A minimum income for healthy living

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Abstract

Background—Half a century of research has provided consensual evidence of major personal requisites of adult health in nutrition, physical activity and psychosocial relations. Their minimal money costs, together with those of a home and other basic necessities, indicate disposable income that is now essential for health.

Methods—In a first application we identified such representative minimal costs for healthy, single, working men aged 18–30, in the UK. Costs were derived from ad hoc survey, relevant figures in the national Family Expenditure Survey, and by pragmatic decision for the few minor items where survey data were not available.

Results—Minimum costs were assessed at £131.86 per week (UK April 1999 prices). Component costs, especially those of housing (which represents around 40% of this total), depend on region and on several assumptions. By varying these a range of totals from £106.47 to £163.86 per week was detailed. These figures compare, 1999, with the new UK national minimum wage, after statutory deductions, of £105.84 at 18–21 years and £121.12 at 22+ years for a 38 hour working week. Corresponding basic social security rates are £40.70–£51.40 per week.

Interpretation—Accumulating science means that absolute standards of living, “poverty”, minimal official incomes and the like, can now be assessed by objective measurement of the personal capacity to meet the costs of major requisites of healthy living. A realistic assessment of these costs is presented as an impetus to public discussion. It is a historical role of public health as social medicine to lead in public advocacy of such a national agenda.

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This study was triggered by the innovation in the UK of a statutory minimum wage. During intensive preliminary discussion of it there was virtually no reference to health needs that such an income should be capable of meeting. We seek to rectify this as a contribution to public health.

Half a century of research has provided consensual evidence of major requisites of adult health, and lower disease and death rates, particularly in nutrition, physical activity and psychosocial relations. These, together with standard attitudes to what otherwise is decent and necessary, can now be recognised as an objective basis for personal health. As yet, however, society has adapted little to this modern knowledge.

We have assessed minimal costs in the UK of such healthy living, selecting single young men, a relatively defined group, to establish the principle and to ease our initial foray into what we foresaw would be a difficult field; and also because they are a national priority of concern.

As will be illustrated, a huge volume of research at population and individual levels has been coalescing on conditions of health and wellbeing, on physiological status, risk factors and the prevention of disease, on morbidity and mortality. Equally remarkable, is the consensus of recommendations on lifestyles for the population at large that is flowing for the first time and with increasing consistency and confidence from this modern knowledge, and the specific guidance that, indeed, is now often given by government itself.1–3 From the perspective of public health, the possibility of meeting these needs should also be a major consideration of officially approved income policies. Be that as it may, there can be no questioning the duty of public health to disseminate the current consensus of scientific evidence—and to begin to price its application.

Methods

We were concerned with single healthy men, 18 to 30 years, living away from their family and on their own. Throughout we sought to identify cautious pragmatic, representative minimal costs per week in the UK. We used several sources. For diet, we used a direct survey. For exercise costs and some other components, we made ad hoc enquiries of official sources to determine inexpensive prices that would meet the defined needs (denoted below by an asterisk).

For most other items, including housing, we used data from the national Family Expenditure Surveys (FES)4–5 1994/5 and 1995/6 on the actual expenditure of households of never-married working men aged 18–30. Our figures are based on the third of such households with the lowest income per person. These 63 households contained an average of 1.17 men/household (range 1–4), and had an average gross income of £159.99/week. We divided mean weekly household expenditure on any particular item by 1.17 to give cost per person.

Finally, for a few minor but essential items, where direct survey data were not available, we agreed a minimal figure based on such information as was available (denoted below by two asterisks). These summed to 4% of the total costs.

Costs have been corrected for inflation since the time of data collection using the apposite...
component of the Retail Prices Index. They are expressed at April 1999 prices.

**NUTRITION, DIET (1)**

There is overwhelming evidence of the role of food and nutrition in the maintenance and promotion of good health, from the avoidance of classic deficiency diseases to the role of antioxidants in the prevention of coronary heart disease and cancer. Consensual dietary guidelines recommend, for example, no more than 35% of total dietary energy from fat; a polyunsaturated/saturated fat ratio >0.45; <10% of dietary energy from non-intrinsic sugars; at least five portions of fruit and vegetables (400 g) excluding potatoes a day; 24 grams of non-starch polysaccharides a day; and two portions of fish a week, one of them oily. In addition, there are dietary reference values for major vitamins and minerals.

