INTRODUCTION

Worldwide biomedical and social research has been establishing knowledge on key essentials of health and well-being.\(^1\)\(^2\) In general, this knowledge is inadequately applied in public policies, resulting in avoidable health deficits, waste of human potential and costs to society. Remedial measures plainly are required to improve living and working conditions and create social protection policy supportive of all. Formulation of the evidence into practicable ways of living and the minimal costing of these to society and to the individual is relatively straightforward, and we have so far assembled data on healthy living for two UK population groups: adults of working age and older people. We have then ascertained the minimal personal costs these currently would entail, allowing for certain social provisions. This yielded our evidence-based minimum personal income adequate for healthy living (MIHL), which may now be accepted as a definable social determinant of health and, when deficient, poses risks to health and well-being.\(^3\)

National statistics indicate that 3.6 million adults in the UK are below this defined MIHL. We submit that a national minimum to increase equality of opportunity for the health and well-being of himself and of his family, including food, clothing, housing and medical care, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.\(^4\)

MIHL: principles and methods

Article 25 of the UN Universal Declaration on Human Rights is relevant to our argument for minimum income standards— informed by public-health evidence. Article 25 states:

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.\(^4\)

There are a number of key steps in our approach to MIHL that can be specified.\(^5\)\(^6\)\(^7\)\(^8\)

(i) We formulate our assessment of current best evidence on personal needs in key areas of health for particular population groups.

(ii) This evidence is then translated into ways of living, exploiting available surveys of lifestyle and public opinion.\(^9\)\(^10\)

(iii) Next, we cost these lifestyles minimally in prevalent real-life conditions and allowing for public provisions (e.g. for older people these include free medical prescriptions, government winter fuel allowances and travel passes). Minimum personal costs of all of these are determined from low-price retailers in the high street and where we are unable to do so from the actual expenditure of low-income households.\(^11\)
The evidence on essentials for health

We trawl the scattered modern literature for international and national expert reviews, for the findings of randomized control trials and other research, and, where necessary, depend on our own study of the evidence with wide consultation.

The evidence is strong for application in public policy in many critical areas of human needs including diet and nutrition, physical activity and health care. It is sufficient to allow informed judgement in relation to psycho-social relations.

(iv) Finally, the minimal costs that currently would be entailed to each individual and household unit are assessed, allowing for these social provisions.

Today, we are in a position to formulate and offer an objective epistemologically grounded concept of needs for health, which captures the available biomedical and social research evidence. The basic premise of MIHL is that modern research is providing us with solid knowledge of basic needs for personal healthy living, in nutrition, physical activity, housing, psycho-social relations and social inclusion. The health science is, of course, incomplete. Household expenditure data taken from national social surveys can also be used to define the cost of other basic essentials in the absence of formal health science. Because we are interested in establishing a minimum income for healthy living, we select, when necessary, relevant study population households towards the bottom of the income distribution. Our proposition is that the health knowledge base is sufficient to form a constructive definition of MIHL today. Table 1 describes the basic methodological principles. Following these sequential steps will yield a minimum disposable income required for healthy living; i.e. an MIHL. This, we submit, should be a benchmark for Public Health and for its stance in the formulation of public policy.

Table 1 Methodological principles of MIHL

- Science-evidence base of key essential personal needs for health and well-being.
- Current consensual best evidence of other essentials for healthy, decent participatory living.
- Translation of (1) and (2) into acceptable ways of healthy living for specific populations.
- Assessment of minimal personal costs these would entail.
- Their total is proposed as MIHL for the specific population.
- MIHL is postulated as a benchmark for the health community, and its message for public policy, as a safe minimum standard of living.
- Practical issues arise, e.g. obtaining survey data and estimates from government departments relating to the number of people and households with incomes below MIHL.

In setting the context for MIHL we may be over-simplifying concepts and issues in the research literature that are heavily contested. Two key observations on the literature are critical for our argument. First, there is general agreement that there are basic major human needs for health and well-being. These ‘needs’ in health terms capture elements of cognate approaches to conditions of health in the social sciences—the ‘primary goods’, ‘necessary capabilities’, ‘resources for equality’ and ‘basic goods’. Any such theory of human needs rests on evidence that if needs are not met, significant loss will result. The loss of life due to starvation and malnutrition during a famine serves to illustrate this point. A total of 3 million people died in the Bengal famine of 1943, which has often been described as being ‘man made’. Workers and the poor were unable to secure sufficient food due to social and economic factors, such as declining wages, rising food prices and poor food-distribution systems due to conflict and war. The current knowledgebase underpinning human needs can be further illustrated by the vast international literature on inequalities in health in which low income features prominently.

