processes as well as types of unstructured and informal political activity, including civic engagement and community participation.
C. Quality of life:	
C1: Health and well-being	Covers aspects of health. It also includes other aspects central to individual well-being such as life satisfaction, personal development, self-esteem, and vulnerability to stigma.
C2: Living environment	Focuses on the characteristics of the 'indoor' living environment, with indicators of housing quality, inadequate housing and exclusion in the form of homelessness; and the 'outdoor' living environment, which includes neighbourhood characteristics.
C3: Crime, harm and criminalisation	Covers exposure to harm, objective/ subjective safety and both crime and criminalisation. This reflects the potentially exclusionary nature of being the object of harm, as well as the exclusion, stigmatisation and criminalisation of the perpetrators.

Notes: the descriptions of the sub-domains are the authors' understanding of what each sub-domain includes based on Levitas et al. (2007).

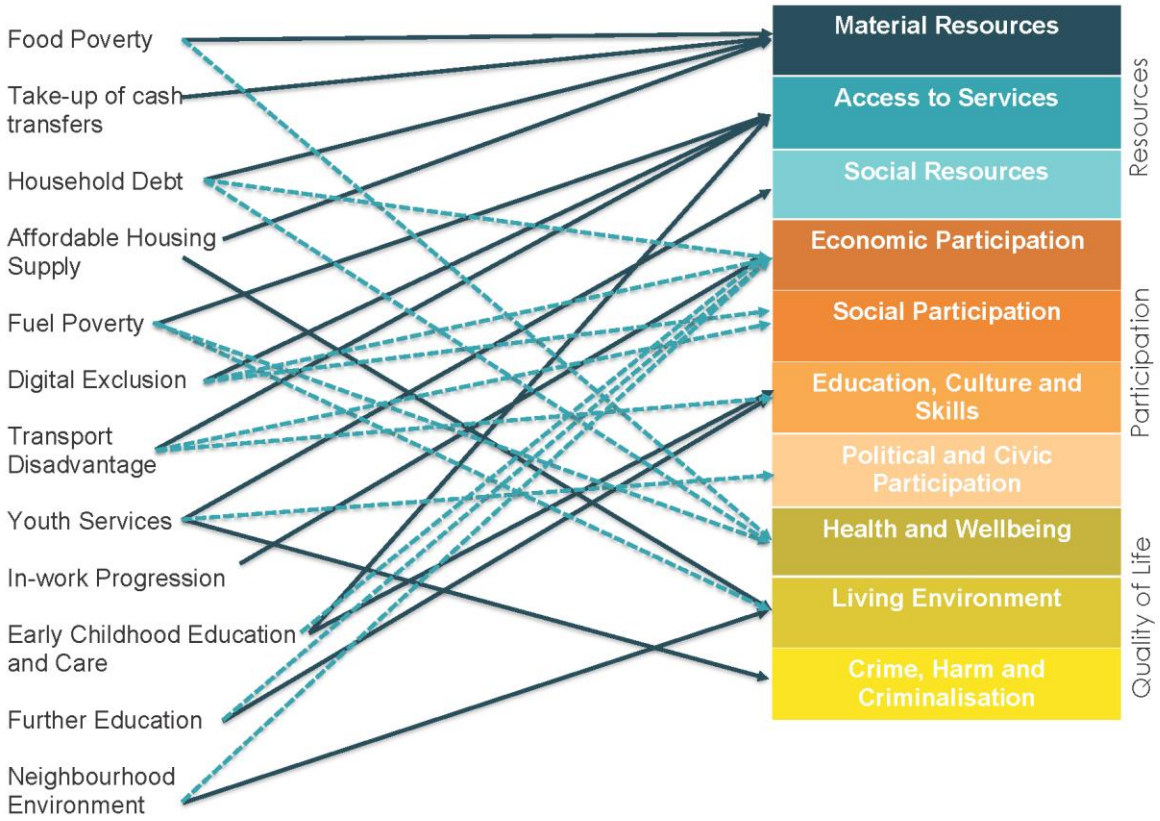
Selection of policy areas

The first step involved the research team identifying a long list of 40 policy areas with reference to the domains and sub-domains of the B-SEM. The long list was, in part, informed by a review of key trends in poverty and social exclusion in Wales, across the ten sub-domains, conducted by WCPP (Carter, 2022a); a consideration of the Welsh Government's devolved powers across policy areas; and meetings with experts. From this long list a shortlist of 12 policy areas was agreed. The shortlisting process took into account advice on priority areas identified by a focus group of experts, but ultimately the final list of 12 policies was selected by the Welsh Government.