We estimated the costs of achieving these recommended intakes by using data from a detailed survey of shops in a very deprived area of London. These costs were assessed for a man of 18–30 years, weighing 69 kg, of average height (1.75 m) and body mass index 22.5. We selected foods that are commonly consumed by low income groups of the general population. Based on data from a deprived area of London, with same groceries purchased from up to 205 local shops (small supermarkets, discount shops, garage forecourts, specialist shops and newsagents), or a local supermarket, April 1999 prices.†See reference 13.

**Total 32.58 25.47**

**Exercise, physical fitness, recreation (2)**

Hopefully, the man will be active and enjoy a lot of walking, in comfortable shoes and away from traffic. Such exercise is rewarding in mental refreshment, in sociality, and weight regulation with its multiple short and long term metabolic benefits. On average, however, at such young ages, walking cannot be vigorous enough to exceed the 50% of maximum oxygen uptake, 65% of maximum heart rate, needed to improve and maintain aerobic health related fitness, wellbeing and multiple physical gains.

A choice of least expensive popular dynamic aerobic recreational sports is therefore budgeted: either jogging or fast cycling, whichever is preferred, on three or more days a week and sustained for at least 20 minutes. Minimal weekly expenditure for trainers, etc or for purchase (annualised) of a reasonably geared lightweight bicycle and its maintenance, plus helmet and kit averages £1.54 a week.**

Swimming vigorously, three times a week, again for spells of at least 20 minutes, is also offered as a further alternative especially in bad weather, and like jogging and cycling, in company if desired. Cost: 3 × £1.60 for enrolled local residents in the London boroughs and provincial cities that we consulted. Budgeted minimally for one week in four, this would come to £1.60/week over the year, including kit.

Muscle strength resistance training (for example, “weights”) could also be encouraged (friends, competition, self image, metabolic gains). But no allowance has been included for it.

Minimal cost therefore averages £3.14/week. These activities should assure adequate regular aerobic exercise, and “listening to the body” with few if any side effects. As with the healthy diet, today’s consensus is also on the need in youth to establish attitudes and habits—here of exercise and fitness—that will matter increasingly as middle age approaches and over the lifetime.

**Housing (3)**

Housing is discussed in *Saving lives,* but in general less attention is being given to the health impact of housing compared with that of other major factors. But its importance is undeniable both for physical protection and psychosocial wellbeing (“home” as well as shelter). Overcrowding, poor cleanliness, and inadequate food preparation facilities predispose to diarrhoea and other communicable diseases, damp and mould are associated with respiratory symptoms, inadequate heating.

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**Table 1 Food, the healthy diet**

<table>
<thead>
<tr>
<th>Local shops</th>
<th>Cheapest local supermarket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread, breakfast cereals, pasta and rice</td>
<td>3.13</td>
</tr>
<tr>
<td>Potato and potato products</td>
<td>1.28</td>
</tr>
<tr>
<td>Fruit</td>
<td>1.80</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1.62</td>
</tr>
<tr>
<td>Meat and poultry</td>
<td>3.41</td>
</tr>
<tr>
<td>Fish</td>
<td>1.39</td>
</tr>
<tr>
<td>Dairy products, eggs, fats</td>
<td>5.61</td>
</tr>
<tr>
<td>Total, food eaten at home</td>
<td>18.24</td>
</tr>
<tr>
<td>Food not consumed (6%)</td>
<td>1.09</td>
</tr>
<tr>
<td>Store cupboard ingredients (FES data)</td>
<td>1.83</td>
</tr>
<tr>
<td>Food and drink consumed outside the home</td>
<td>11.42</td>
</tr>
<tr>
<td>Total</td>
<td>32.58</td>
</tr>
</tbody>
</table>

†Based on data from a deprived area of London, with same groceries purchased from up to 205 local shops (small supermarkets, discount shops, garage forecourts, specialist shops and newsagents), or a local supermarket, April 1999 prices. See reference 13.
with vulnerability to excess winter death; and indoor air is an important source of exposure to solvents, nitrogen oxide, carbon monoxide, asbestos fibres, radon and other pollutants, including biological allergens.3 Noise and poor sound insulation reduce privacy and may have a nuisance impact.

