“Prevention of obesity and the health divide”.

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Swedish Society of Medicine

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Health inequalities within and between countries
Ten Tips For Better Health – Liam Donaldson, 1999

1. Don't smoke. If you can, stop. If you can't, cut down.
2. Follow a balanced diet with plenty of fruit and vegetables.
4. Manage stress by, for example, talking things through and making time to relax.
5. If you drink alcohol, do so in moderation.
6. Cover up in the sun, and protect children from sunburn.
7. Practice safer sex.
8. Take up cancer screening opportunities.
10. Learn the First Aid ABC: airways, breathing, circulation.
Alternative Ten Tips for Health
David Gordon, Bristol

1. Don't be poor. If you can, stop. If you can't, try not to be poor for long.
2. Don't live in a deprived area, if you do move.
3. Be able to afford to own a car
4. Don't work in a stressful, low paid manual job.
5. Don't live in damp, low quality housing or be homeless
6. Be able to afford to go on an annual holiday.
7. Don’t be a lone parent.
8. Claim all benefits to which you are entitled
9. Don't live next to a busy major road or near a polluting factory.
10. Use education to improve your socio-economic position
Female obesity (aged 16+ years) prevalence by social class 1997-2007: Health Survey for England

Percentage obese (BMI > 30)

Year


I - Professional
II - Managerial technical
IIIN - Skilled non-manual
IIIM - Skilled manual
IV - Semi-skilled manual
V - Unskilled manual
Obesity prevalence according to educational attainment, averaged across 19 EU Member States

(Source: Eurothine 2007 reported in Robertson et al 2007)
Global mean BMI, ages 20+, male, 1980

Source: WHO 2014
Global mean BMI, ages 20+, male, 2008

Source: WHO 2014
Adult Obesity - selected countries
(BMI \geq 30 \text{ kg/m}^3)

Ranked by prevalence in women

- Egypt (2008): 11
- USA (2009/10): 13
- Mexico (2006): 15
- South Africa (2003): 17
- England (2010): 30
- Russia (2000): 48
- Brazil (2003): 85
- Thailand (2004): 102

Source: International Obesity Taskforce, 2012
Obesity Trends* Among U.S. Adults

BRFSS, 1985

(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: CDC 2010
Obesity Trends* Among U.S. Adults
BRFSS, 1997
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: CDC 2010
Obesity Trends* Among U.S. Adults
BRFSS, 2010
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: CDC 2010
Inequalities in childhood obesity are increasing in England:
Obesity prevalence by deprivation decile 2006/7 to 2012/13

Children in Year 6 (aged 10-11 years)

Child obesity: BMI ≥ 95th centile of the UK90 growth reference

National Child Measurement Programme 2006/7 to 2012/13
Psychosocial environment

• Stress and subordination at work
The Iso-strain concept of stress at work

- Socially isolated
  - (no supportive co-workers or supervisors)
- High strain
  - (High demands and low control)
Job strain and subsequent weight change

Odds ratio for weight gain (from Phase 1 to Phase 3)

- **Low strain**
- **High strain**

- **High BMI at baseline**
- **Intermediate BMI**
- **Low BMI at baseline**

**P for interaction job strain x baseline BMI < 0.05**

Odds ratio for weight loss

- **Low strain**
- **High strain**

- **Low BMI at baseline**

Kivimäki *et al.* the Whitehall II study. *Int J Obesity* 2006
ODDS RATIO* OF METABOLIC SYNDROME BY EXPOSURE TO ISO-STRAIN: WHITEHALL II

*Adj. for age, employment, grade and health behaviours

Chandola, Brunner & Marmot, BMJ, 2006
Effort-reward imbalance and incident type 2 diabetes in the Whitehall II-Study (odds ratios#; N=8067, mean follow-up: 12.5 years)

# adjusted for age, employment grade, ethnic group, length of follow up, ECG abnormalities, family history of diabetes, BMI, height, SBP, exercise, smoking, life events

Psychological distress and subsequent obesity: Whitehall II study

Model A: adjusted for age, sex and BMI at phase 1, Model B: additionally adjusted for ethnicity, marital status, socioeconomic position, smoking, alcohol intake, physical activity, systolic blood pressure, diastolic blood pressure, total cholesterol, diabetes, coronary heart disease, and use of psychotropic drugs at phase 1

Kivimaki et al, BMJ, 2009

Number of times GHQ case (measure of psychological distress) at phases 1, 3, and 5

Kivimaki et al, BMJ, 2009
• City of Baltimore in the US state of Maryland is marked by stark inequalities.
• LeShawn, has grown up in the Upton/Druid Heights neighbourhood in Baltimore’s inner city.
• Bobby has grown up in Greater Roland Park/Poplar.
• Life expectancy in Upton/Druid is sixty-three; in Roland Park, eighty-three.
LeShawn Baltimore Upton/Druid

- Half are single parent families.
- Median household income in 2010 was $17,000.
- Four out of ten under ‘proficient’ reading third grade.
- >50% missed at least 20 days of high school a year.
- 90% did not go on to college.
- Each year, a third aged 10-17 arrested for ‘juvenile disorder’. A third each year: criminal record by 17.
- In 2005 to 2009, 100 non-fatal shootings for every 10,000 residents, and nearly forty...
Bobby Baltimore: Roland Park

- 93% two-parent families
- Median income $90,000
- 97% achieve ‘proficient or advanced’ in third grade reading
- Only 8% missed twenty days a year of high school
- 75% complete college
- Juvenile arrests one in fifty each year
- No non-fatal shootings in 2005–2009; four homicides per 10,000
Jimmy, Calton, Glasgow