Universal basic human needs can be distinguished from ‘wants’ that derive from an individual’s particular preferences and cultural environment. Objective harm, both physical and social, usually marks the distinction between needs and mere ‘wants’. We acknowledge this and will not consider ‘wants’ further as we have discussed this at more length elsewhere. Our contribution to this debate will be to argue for a new formulation of health needs for public policy today: needs for healthy living that can be objectively determined and priced. Consideration of need satisfaction leads to a second proposition about how they are met. It is clear that basic human needs can be and are being met in different ways. There is a substantial literature that discusses the satisfaction of human needs within various economic and political systems; the level of welfare that is produced between state, market, non-government organizations
What is required now is an evidence-based approach to the field of needs, to set the foundations for improved working conditions and systems of social protection around the world.

**MIHL in practice**

We have assessed an MIHL for adults and for older people aged ≥65 years. Our initial focus on adults of working age was prompted by the UK government’s institution in 1999 of a statutory National Minimum Wage. We were dismayed by the absence of consideration of such a wage’s capacity to meet obvious and basic needs for health and well-being. There was little, if any, mention of these in Parliament, the health and public policy community generally or the media. The findings in this test case demonstrated that the wage introduced by Government (since substantially increased) was incapable of meeting the cost of our MIHL, i.e. minimally assessed essentials for healthy living (Table 2).

Figures from the national survey of earnings suggest that 800,000 workers in the UK had incomes below our conservative MIHL benchmark (Table 3). A further 1.6 million people who are unemployed and claiming Job Seekers Allowance are living on incomes well below the MIHL (Table 3).

Providing a healthy living wage requires supportive economic and public policy that is based on the costs of meeting health needs and this requires review on a regular basis. Governments, NGOs and research centres should estimate the cost of healthy living for workers in order to calculate healthy living wage levels in each country; including low- and middle-income countries where low labour costs often provides a competitive advantage. Educational attainment is linked to improved health outcomes, partly through its effects on adult income and employment. Public policy initiatives may be required to help the unemployed to gain the education, training and skills that will help them to participate in the workforce. Training opportunities are required that suit the needs of older people who wish to continue in employment.

The second case study deals with older people, living independently in the community in the UK, and free of defined disability, i.e. covering some 60% of the total population aged ≥65 years. This found again that our deliberately economical MIHL (Table 2), allowing of course for the important public provisions was greater than the national Old Age Pension and greater also than the means-tested Government’s official safety net for older people, the Pension Credit Guarantee (PCG; which of course may also have to cover the costs of disability). Neither the Old Age Pension nor the PCG are discernibly based on any assessment of health needs—the prevalent international situation. The MIHL for younger adults is greater than that for older adults (Table 2). In part this may be explained by the public provisions that are available to adults aged >60 in the UK. Older people are entitled to a free bus travel pass but such travel costs are included in the MIHL for younger adults. A free TV licence and winter fuel payments are available to older people in the UK and such provisions have been factored into our MIHL.

Table 2 MIHL components and aggregate costs

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diet/nutrition</td>
<td>36.00</td>
<td>34.50</td>
<td>68.90</td>
</tr>
<tr>
<td>Physical activity: health, fitness</td>
<td>3.90</td>
<td>2.30</td>
<td>4.40</td>
</tr>
<tr>
<td>Housing, a home</td>
<td>64.80</td>
<td>39.10</td>
<td>42.80</td>
</tr>
<tr>
<td>Psychosocial relations, social participation</td>
<td>24.00</td>
<td>23.00</td>
<td>33.70</td>
</tr>
<tr>
<td>Getting about (personal transport)</td>
<td>12.70</td>
<td>3.40</td>
<td>6.80</td>
</tr>
<tr>
<td>Health care</td>
<td>5.40</td>
<td>2.10</td>
<td>4.40</td>
</tr>
<tr>
<td>Hygiene, personal, domestic</td>
<td>1.90</td>
<td>5.10</td>
<td>8.50</td>
</tr>
<tr>
<td>Other costs of healthy social living</td>
<td>14.90</td>
<td>12.60</td>
<td>25.20</td>
</tr>
<tr>
<td>Contingencies, inefficiencies, emergencies</td>
<td>16.40</td>
<td>8.90</td>
<td>13.30</td>
</tr>
<tr>
<td>Total MIHL</td>
<td>190.00</td>
<td>131.00</td>
<td>208.00</td>
</tr>
</tbody>
</table>

*aCalculations include housing cost such as rent and local government council tax payments. Original MIHL estimates have been updated for the movement in prices using the UK Consumer and Retail Price Index.