Regrettably, there are few data that allow the (large) cost of housing to be estimated in relation to health criteria. Our figures (table 2) are therefore based on average actual expenditure for the relevant age and income group, but we know that a disproportionate number of low income people live in dwellings of unsatisfactory condition. Some 1.5 million homes are considered unfit for human habitation because of disrepair or inadequate facilities for the hygienic preparation of food.32

Thus, the costs of accommodation meeting required standards for health are likely to be higher than those quoted. Costs are also substantially higher for privately rented than for public housing, and they vary almost twofold across regions. Table 2 figures are therefore overestimates for some and underestimates for others, notably London.

**OTHER COSTS OF LIVING (4)**

The NHS of course provides medical care, and apart from an occasional prescription and the annual dental examination, there are generally no charges. These and other essential living costs are outlined in table 3. Some of the items listed in the table, such as personal care and clothing, have combined importance by both meeting physical needs and contributing to social integration.

**SOCIAL INTEGRATION, SUPPORT NETWORKS**

Lifestyles described in components (1) to (4) have included requisites for “social inclusion”. Conventional, the touchstone of this is work—that is, full time study or a paid job with training. Both demand social interaction, sharing, cooperating.

Some expenses are now specified, table 4, entailed directly in social participation, leading to personal wellbeing, good health—and at the same time to social cohesion, social capital. Group membership, mutual obligations, social roles, communicating, time, merely getting together, may foster emotional growth, emotional and physical health, longevity. A widening range of physiological processes, cardiovascular perhaps most notably, are being associated with this personal-social environment, the most “modern” of the requisites for health and prevention being considered.40–43

“The good life is through love and work.”

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### Table 2 Housing

<table>
<thead>
<tr>
<th>Description</th>
<th>£/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent (including Council Tax and water charges)</td>
<td>£45.54</td>
</tr>
<tr>
<td>Repairs and redecoration</td>
<td>0.09</td>
</tr>
<tr>
<td>Contents insurance</td>
<td>£1.17</td>
</tr>
<tr>
<td>Fuel</td>
<td>£4.11</td>
</tr>
<tr>
<td>Total gross housing costs</td>
<td>52.21</td>
</tr>
<tr>
<td>Average housing and Council Tax benefits</td>
<td>−£4.11</td>
</tr>
<tr>
<td>Total net housing costs</td>
<td>46.80</td>
</tr>
</tbody>
</table>

**Regional** variations from averages of £35.40 (Wales) to £65.83 (Greater London). Data from the Family Expenditure Survey (FES) except insurance.

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### Table 3 Other costs of living

<table>
<thead>
<tr>
<th>Description</th>
<th>£/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health—direct</td>
<td>0.04</td>
</tr>
<tr>
<td>NHS prescriptions</td>
<td>**1.00</td>
</tr>
<tr>
<td>Over the counter medicines and contraceptives</td>
<td>**1.00</td>
</tr>
<tr>
<td>Dental check</td>
<td>0.09</td>
</tr>
<tr>
<td>Holidays</td>
<td>3.22</td>
</tr>
<tr>
<td>Personal care</td>
<td>1.24</td>
</tr>
<tr>
<td>Toiletries, soap, toothpaste, etc</td>
<td>0.25</td>
</tr>
<tr>
<td>Hardressing, etc</td>
<td>4.97</td>
</tr>
<tr>
<td>Clothes and footwear</td>
<td>0.75</td>
</tr>
<tr>
<td>Footwear</td>
<td>2.79</td>
</tr>
<tr>
<td>Household goods and services</td>
<td>2.63</td>
</tr>
<tr>
<td>Equipment, including bedding</td>
<td>0.86</td>
</tr>
<tr>
<td>Cleaning, laundry, repairs, etc</td>
<td>10.27</td>
</tr>
<tr>
<td>Fares on public transport (work and leisure)</td>
<td>10.27</td>
</tr>
<tr>
<td>Savings</td>
<td>**3.00</td>
</tr>
<tr>
<td>Non-state pension contribution (2% of net income)</td>
<td>**2.59</td>
</tr>
<tr>
<td>Total</td>
<td>33.70</td>
</tr>
</tbody>
</table>

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### Table 4 Social, cultural, psychosocial integration

