

Low Income/Income inequalities etc.

- Both mean and median annual pay are lower in Highland than in the UK and Scotland (mean 9.6% lower than UK, median 18.2% lower than UK). In Argyll and Bute median annual pay is lower than in both the UK and Scotland while mean pay is lower than in the UK and similar to the Scottish mean (mean 2% lower than UK, median 16.6% lower than UK). A higher proportion of people in the Highlands and Islands are therefore likely to be in receipt of some form of benefit and/or tax credit.
- People in rural areas such as Highland and Argyll and Bute typically spend 10% – 20% more on everyday essentials than their urban counterparts
- There is an gradient in gross annual income required to achieve the Minimum Income standard, depending on whether people live in urban settings, rural towns, villages or hamlets.
- For those dependent on out of work benefits (even in urban areas) there is already a significant shortfall between Minimum Income Standard and benefit levels.
- Low income, income reduction and income inequalities are associated with a wide range of physical and mental ill health.
- Reductions in income vary health more significantly than increases in income.
- Physical and mental health effects of low income have been identified in children and adolescents as well as adults.

Pay and cost of living

Mean and median incomes are significantly lower in the Highlands than in the UK and Scotland respectively. Mean incomes in Argyll and Bute are similar to the Scottish mean but lower than the UK mean. Median incomes in Argyll and Bute are lower than both the UK and Scottish medians. It is likely, therefore, that a higher proportion of people in the Highlands and Argyll and Bute will be dependent to some extent on benefits or tax credits than populations elsewhere.

Mean and Median annual pay

	<i>UK</i>	<i>Scotland</i>	<i>Highland</i>	<i>A&B</i>
<i>Mean</i>	£21,093	£20,633	£19,059	£20,670
<i>Median</i>	£26,623	£24,563	£21,769	£22,207

(Office for National Statistics 2011)

Estimating the cost of living is a complex process involving combinations of raw costs together with the ways in which households spend income. There is, as yet, no definitive cost of living calculation which can be readily applied to identify regional differences.

Differences can be due to income disparities (for example a wealthy household may spend more on luxury goods while a poorer one concentrates limited resources on buying essentials) or necessity (in an area where services are unavailable locally the household

may have no alternative but to spend more on transport) and are therefore difficult to disentangle.

A series of studies carried from 2001 - 2003 for Highlands and Islands Enterprise examined differences in costs between rural and urban areas and found that, while food and fuel were significantly more expensive in rural than in urban areas, this tended to be balanced by the lower costs associated with housing and with the overall cost of motoring (the benefits of cheaper car insurance outweighing excess fuel costs). (Rural and Environmental Analytical Services, 2009)

However, since 2003, the last year of the study, fuel costs have risen significantly, with no concomitant reductions in other motoring costs. Over the period from 2003 to 2012, general inflation stood at 28% while fuel price inflation was 77.9%

It is likely that differences in the way money is spent, particularly in poorer rural households, mean that the overall cost of living will be higher for poorer families living in rural areas. This reflects the fact that, for those in receipt of housing benefit, additional housing costs are of less consequence because these benefits are already largely tied to actual local housing costs, albeit at the 30th percentile. At the same time, the higher costs of food and fuel are particularly salient because a larger proportion of income is likely to be spent on these items.

Attempts have been made to establish a Minimum Income Standard (MIS), the budget required to cover the cost of a basket of goods and services for a specified household type to meet a minimum socially acceptable standard of living. The MIS was developed for the Joseph Rowntree Foundation in 2008, and there is an ongoing programme of research to maintain the standard.

However the MIS applies to urban settings.

In their paper on rural income Smith et al (2010) say:

“people in rural areas typically spend 10% – 20% more on everyday requirements than those in urban areas. The more remote the area the greater these additional costs” (Smith et al 2010 p1)

Smith et al gave more a more detailed exposition of their costings:

Additional weekly rural costs for four illustrative rural household types, compared with UK MIS: cash difference and rural cost as percentage increase on corresponding urban budget (excluding housing costs and childcare) as at 2010

	<i>Rural town</i>	<i>Village</i>	<i>Hamlet</i>
<i>Pensioner couple</i>	£2.26 1%	£43.00 19%	£48.08 22%
<i>Single working age adult without children</i>	£15.98 9%	£31.92 18%	£41.37 24%
<i>Working-age couple with two children</i>	£46.67 12%	£59.52 15%	£72.20 18%
<i>Lone Parent with one child</i>	£21.98 9%	£33.65 14%	£36.81 16%

(Smith et al, 2010)

They go on to explain that the largest area of disparity lies in fuel costs and in transport, urban-dwellers having better access to public transport while their rural counterparts have to rely on personal transport to a much greater extent.