*bCalculations relate to older people (≥65 years of age) living in the community without defined significant disability; they exclude housing costs such as rent, and local government council tax payments which may be met by local government after means testing.

*cThe few residuals in the UK, dental care.

*dIncluding personal hygiene, household cleaning, laundry and dry cleaning.

*eClothing and household goods.
waste of human potential, with manifest social costs too. People aged $\geq 85$ years, our most rapidly growing age group, are a particular concern.

Universal social protection systems are an important component of public policies that seek to enable healthy living. In low-income countries, developing and expanding social protection systems can be a challenge. We welcome the UN proposal for a universal pension fund. This would guarantee at least a minimum payment to all older people around the world equivalent to the international extreme dollar a day poverty line. The UN report suggests that:

In most contexts, basic non-contributory pension schemes seem affordable, even in low-income countries. A simple numerical exercise under reasonable assumptions suggests that abolishing extreme poverty in old age by providing a basic universal pension equivalent to $1$ per day to all over age 60 would cost less than 1 per cent of gross domestic product (GDP) per annum in 66 out of 100 developing countries... The costs of a basic pension scheme for such countries, despite rapidly ageing populations, are projected to be relatively modest by 2050.52

There is also an urgent need for such basic forms of social security to help protect the world’s poorest children.53 We visualise a more direct statement on the well-being of children in the UK when we come to study MIHL for families with young children.

### Determining essential human needs and costs

Each of the major health needs presented its own complexities in translating the plethora of literature into a practical evidence-based specification that would appeal to policymakers and the general public and satisfy the scientific community. We illustrate the most difficult technical problems from the issues that arise in housing.

Because of years of too little research, decisions here presented the greatest challenge. The evidence is limited and not well focused on relevant aspects of physical, psychological and social well-being, yet decisions are crucial. The long-established Public Health tradition on housing focused on ‘infection’, ‘sanitary issues’, ‘damp’ and ‘space/crowding’—overcrowding for long was a common proxy for poverty in industrial societies.54 We take these aspects for granted.

We considered the evidence sufficient to specify a standard ‘heating regimen’ as a minimum to protect against winter cold.55 Yet for householders $>75$ years of age, who are particularly vulnerable to cold and likely to spend much of their time at home, this is probably too conservative. Initiatives to help improve home ‘energy efficiency’ with Local Authority support

### Table 3 Adults living below the MIHL, UK

<table>
<thead>
<tr>
<th>Job seekers (unemployed) $^a$</th>
<th>Number below MIHL</th>
<th>Population totals</th>
<th>Percent below MIHL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–24</td>
<td>470 000</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>25–49</td>
<td>850 000</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>$\geq 50$</td>
<td>240 000</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Total</td>
<td>1 560 000</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jobs held by people $^b$</th>
<th>Number below MIHL</th>
<th>Population totals</th>
<th>Percent below MIHL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16–17</td>
<td>230 000</td>
<td>340 000</td>
<td>68</td>
</tr>
<tr>
<td>18–21</td>
<td>370 000</td>
<td>1 700 000</td>
<td>22</td>
</tr>
<tr>
<td>$\geq 22$</td>
<td>180 000</td>
<td>23 670 000</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>780 000</td>
<td>25 700 000</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Single pensioners $^c$</th>
<th>Number below MIHL</th>
<th>Population totals</th>
<th>Percent below MIHL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65–84</td>
<td>510 000</td>
<td>2 710 000</td>
<td>19</td>
</tr>
<tr>
<td>$\geq 85$</td>
<td>150 000</td>
<td>610 000</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>650 000</td>
<td>3 330 000</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pensioner couples $^d$</th>
<th>Number below MIHL</th>
<th>Population totals</th>
<th>Percent below MIHL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65–84</td>
<td>480 000</td>
<td>4 000 000</td>
<td>12</td>
</tr>
<tr>
<td>$\geq 85$</td>
<td>60 000</td>
<td>250 000</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>540 000</td>
<td>4 250 000</td>
<td>13</td>
</tr>
</tbody>
</table>

$^a$All numbers have been rounded to the nearest 10 000.