<table>
<thead>
<tr>
<th>Description</th>
<th>£/week</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV rental† and licence</td>
<td>3.80</td>
</tr>
<tr>
<td>Books, magazines</td>
<td>3.33</td>
</tr>
<tr>
<td>Telephone rental and calls</td>
<td>2.24</td>
</tr>
<tr>
<td>Stationery, postage</td>
<td>0.51</td>
</tr>
<tr>
<td>Sports and social club subscriptions</td>
<td>0.40</td>
</tr>
<tr>
<td>Cinema, theatre, concerts, discos etc</td>
<td>2.39</td>
</tr>
<tr>
<td>Sociality at work</td>
<td>**0.20</td>
</tr>
<tr>
<td>Trade Union dues†</td>
<td>**1.91</td>
</tr>
<tr>
<td>Gifts, including charity</td>
<td>**1.00</td>
</tr>
<tr>
<td>Total</td>
<td>13.78</td>
</tr>
</tbody>
</table>

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Data from FES except * and **. †Varies; a low figure.
Questions will arise about some of our inclusions. We are not concerned with subsistence and the waste of human potential that entails. On the other hand, though there are bearings throughout, our treatment of mental health for example is limited; and there are of course other needs for health additional to the cluster we considered.45 Variations of lifestyles by socioeconomic status and ethnicity, too, have been disregarded. All these other factors contribute to observed gradients between income and health.46 47 However, this does not detract from the importance of an absolute minimal income based on health knowledge.

The data assembled could be made more representative (for example, with personal margin) by comprehensive field sample survey, and extended to more complex groups, for example, mothers and children and the elderly. We sought to establish a principle and pragmatically selected a relatively simple case.

Gains in population health may be hoped from such an initiative on unmet needs and inequity, so some reduction of inequalities in health could follow.46–48

Our approach is traditional “public health”49 which traces back also to Rowntree at the beginning of the century,50 to the British Medical Association’s estimates in the 1930s of the cost of a minimum diet “if health and working capacity are to be maintained”,51 and to Boyd Orr’s Food Health and Income.52 There are current official approaches in other countries, for example, the Scottish Office, to minimal acceptable living standards that allow for the cost of the defined healthy diet.53

Society, including social welfare, has been slow in coming to terms with the new health knowledge. (Smoking is a special issue and outwith our terms of reference.) We can now begin to measure standards of living, minimum official incomes, “equality of opportunity”, poverty and the like by the capacity to afford generally accepted and specific essential requisites of healthy living. Assessments such as those attempted here could become an objective non-relative referent. This would be different from the relative assessment of poverty, for example, based on 50% of average income.54 55

It is beyond our remit to consider the practicalities, financial and other, of any such message for social policies. Affordable housing and the availability of food evidently are critical.56 57 And society will of course also require massive efforts in public education and motivation to reap the benefit of such increasing opportunities for choosing health.

For public health to return to its roots as social medicine58: taking positive stock of scientific advance; translating this into standards of living necessary for health; and giving a lead for it in public advocacy for the whole of the population could mark a beginning of its overdue renewal.

We thank the London School of Hygiene and Tropical Medicine’s UK Health Policy Group (chair: Professor M Coleman—a world authority), and are grateful to friends for support and advice. We are greatly obliged to the Low Pay Unit for the data on the National Minimum Wage and Social Security.
A minimum income for healthy living

Contributors
JN designed the study and drafted much of the text. AD and ED contributed the nutrition component, 1; JM, 2 and 5; PW, 3; and DWM, who was also responsible for analysing the RPS and RPI data. 4. All authors shared in the final formulation and text.

Funding: the dietary study was funded by North Thames NHS Executive, ICA 12, who permitted publication of the data on food prices. The Academic Initiative Fund of the London School of Hygiene and Tropical Medicine defrayed running costs.

Conflicts of interest: none.

Addendum
Update of principal figures, June 2000.

Minimum income for healthy living: £136.66 per week.

(Uprated by Retail price index.)

National minimum wage, disposable income: £112.30 pw at 18–21 years. £122.64 pw at 22 years plus. (Uprated for statutory deductions and increase of NMW at 18–21 years by £20 p an hour.)

Jobseeker’s allowance; £41.35 at 18–24 years. £52.20 at 25 years plus.


41 Berkman LF, Syme SL, Wright WC. Social ties and susceptibility to common cold. JAMA 1980;244:258–61.