In terms of MIS this translates as follows:

Gross annual earnings required to meet rural and UK MIS, taking into account tax and in-work benefits and housing and childcare costs (£) as at 2010

	<i>Urban</i>	<i>Rural Town</i>	<i>Village</i>	<i>Hamlet</i>
<i>Single working-age adult without children</i>	14,436	15,644	17,863	18,577
<i>Working-age couple with two children</i>	29,727	37,841	40,073	42,277
<i>Lone parent with one child</i>	12,454	17,773	19,431	19,980

(Smith et al, 2010)

The current benefit level for a single working-age adult without children on income-based Jobseekers Allowance is £7181. This assumes that the person is 40, lives in social rental property at a cost of £50 per week and pays Council Tax for a Band D property in Highland of £872 per annum (after incorporating the 25% Single Occupant Reduction).

The effect is that people who are in receipt of benefits in rural areas such as the Highlands and Argyll and Bute are already likely to be disadvantaged by comparison to their urban counterparts who may receive exactly the same income.

Reductions in household income are, therefore, likely to have more profound effects for those living in rural areas.

The amount people currently receive on benefits, before any reductions, falls far short of the levels set out within the Joseph Rowntree Minimum Income Standards

“among those on basic out-of-work benefits in rural areas, single people get only about one third of the required minimum income, families with children about one half and pensioners are typically 20% short of the minimum.” *(Smith et al 2010, p10)*

Health Impacts of low/reduced income/income inequalities

We know that a variety of social and economic factors play strongly into health at a population level (Cummings et al, 2005) and that, for example, low income and income inequalities are amongst these factors (Gresenz 2001, Martikainen et al, 2003; Mangalore et al 2007; Kondo et al, 2009).

A recent, very large cross-sectional study which covered about a third of the Scottish population and looked at 40 morbidities identified a strong association between deprivation and multimorbidity.

“...Onset of co-morbidity occurred 10 – 15 years earlier in people living in the most deprived areas compared with the most affluent with socioeconomic deprivation particularly associated with multimorbidity that included mental health disorders...”
(Barnett et al, 2006, P1)

The mechanisms by which income affects health appear to be complex.

“At one extreme it could be hypothesised that [the effect of income on health] only reflects the material necessities of life, for example, ability to purchase good nutrition and adequate housing. However, it is also likely that income is a marker of, or leads to, other factors, for example, health related behaviours and psychosocial wellbeing that influence health” (Martikainen et al, 2003, 718)

Bruner and Marmot (2009) postulate the possible biological mechanisms by which psychosocial factors such as stress, financial insecurity, lack of control, social isolation and hopelessness may act to influence a wide range of biological/medical/health conditions including:

- Cardiovascular disease
- Diabetes
- Rheumatoid arthritis
- Infection
- Immunity
- Hypertension
- Growth deficiencies
- Learned helplessness

They conclude that:

“Disturbance of the usual homeostatic equilibrium by the repeated activation of the flight-or –fight response may be responsible for social differences in neuroendocrine, psychosocial and metabolic variables which are the precursors of ill health and disease.” (Bruner and Marmot 2006, P27)

Wadsworth and Butterworth show that the process leading towards ill-health begins during foetal development. Poor grown before birth and in the early months and years can lead to increased incidence of ill health in adulthood including:

- Cardiovascular and respiratory function
- Cognitive function
- COPD
- Schizophrenia
- Psychological function and susceptibility to stress
- Diabetes
- Serum cholesterol in early adulthood
- Atopic disease
- Breast cancer

Socially mediated factors which influence foetal development include:

- Poverty
- Maternal smoking
- Excess maternal alcohol intake
- Drug misuse
- Poor or deficient maternal or child diet. (Wadsworth and Butterworth, 2006)

There is evidence to show that current and permanent income are both associated with differences in self-rated or self-assessed health (Jones and Wildman, 2007). There is also some evidence to show that, between countries or large sub-divisions of countries (such as states within the US) income inequalities are the driving force in creating and maintaining ill-health. (Gravelle and Sutton 2003; Hilderbrand and Van Kerm, 2006, Rowlinson 2011).

However identifying health effects of income inequality are harder to replicate at a smaller area level, such as regions within the UK (Weich et al, 2002). Wilkinson (2000) suggests that people living in poor neighbourhoods have poor health because of inequalities between their neighbourhood and societal norms:

“... people in deprived neighbourhoods do not have bad health because of inequalities within the neighbourhood, but because the whole neighbourhood is deprived in relation to the wider society. In general, as you move from larger to smaller areas, median income becomes a more important predictor and income distribution a weaker predictor of mortality.” Both imply that the burden of low relative income is important and can be measured either within large areas or between economically segregated small areas.” (Wilkinson, 2000).

In their literature review and study of the impact of the 2008 economic downturn in Wales, Elliott et al identified a general picture which showed negative impacts on mental health (including the risk of suicide) and some physical health problems. The physical problems, however, were offset by fewer road deaths and improvements to some health behaviours including smoking, alcohol consumption, physical activity and diet. (Elliott et al 2010)

However, the study looked at the effects of overall economic downturn rather than reduction in incomes *per se*. The effects of economic downturn are likely to be similar only in some elements (insecurity and uncertainty, financial strain) to the effect of income reduction as a result of benefit changes.

