Health and wellbeing

health improvement, health services and health inequalities papers from the SA/SEA of the draft further alterations to the London Plan

prepared for the Greater London Authority and the London Health Commission

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1. Executive summary

1.1 The projected growth in population and the associated need for housing, employment, transport infrastructure and social infrastructure in and around London offer a massive opportunity to create bold new places that blend into, and knit together, the built and the social fabric of the capital. History shows us two clear opportunities when London has had the chance to rebuild and to rethink itself: after the Fire of London in 1666 and after the Second World War. On each occasion Central or Metropolitan London was rebuilt but not rethought and London's urban fabric stagnated (1).

1.2 The London Plan (2), which sets the strategic framework for all development in London, is currently being updated (3). As with all spatial plans in England it is subject to a joint Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA).

- SA is a requirement of the Planning & Compulsory Purchase Act 2004 (4); and
- SEA is required by European Directive 2001/42/EC (5).

1.3 Figure 1 shows the headline findings from the SA/SEA.

1.4 The SEA Directive is very important for health as it explicitly requires the consideration of the likely *significant* effects on *population* and *human health* (5). Health issues arising from the alterations to the London Plan were looked at as part of this wider SA/SEA process. There is also a discrete objective on health and wellbeing. We did not conduct an autonomous Health Impact Assessment (HIA) of the draft further alterations to the London Plan.

1.5 This report provides an account of the health input to the Sustainability Appraisal and Strategic Environmental Assessment (SA/SEA). This health input was funded by the Greater London Authority. The London Health Commission funded the evidence review in section 3 and 4.

1.6 Ben Cave Associates provided the specialist health input. Forum for the Future (FfF) conducted and managed the wider SA/SEA. FfF and Ben Cave Associates worked as a single team for the GLA.

1.7 The full SA report is available on www.london.gov.uk and, like the draft further alterations, is open to consultation until 22nd December 2006.

Figure 1

In the face of the predicted development for London over the timeframe of the Plan, the GLA is presented with both a huge challenge and a real opportunity to transform Greater London into *an exemplary, sustainable world city*. History, and contemporary experience, shows us that development places enormous pressure on the environmental and social fabric of London. The London Plan sets a framework for London to develop in a way that not only maintains, but increases, quality of life for *all* Londoners.

The Sustainability Appraisal concluded that the alterations will help avoid many of the adverse impacts on carbon dioxide emissions, biodiversity, health and wellbeing, equality and diversity, and waste recycling and disposal.

The draft Further Alterations to the London Plan refines the London Plan. It ensures that the spatial development strategy sets the framework within which London's economic, social and environmental conditions continue to move in the right direction.

The Sustainability Appraisal concludes that the greatest improvements will be felt in transport and accessibility, the legacy of the 2012 Olympic and Paralympic Games, improved safety and security, the built environment, mitigating climate change, and the way in which the Plan is delivered across the sub-regions.

From the Non-Technical Summary to the SA of the draft alterations to the London Plan (6)

1.8 It is important to note that this report is, in many respects, a historical document. We refer the reader at all times to the full SA report submitted to the GLA (6;7) and accompanying

the draft further alterations to the London Plan (3). The full SA report shows how the recommendations of the SA team, and of this health input, have been acted upon.

1.9 In this report we present the papers that were submitted to the Greater London Authority and we document the consultation held in the process of providing health input to the SA/SEA. The SA team worked closely with the policy authors: this meant that sustainability and health issues were considered as the policies were drafted.

Headline findings

1.10 In brief we conclude the following

- The new policies provide a clear vision for London and for people living and working in London.
- The new objective on health inequalities is welcomed. As a result of the SA the London Plan will now monitor health inequalities. Health inequalities need to be consistently followed throughout the whole Plan and addressed at regional, sub-regional, local and neighbourhood levels.
- The monitoring of social and economic effects will be essential to help inform the best options for Casino development in London and ensure maximum benefit and minimum adverse effect. It is recommended that the GLA pays close attention to the national pilot study on Casinos. The GLA have amended their policy on casinos to take account of health and social effects.
- The climate change policies are strongly welcomed including mention of adaptation and behaviour change. Climate change is already affecting the lives of Londoners: health issues associated with climate change will become increasingly apparent. The NHS has a corporate social responsibility to take this on board and to play its part from estate management to employment and procurement.
- We recognise that the approach to aviation is in line with national policy. We note however that aviation is a major contributor to greenhouse emissions.
- The transport policies have huge implications for health and health inequalities: we support the emphasis on public transport, modal shift and demand management. Both infrastructure and behaviour change are critical to the sustainability and accessibility of London life.
- Planning and urban design frames the environments and communities in which Londoner's live and work. Policies which require consideration of health and social issues and which support real and meaningful inclusion and participation of professional and lay stakeholders in the planning and design process are welcomed.
- We support the emphasis on the Olympic and Paralympic legacy but note the potential for localised adverse health and social effects if short cuts are taken to develop the Olympic and Paralympic infrastructure.
- The policies on play areas and on childcare are welcomed as are the policies on trees and woodland. Access to green space is important for levels of physical activity and also for mental health.