• Born in Calton: unstable home, trouble in school, delinquency problems led to trouble with the police as a teenager.
• Jimmy enrolled in an apprenticeship but dropped out;
• Never had a ‘proper’ job - short-term temporary manual work.
• Any money Jimmy gets goes into drink and drugs;
• Diet of pub food, fast food and alcohol.
• A series of short-term girlfriends, but alcohol-fuelled violent behaviour.
• He is known to the police for his various gang-related violent activities.
• It is men like Jimmy who can expect to live shorter lives than men in India.
Gita, Ahmedabad, India

- Sells vegetables on the street
- No formal education, lives in an ‘informal settlement’ (a slum made of makeshift housing)
- Has two children who sit with her by the roadside as she sells her vegetables,
- An older girl helps with the vegetable trade.
- Gita takes out short-term loans, at 20 per cent a month interest, to buy vegetables from the middle man in the wholesale market.
- Her husband is a migrant worker who is living in another state and sends a few rupees back each month.
- Time for her daughter, aged fourteen, to marry, and instead of paying off her debts Gita put money into a dowry and a wedding party
“What links Jimmy and Gita is disempowerment. They simply have little control over their lives. This disempowerment is linked to ranking low in the social hierarchy.”

“Yet the evidence shows that this is far from hopeless.”
Life expectancy and disability-free life expectancy (DFLE) at birth, males by neighborhood deprivation, England, 1999–2003 and 2009-2013
Life expectancy at birth for men and women in the US, 2008

<table>
<thead>
<tr>
<th>Years of education</th>
<th>White women</th>
<th>Black women</th>
<th>White men</th>
<th>Black men</th>
</tr>
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<tbody>
<tr>
<td>&lt;12</td>
<td>73</td>
<td>73</td>
<td>67</td>
<td>66</td>
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<tr>
<td>12</td>
<td>78</td>
<td>74</td>
<td>72</td>
<td>68</td>
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<tr>
<td>13-15</td>
<td>82</td>
<td>80</td>
<td>79</td>
<td>74</td>
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<tr>
<td>16+</td>
<td>83</td>
<td>81</td>
<td>81</td>
<td>75</td>
</tr>
</tbody>
</table>

Source: Olshansky et al, Health Aff. 2012
All-cause mortality, ages 45–54 for US White non-Hispanics, US Hispanics and 6 comparison countries:

US White non-Hispanics (USW), US Hispanics (USH), France (FRA), Germany (GER), United Kingdom (UK), Canada (CAN), Australia (AUS), Sweden (SWE).

Case & Deaton, PNAS, 2015
Odds Ratio

High Grade  Intermediate  Low Grade

Fast food chains more common in deprived areas: England and Scotland

Mean number of fast food outlets* per 100000 people

Index of multiple deprivation quintile

(*McDonald’s, Burger King, KFC and Pizza Hut)

Macdonald et al 2007
Lifestyles and eating: England

- Only 18% of people have one or more meals a day at their table;
- Nearly two thirds of people eat at their table less than once a week;
- 30% of households use their table for meals barely a few times a year;
- 3% have no table.
Accumulation of positive and negative effects on health and wellbeing

Perpetuation of inequities
Soda Market Sales Forecast By Region

Source: Euromonitor International

Bloomberg Business
Fair Society, Healthy Lives: 6 Policy Objectives

A. Give every child the best start in life
B. Enable all children, young people and adults to maximise their capabilities and have control over their lives
C. Create fair employment and good work for all
D. Ensure healthy standard of living for all
E. Create and develop healthy and sustainable places and communities
F. Strengthen the role and impact of ill health prevention
<table>
<thead>
<tr>
<th>SDH</th>
<th>Risk factor</th>
<th>Alcohol Misuse</th>
<th>Obesity</th>
<th>Smoking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Years</td>
<td></td>
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<td>E.g. Universal free school meals.</td>
<td>E.g. improved access to early years education.</td>
</tr>
<tr>
<td>Education and Skill Development</td>
<td>E.g. Reducing the number of young people not in education or employment</td>
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<tr>
<td>Employment and Work</td>
<td>E.g. Managing stress at work.</td>
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<td></td>
<td>E.g. Develop pathways to work.</td>
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<tr>
<td>Communities and Places</td>
<td>E.g. Reducing environmental inequalities.</td>
<td>E.g. Planning walkable neighbourhoods.</td>
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<td>E.g. Increase exposure to green space.</td>
</tr>
<tr>
<td>Standard of living</td>
<td></td>
<td>E.g. Minimum income for healthy diet.</td>
<td></td>
<td>E.g. Tackle debt issues.</td>
</tr>
<tr>
<td>Prevention and Regulation</td>
<td>E.g. Reducing crime and fear of crime.</td>
<td>E.g. Reducing salt and fat content in processed foods.</td>
<td></td>
<td>E.g. Fire fighters in the community.</td>
</tr>
<tr>
<td>Equality and Health equity</td>
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</tbody>
</table>
Typology of multi sectoral action on NCDs

- **NCD-Sensitive Actions on Social Determinants**
  - e.g. education, employment, social protection, healthy places

- **NCD-Specific Actions on Social Determinants**
  - e.g. alcohol/sugar taxes

- **Expanding Delivery Platforms**
  - e.g. settings – schools, workplaces

Source: Bell, Lutz, Webb & Small, UNDP 2013
• WORKFORCE EDUCATION AND TRAINING
• WORKING WITH INDIVIDUALS & COMMUNITIES
• WORKFORCE INSTITUTIONS - the role of the NHS as an employer
• WORKING IN PARTNERSHIP
• WORKFORCE AS ADVOCATES
Do something
Do more
Do better