$^b$Estimates relating to the number of job seekers (unemployed) with income below MIHL are based on the number of people claiming Job Seeker’s Allowance during November 2009.50 For an adult aged 25 years without dependants the allowance was £64.30 a week; £50.95 for adults aged 16–25. Rent and local government council tax payments may be paid by local government after means testing.

$^c$Estimates relating to the number of workers with income below MIHL are derived from the 2009 national survey of earnings.51 Our MIHL for adults in work includes allowances for rent and local government council tax.

$^d$Estimates for the number of pensioners below MIHL relate to national household survey data from 2007.51 For pensioners, MIHL excludes rent and local government council tax payments as these costs may be met by local government after means testing.

There are also differences in housing costs to consider. The MIHL for older people does not include allowances for rent and local government council tax but the MIHL for working adults does. Older people in receipt of the PCG may have their rents and local government council tax payments met by local government after means testing. Figures from Government’s main UK-wide general household survey show that about 1.2 million pensioners $>65$ years of age had incomes below our conservative MIHL benchmark (Table 3). On this reckoning, they were below a basic minimum to live healthily and therefore liable to ill-health, disability,
may be expected to achieve a number of important health benefits and to reduce fuel costs for low-income families\(^\text{29}\) (as well as helping to achieve ‘greenhouse gas reduction’ targets). But recent fuel price volatility has emphasized how sensitive and unpredictable fuel expenditure is as a key element of household budgets.

We also considered it important to ensure good ‘maintenance’ and ‘repair’, to help protect against risk of falls, fire,\(^\text{29}\) carbon monoxide exposure\(^\text{36}\) and of heating system failure during the critical periods of cold. This means unavoidable provision for repair work and periodic capital expenditure, and also, in the case of older people, a protective insurance ‘maintenance contract’ that we regarded as essential to cover central heating, other gas and key electrical appliances, plumbing and drains—and thus hopefully to allay anxieties and the familiar crises! Essential adaptations (grab rails, non-slip floors and the like) were not included on the assumption that they would be provided with the support of the Local Authority grants available in the UK. The cost of such provision is difficult to assess: there is little research, the actual experience of pensioners themselves is limited, and expenditure on important items (including building insurance) is often neglected or deferred by families on low income, so that their recorded expenditure is likely to be insufficient. In general, experience of low-income pensioners is too limited to be of help in assessing demonstrable needs for healthy living and inevitably little guide to the costs of maintenance and repair.

The implications are that more research is needed, and that our assessment of costs is surely too low (Table 4 summarizes specific issues relating to housing in later life). Even though the evidence is imperfect, we believe the uncertainties on housing are not so large as to preclude attempts at quantified assessment in the areas we have addressed. The MIHL principle is, we submit, an advance on existing policies—or lack of them—and sufficiently grounded in evidence to support interim specific policy conclusions.

### What could be achieved?

Assessment of the MIHL has several potential uses.

(i) As an evidence-based standard of health for public policies aimed at yielding an adequate minimal disposable income and thereby an operational criterion of poverty and a basic minimum living standard for all.

(ii) As a marker for monitoring a critical driver of inequalities in health.

(iii) To stimulate research on areas where more information on essential needs for healthy living manifestly are required—e.g. in housing, as above, in mental health and of