In the early years of investigation into linkages between income, income inequalities and health status there was some uncertainty as to whether factors such as low income and income inequalities were the cause of ill health or its effect. In their review of the international literature and subsequent analysis of the British Household Panel Survey, Benzeval and Judge confirmed other studies which find causation as mostly running from low income towards ill-health, though there is also some reverse direction of flow.

They also found that average income over a five year period is more important than current income for all health measures apart from GHQ scores (General Health Questionnaire – a tool for assessing psychiatric distress), that persistent poverty carries a greater health risk than occasional episodes of poverty, that income level and income change are both significantly associated with health (though income level appears more important) and, importantly in terms of relevance to the implications of the Welfare Reform Bill, that falls in income appear to vary health more significantly than increases in income (Benzeval and Judge, 2001). Decreasing household income adversely affects GHQ score and other factors such as divorce and unemployment act to amplify the psychological effects of low financial capacity.

The effects on mental health are exacerbated where people have low levels of financial capability (the ability to manage money in a way that makes ends meet). Larger mental health impacts are associated with financial capability than with household income. (Taylor et al, 2011)

An association between low equivalised household income and the health of children and adolescents has also been identified. Children and adolescents aged 5 – 15 in the lowest income quintile display significantly greater fair/poor overall health and greater prevalence of psychiatric, conduct and emotional disorders than those in the highest quintile (Emmerson et al, 2006).

References:

Office for National Statistics (2011) *2011 Annual Survey of Hours and Earnings*. Office for National Statistics: London

Rural and Environmental Analytical Services (2009) *Review of information sources on the cost of living in rural areas*. Edinburgh: Scottish Government

Smith N., Davis A., Hirsch D. (2010) *A minimum income standard for rural areas*. York: Joseph Rowntree Foundation

Cummings S., Ellaway A., Macintyre S., Marmot M., Stafford M. (2005) Neighbourhood environment and its association with self rated health: evidence from Scotland and England. *Journal of Epidemiology and Community Health*. 59: 207 – 213.

Gresenz C. R., Sturm R., Tang L. (2001) Income and mental health: unraveling community and individual level relationships *The Journal of Mental Health Policy and Economics* 4 197 – 203

Martikainen P., Adda J., Ferrie J. E., Davey Smith G., Marmot M. (2003) Effects of income and health on GHQ depression and poor self rated health in white collar women and men in the Whitehall II study. *Journal of Epidemiology and Community Health*. 57: 718 – 723

Mangalore R., Knapp M., Jenkins R. (2007) Income-related inequality in mental health in Britain: the concentration index approach. *Psychological Medicine*. 37:1037 – 1045

Kondo N., Sembajwe G., Kawachi I., van Dam R. M., Subramanian S.V., Yamagata Z. (2009) Income inequality, mortality and self rated health: meta-analysis of multilevel studies. *BMJ*: 339:b4471 doi:10.1136/bmj.b4471

Barnett K., Mercer S. W., Norbury M., Wyke S., Guthrie B. (2012) Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. *The Lancet* Published online 10th May 2012.

Brunner E., and Marmot M. (2006) Social organisation, stress and health in Marmot M., and Wilkinson G. *Social Determinants of Health (second edition)*. Oxford: Oxford University Press

Wadsworth M. and Butterworth S. (2006) Early Years. In Marmot M., and Wilkinson G. *Social Determinants of Health (second edition)*. Oxford: Oxford University Press

Jones A. M., Wildman J. (2007) Health, income and relative deprivation: Evidence from the BHPS *Journal of Health Economics* 27: 308 – 324.

Gravelle H., Sutton M. (2003) Income related inequalities in self assessed health in Britain: 1979 – 1995. *Journal of Epidemiology and Community Health* 57: 125 - 129

Hilderbrand V., Van Kerm P. (2006) *Income inequality and self-rated health status: evidence from the European Community Household Panel*. Luxembourg: CEPS/INSTEAD

Rowlingson K. (2011) *Does income inequality cause health and social problems?* York: The Joseph Rowntree Foundation.

Weich S., Lewis G., Jenkins S. P. (2002) Income inequality and self rated health in Britain. *Journal of Epidemiology and Community Health* 56: 436 – 441

Wilkinson R. M. (2000) Inequality and the social environment: a reply to Lynch et al. *Journal of Epidemiology and Community Health* 54. 411 – 413

Elliott E, Harrop E, Rothwell H, Shepherd M and Williams G (2010) *Working Paper 134: The impact of the economic downturn on health in Wales: a review and case study*. Cardiff: Cardiff School of Social Sciences

Benzeval M., Judge J. (2001) Income and Health: the time dimension. *Social Science Medicine*. 52 1371 – 1390

Taylor M. P., Jenkins S., Sacker A. (2011) *Financial capability, income and psychological wellbeing*. Colchester: Institute for Social and Economic Research

[Emerson,E.](#); [Graham,H.](#); [Hatton,C.](#) (2006) Household income and health status in children and adolescents in Britain. [European Journal of Public Health](#), 2006, 16, 4, 354-360