More detailed findings

1.11 Health improvement and health gain of existing populations tend to demonstrate a lagged effect. In part, because the significant changes or improvements in terms of land use, infrastructure improvements will require implementation through Local Development Frameworks involving planning, community consultation and possibly land assembly and acquisition. There will be short- to medium-term improvements, particularly in psychological health, from the incremental changes which address the immediate social context of London.

1.12 Long-term improvements in social and economic well-being such as education, employment and the creation of a stable economy will ensure that individuals and communities experience social mobility and reduction of income and health inequalities.

1.13 In relation to the above, new policy 3A.14 includes detailed consideration of the requirements of different population groups within London including particular spatial issues

which they may face. These include issues relating to the provision of and access to services and issues relating to quality of life. There is an improvement on policy to neighbourhoods and sustainable design and construction and we advocate support of Home Zone principles in new development.

1.14 It is important to ensure that DPDs continually remain cognisant of the fact that some individuals and some communities have *further to travel* in terms of being able to take up and make use of the opportunities which the London Plan seeks to provide: for example economic growth and its positive effects in terms of providing employment can only be effectively accessed (jobs that enable social mobility, living wage etc) by those who possess the adequate necessary skills and qualifications. In terms of health improvement, those suffering poor health may require a longer time period in which their health will improve as opposed to those who already experience good health and well-being. The Supplementary Planning Guidance for London's diverse communities is important in this respect (8).

1.15 The projected expansion of the population for Greater London threatens to place extreme pressure on the wider social infrastructure, including health services. This is recognised in the alterations to the London Plan: para 3.14i describes how social infrastructure is critical to achieving housing targets; the supporting text for Objective 4 of the London Plan has been altered to include specific reference to social infrastructure and to health inequalities; and Policy 3A.23 which refers to Community Strategies now includes mention of *a full range of social infrastructure and community facilities*.

1.16 We note that the Social Infrastructure Framework project specifically includes *services* and *facilities* within its definition. It would be helpful for the London Plan to define *social infrastructure*. This is relevant for the Plan as both services and facilities could be funded (in whole or in part) by planning obligations.

1.17 The guidelines for planning obligations have been updated and NHS organisations can negotiate funds for facilities and services. Policy 3A.17 refers to health objectives and it has been updated to reflect recent policy changes. The recent changes to the regulations covering planning obligations provide scope for cross-referencing the supporting text of 3A.17 to Policy 6A.4 which covers priorities in planning obligations. The London NHS Healthy Urban Development Unit has developed policy guidance and a spreadsheet model for calculating appropriate developer contributions for health services and facilities.

1.18 The explicit mention of health impact assessment in Policy 3A.20 is a positive step and will hopefully remove any ambiguity with the previous wording. This recommendation will have resource implications: the onus must be on the developer to fund the HIA and where environmental assessment is required health and health inequalities should be written into the scope. The Director of Public Health in the local Primary Care Trust should be party to agreeing the scope of environmental assessments of strategic plans and of programmes and projects. It is unlikely that Primary Care Trusts will have the capacity to conduct HIAs in each instance. The environmental assessment sector will have greater expertise in the *health protection* elements of HIA. The Best Practice Guidance for public health is very important in this respect (9).

Report structure

1.19 In Section 2 we outline the role of health and well-being within SEA and list the recommendations which arose during the SA/SEA process. As described in paragraph 1.8 above each of these recommendations has been discussed and debated with the policy authors. They have been duly noted or acted upon. We provide a brief profile of health and health inequalities in London.

1.20 Section 3 provides an overview of the methodology employed in the evidence review and considers important methodological problems associated with conducting a health impact assessment such as the uncertainty and lack of data. Section 4 summarises the evidence against each of the objectives used in the sustainability appraisal.