The final set of 12 policy areas covers a broad spectrum within the B-SEM, and most are related to more than one sub-domain within the B-SEM (Figure A1). However, the final selection should not be considered exhaustive from a poverty and social exclusion policy perspective. This is because some important policy areas are not devolved to the Welsh Government and, therefore, were not included. For example, while adequacy of social security is a key driver of poverty the Welsh Government currently has no powers to set key elements of social security policy (e.g. rates and eligibility criteria for the main in-work and out of work benefits) and this is the reason why we focus on one aspect of social security, take-up of cash transfers, that the Welsh Government has power to influence.

Another factor was the project's scope and timescales, which limited the selection to 12 policy areas and meant that other important areas had to be excluded (for instance, social care, health care and crime). To make the reviews manageable, it was also necessary to identify a focus for each of the 12 policy areas. The research team identified a focus for each of the reviews on the basis of a brief initial scope of the research evidence and consultation with WCPP who, where relevant, consulted sector and policy experts. This means that there are likely to be additional policies which could be included in a poverty and social exclusion strategy by the Welsh Government *within* the 12 policy areas and *in addition to* the 12 policy areas reviewed.

Figure A1. The selected policy areas mapped to relevant B-SEM sub-domains



Source: prepared by the authors

Notes: The figure outlines the mapping of the 12 selected policy areas to the B-SEM matrix: bold lines show the relationship between each policy area and main B-SEM sub-domain(s), light dotted lines identify selected secondary B-SEM sub-domains the policies are related to (a full list of these 'secondary subdomains' is included in the specific reviews).

Review stages

In the 'evidence of policy effectiveness' section, while it was not possible to produce a full systematic review (although evidence from existing systematic reviews and meta-level analyses were included where available), a structured approach was adopted. This first involved an evaluation of the state of the relevant literature, focusing on whether effectiveness was assessed via methods standardly considered better suited to establish causality (e.g. on the basis of hierarchical grading schemes such as the Maryland Scientific Method Scale (Sherman et al., 1997) or the Oxford Centre for Evidence-Based Medicine's (OCEBM) levels of evidence (Howick et al., 2011) such as randomised controlled trials (RCTs), meta-analyses of RCTs and other quasi-experimental studies. While RCTs are particularly powerful in identifying whether a certain intervention has had an impact in a given context, other forms of evidence, such as quasi-experimental and observational studies with appropriate

controls may be better suited, depending on the type of intervention, to establish the range of outcomes achieved as well as providing an understanding of distributional effects and allowing sub-group analysis (i.e. ‘for whom’ did the intervention work). In the process of assessing evidence, case studies were selected to further elaborate some of the key findings resulting from the review and to identify specific examples of promising policy interventions.

In a few areas, the literature review highlighted a lack of robust evaluations – the reviews underscore this and present the best available evidence found along with an assessment of the strength of the evidence. Where possible, an evaluation of the underlying mechanisms of change was also considered, allowing an explanation of not just whether, but why a certain intervention works, thus also facilitating the identification of challenges and facilitating factors, which is crucial in thinking about not just ‘what’ should be done but also ‘how’ it can best be implemented.

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Author Details

Dr Irene Bucelli is a research officer at the Centre for Analysis of Social Exclusion at the London School of Economics and Political Science.

Dr Abigail McKnight is the Director of the Centre for Analysis of Social Exclusion and Associate Professorial Research Fellow at the London School of Economics and Political Science.

For further information please contact:
Dan Bristow
Wales Centre for Public Policy
+44 (0) 29 2087 5345
info@wcpp.org.uk

Wales Centre for Public Policy
Canolfan Polisi Cyhoeddus Cymru