---

**Table 4**: Housing, a home: older people. Requirements in the assessment of MIHL costs

<table>
<thead>
<tr>
<th>Factor</th>
<th>Basis for inclusion and costing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel costs for heating, lighting, cooking, etc.</td>
<td>Home heating to an adequate level is important to protect against winter/cold-related mortality and morbidity, indoor mould and to address important aspects of psychosocial needs. Many other forms of fuel use are essential (for cooking, washing, refrigeration, food hygiene, lighting). Calculations were based on a standardized heating regimen to maintain minimum acceptable indoor temperatures.</td>
</tr>
<tr>
<td>Water supply and sewerage, etc.</td>
<td>Essential services with (relatively) fixed cost. Assessment of cost based on actual expenditure by low-income pensioner families.</td>
</tr>
<tr>
<td>Service contract for maintenance, breakdown and emergency repairs of heating system, etc.</td>
<td>Included to ensure cover for heating system failure during the critical periods of cold, other important household services and to allay anxieties. Costing based on a maintenance contract offered by major national suppliers for central heating, other gas and key electrical appliances, plumbing and drains.</td>
</tr>
<tr>
<td>Basic repair costs to ensure dwelling fit for a home, to maintain the dwelling fabric and, of course, security</td>
<td>Maintenance and repair are important to protect against failures of structural integrity (rain, damp, structural collapse, etc.), risks of falls and other forms of injury risk, fire and electrical accident, exposure to combustion products from poorly maintained combustion appliances. Costings were based on actual expenditure by low-income pensioner families. But because repairs may often be neglected, two components were also included: (i) actual expenditure on maintenance/repair and (ii) an estimate (from the English House Condition Survey) of the estimated minimal expenditure needed to restore fitness, distributed over a period of 10 years.</td>
</tr>
<tr>
<td>Insurance (dwelling structural and contents)</td>
<td>An item considered essential to protect against major insurable risks. Based on low-cost policies.</td>
</tr>
</tbody>
</table>
course the clinical/social biomedical of the large numbers with disability in our ageing populations.

(iv) To focus policy development on particular aspects of social need debates about components of the MIHL formulation, as illustrated above for housing and by what are acceptable and welcome ways of living, and considering also our diverse populations.

(v) To provide society and the public with a possible strategy for coping with the mounting research evidence on determinants of health.

(vi) To provide a bridge between the Public Health and the Social Science community. Collaboration at present is weak, to their mutual disadvantage.

Being below an MIHL threshold cannot but be a barrier to health, and it is reasonable to claim that if a concept such as the MIHL is not adopted, those below its threshold will be deprived. MIHL would therefore literally be an empowering policy, an upstream measure increasing equality of opportunity for healthy living. Introduction of such an initiative would be unfamiliar, possibly unique,3 and monitoring of direct and indirect population responses would be vital.

Of course, the enabling conditions of healthy living relate to much more than just income; crucial also are education, attitudes and habits from childhood.57 The MIHL policy framework is a necessary but not sufficient condition to promote as well as enable healthy living.58 The national debate that inevitably would precede such a shift in public policy towards health can be expected to have powerful cultural and personal resonance, hopefully raising peoples’ motivation and surely providing multiple opportunities for national, communal and personal education. The policy would be timely in context of rising living costs.

Where can an MIHL be applied?

In low-income settings, markers of health disadvantage such as lack of access to clean water and sanitation and lack of clean household fuels are often transparent. The formulation and costing of minimum essentials for healthy living could therefore be argued to add little to what may already be ample evidence of health disadvantage. However, even in these circumstances, where many are likely to live on incomes below a level necessary for health, an appropriately constructed summative measure of health needs and required income could provide a useful benchmark.39,40 The World Health Organization commission endorses MIHL: ‘such a methodology or similar could be adapted in all countries and used to inform minimum-wage and social-benefit levels...’ and further that ‘there are strong arguments for setting up universal protection systems, even in poor countries’.3

In higher income populations the evidence is more straightforward to derive and apply. But in all settings, the real-life challenge is also to embed the results of an MIHL formulation into population-level social and economic policies. These have also to give consideration to issues of affordability and how particular policies affect the distribution of tax burdens and competing benefits in the population. The specification of minimum income needs ‘for health’ would therefore be a step in addressing important social and ethical goals.

The task ahead

The immediate task for Public Health and the health community in general is to lead in advocating that society seeks to adopt modern knowledge about health needs as the basis for a safe minimum standard of living, covering all of the population. Hopefully there will be many allies in this enterprise.

Acknowledgements

The authors are grateful to their colleagues for information and advice and to David Gordon and referees for critical comments on an earlier version of the article; they are greatly obliged to Jo Semence, Department for Work and Pensions, for the figures for pensioners in Table 3 and for generous guidance and support in the task of reconciling the disparate datasets.

Conflict of interest: None declared.

KEY MESSAGES

- Modern research provides consensual evidence for defining the major personal requirements for health and well-being in nutrition, physical activity, housing, psychosocial relations and social inclusion.
- Minimal costs of these can be assessed to produce an MIHL for specific population groups in different countries and regions.
- Numbers living below MIHL can be estimated using national survey data and official government statistics.
- Public Health, as social medicine, has to engage in such application of knowledge to improve living and working conditions and create social protection policy supportive of all.
References