1.21 Section 5 looks at the potential effects of casino developments. The evidence relating to the economic and social benefits of casinos developments is mixed and we advocate caution in using casinos as drivers of community regeneration. We examine the location of casinos: best practice does not recommend siting casinos close to town centres. Deprivation and

lower socioeconomic status (SES) are positively associated with developing problem gambling. Evidence highlights that low SES individuals spend a higher proportion of their income relative to higher SES groups. Rates of problem and pathological gambling have been noted to double in areas surrounding casinos. We made a number of policy recommendations. These were considered and addressed by the policy authors

1.22 Section 6 details the process by which the consultation of the SA of the further alterations to the London Plan was carried out. The aim of the consultation was to identify using the Diamond Nine approach, ways in which changes in the *draft Further Alterations to the London Plan* support health, and ways in which the alterations could be strengthened. The participants were asked to list their 'top' nine most significant health determinants such as economic growth, energy and strengthening deprived individuals and communities. These then formed a series of recommendations. Comments and quotations from the consultation participants are provided.

2. Health input to the Sustainability Appraisal

2.1 The projected growth in population and the associated need for housing, employment, transport infrastructure and social infrastructure in and around London offer a massive opportunity to create bold new places that blend into, and knit together, the built and the social fabric of the capital. History shows us two clear opportunities when London has had the chance to rebuild and to rethink itself: after the Fire of London in 1666 and after the Second World War. On each occasion Central or Metropolitan London was rebuilt but not rethought and London's urban fabric stagnated (1).

2.2 The London Plan (2), which sets the strategic framework for all development in London, is currently being updated (3). As with all spatial plans in England it is subject to a joint Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA).

- SA is a requirement of the Planning & Compulsory Purchase Act 2004 (4); and
- SEA is required by European Directive 2001/42/EC (5).

2.3 The SEA Directive is very important for health as it explicitly requires the consideration of the likely *significant* effects on *population* and *human health* (5). We did not conduct an autonomous Health Impact Assessment (HIA) but looked at health issues arising from the alterations to the London Plan as part of this wider SA/SEA process.

2.4 SA and SEA require the most relevant, or the significant, effects to be identified. We list some headlines below before going on to look at the process and the findings in more detail.

Headline findings

2.5 The new policies provide a clear vision for London and for people living and working in London.

2.6 The new objective on health inequalities is welcomed. Health inequalities need to be consistently followed throughout the whole Plan and addressed at regional, sub-regional, local and neighbourhood levels. The London Plan should monitor health inequalities.

2.7 It is recommended that the GLA pays close attention to the national pilot study on Casinos and amends its policy accordingly. The monitoring of social and economic effects will be essential to help inform the best options for Casino development in London and ensure maximum benefit and minimum adverse effect.

2.8 The policies on play areas and on childcare are welcomed as are the policies on trees and woodland. Access to green space is important for levels of physical activity and also for mental health.

2.9 The climate change policies are strongly welcomed including mention of adaptation and behaviour change. Climate change is already affecting the lives of Londoners: health issues associated with climate change will become increasingly apparent. The NHS has a corporate social responsibility to take this on board and to play its part from estate management to employment and procurement.

2.10 We recognise that the approach to aviation is in line with national policy. We note however that aviation is a major contributor to greenhouse emissions.

2.11 The transport policies have huge implications for health and health inequalities: we support the emphasis on public transport, modal shift and demand management. Both infrastructure and behaviour change are critical to the sustainability and accessibility of London life.

2.12 Planning and urban design frame the environments and communities in which Londoner's live and work. Policies which require consideration of health and social issues and which support real and meaningful inclusion and participation of professional and lay stakeholders in the planning and design process are welcomed.

2.13 We support the emphasis on the Olympic and Paralympic legacy but note the potential for localised adverse health and social effects if short cuts are taken to develop the Olympic and Paralympic infrastructure.

What place for human health in SA/SEA?

2.14 As noted above the SEA Directive requires the consideration of the likely *significant* effects on a range of topics including *population* and *human health* (5). This allows the likely health effects of the alterations to the plan to be considered, *upstream*, at this early stage.

2.15 SEA and SA are usually carried out at the same time and in such a way that the requirements of both approaches are met (10). We shall simply refer to this joint process as SA from now on.

2.16 SA holds a mirror up to the plan-making process (10). It looks at the plan and identifies likely social, economic and environmental effects, including health. It suggests ways of capturing beneficial, and eradicating adverse, effects. The final report also states how the plan-makers have taken note of the SA, and recommends how the significant effects should be monitored.

2.17 The Greater London Authority (GLA) has commissioned Forum for the Future to conduct the SA of the further alterations to the London Plan (11). The GLA has commissioned Ben Cave Associates to provide special input on health and wellbeing. The London Health Commission has funded the evidence base which accompanies this briefing note.

2.18 This SA is tasked with focussing exclusively on the alterations to the London Plan and not on the existing and unmodified policies.

A note on health inequalities

2.19 We welcome the understanding that improving human health is not merely about delivering health services. Health is about wellbeing. Reducing health inequalities is a key national policy driver. Objective 2 of the London Plan now states that London should be a *healthier and better city*. Addressing health determinants and reducing health inequalities is one of the key policy directions for this objective. So all policies should be considered in terms of their likely effects on human health. Health is a truly cross cutting issue and it is fine for policies affecting health & wellbeing to be subsumed in other parts of the plan – we don't need lots of extra policies on health – PROVIDED it continues to be clear that the health & wellbeing of people in London is strongly and consistently promoted. There are inevitably tensions within the objectives: for example, we show below that economic growth is not synonymous with reducing health inequalities.

2.20 The London Plan Performance Indicators, which monitor key elements of the six objectives, should therefore be updated to reflect this new health focus. Currently indicators on health evidence and health inequalities remain as contextual indicators only.

Figure 2: Health and health inequalities in London

Gender: across London the difference between male and female life expectancy is greater in areas with more deprivation.

Socioeconomic status: the risk of mental illness increases with social and economic deprivation. Mental illness itself can be a cause of unemployment leading to further deprivation. London is a culturally diverse city, with one in three Londoners coming from an ethnic minority community, and over 300 languages being spoken. This diversity is one of the features that makes London such a vibrant world city – yet we know that London's communities do not benefit in equal measure from the opportunities and wealth the capital has to offer.

London is characterised by marked contrasts between affluence and poverty. In 2003, London's GDP was estimated to be £180 billion, with 375 of the top 500 global companies having offices here, cultural and creative industries generating an annual turnover of £25-29 billion, and visitors spending approximately £15 billion in total. The London economy contributes around 17% of the UK's total GDP and is comparable in size to those of Sweden, Belgium and Russia. However, Greater London also has 20 of the 88 poorest local authorities in the UK, and there continues to be a spatial distribution of disadvantage, with a greater concentration of deprived wards being in inner London. One in three older people and 43% of children in Greater London are estimated to be living below the UK poverty line, and most minority groups continue to experience high levels of unemployment and child poverty.

Ethnic group: ethnic minorities experience a higher burden for certain diseases. This burden has been described for the following areas: coronary heart disease, haemoglobinopathies, cancers, diabetes, mental health, tuberculosis and sexual health. Elders from Black and Minority Ethnic groups in London report higher levels of limiting long-term illness. Such differences appear to exist even within income groups;

Age: in relation to the forecast aging or 'greying' of London, it is necessary to consider how health profiles and demand for services will alter. Individual living conditions will also change as they move through the life cycle. Deprivation is not a static phenomenon; people move in and out of it.

The health effects of age may also be compounded by those of ethnicity and social class. For example the high unemployment rate of young Black and Asian people. As the Black and Minority Ethnic population ages the health of BME elderly people assumes growing importance,. This will be an important issue for Bangladeshi people, who currently have a relatively young age profile. The population of elderly people from BME groups in London will triple by 2011.

Geographical area: Londoner's self-reported health is slightly better than the national average for England. However, there are inequalities within the health of Londoners. Areas such as Tower Hamlets, Hackney and Newham report high rates of poor health. Most of the areas with significantly low levels of male and female good health are located in inner London. In addition there are also wide variations in the percentage reporting their health as not good by ethnic group. The percentage who reported their health as not good was highest in the Asian British Bangladeshi and Pakistani groups and was also high in the Indian and Black Caribbean groups.

In terms of infant mortality rate (IMR), London is very similar to the rest of the country. The IMR in London as a whole has declined from 7.3/1000 in 1990-92 to 5.7/1000 in 2000-02. Again as with self-reported health there are considerable inequalities in infant mortality by borough. Brent, Lambeth, Southwark, Newham, Hackney and Waltham Forest had the highest rates and along with Croydon were significantly higher than the England rate.

From Health in London (12-14)

2.21 Empirical evidence from public health and social epidemiology suggests that policies aimed at tackling health inequalities and improving health should simultaneously be directed at the neighbourhood, community and regional levels. It is only by delivering policy at these three levels that adequate coverage of the social, environmental and economic determinants of health and well-being can be achieved and health improvements occur (15).

2.22 The Plan, and the altered policies in the Plan, need to maintain their focus on the social and economic profile of the population groups that targeted by the policies. Different sub-populations, such as the elderly, ethnic minorities and the young, have differing needs. Population groups in different parts of London experience different levels of exposure to the key determinants of health, such as employment, income, housing, and community safety. Key variables that must be considered when examining potential health impacts on population groups include gender, socioeconomic status, ethnic group, age and geographical area. Figure 2 above summarises the issues for each of these variables.

2.23 Maximizing, maintaining and protecting the health of the population is not solely about the provision of, and access to, health services but also about reducing social exclusion, enhancing access to good quality jobs and housing. The Plan contains various objectives which all will have an effect on the health and well-being of the population. This is broadly referred to as the social determinants of health in that health and well being are influenced by the social, environmental and economic aspects. Recent research shows that policies aimed at reducing social inequalities, such as welfare state and labour market policies, do seem to have a salutary effect on the selected health indicators, infant mortality and life expectancy at birth (16).

2.24 The Choosing Health White Paper (17) states that:

'Interventions and policies designed to improve health and reduce health disadvantage should provide the opportunity, support and information for individuals to want to improve their health and well-being and adopt more healthier lifestyles. Policy cannot – and should not – pretend it can 'make' the population healthy. But it can – and should – support people in making better choices for their health and the health of their families. It is for people to make the healthy choice if they wish to'.

Approach

2.25 We look at some initial findings for health and wellbeing below. The results are based on a reading of the revised policies using the 20 objectives and appraisal criteria developed during the scoping phase of the SA (18).

2.26 Forum for the Future, London Sustainability Exchange and Ben Cave Associates conducted independent appraisals. We compared and discussed the results before agreeing these initial recommendations.

2.27 We group the initial recommendations under four overarching headings (19;20).

- Managing resources
- Getting results
- Taking responsibility
- Developing respect

Initial appraisal

Managing Resources

2.28 In this section we summarise SA objectives 1 to 7. These include

- Biodiversity
- Water Quality & Water Resources
- Natural Resources
- Climate Change
- Air Quality
- Energy
- Waste

2.29 **Natural resources**: the plan talks about using and enjoying natural resources. Green space has a positive effect on mental health. It should be an active part of the built environment. We welcome the clearer specification of open spaces in para 3.251. Policy 3D.7 addresses open space and recognises its value in combating climate change (para 3.245). It also recognises the amenity value of open space which is set to increase in importance as the density of development increases (para 3.246). Policy 3D.12 now includes reference to access to nature.

2.30 This vision of London as the centre of a polycentric system of regions and cities is clear for economic links but it could be extended to natural resources. While the plan stresses the reliance it places on self-sufficiency it does not provide a similar vision of the resources London demands. The term environmental footprint has been rephrased to environmental impact (para 1.20). We suggest that some measure needs to be provided, or some account taken, of London's overall impact or footprint. Transboundary implications of waste are

discussed. The draft London Food Strategy (21) describes also how food preparation is responsible for 10%-20% of London's environmental impact.

2.31 **Biodiversity**: we support the emphasis that the new policy 3D.12i gives to the value of trees and woodland, including its association with health, as there is a new policy on the need to protect, maintain and enhance trees and woodland.

2.32 The London Health Commission's *Health Impact Assessment of the Mayor's Biodiversity Strategy* (22) highlighted the link between health and open spaces and poor health and lack of access to open spaces. This work is now being progressed further by the GLA Environment team's study into *Areas of Deficiency and access to nature in London*. English Nature also suggests that access to green space protects and promotes both physical and mental health (23).

2.33 Increasing and protecting opportunities for physically active recreation are also vital in protecting and promoting the health of Londoners.

- Adults who are physically active have 20–30% reduced risk of premature death and up to 50% reduced risk of developing major chronic diseases such as coronary heart disease, stroke, diabetes and cancers (24).
- Accessibility of facilities, opportunities for activity, and aesthetic qualities of the area are the most successful environmental factors in facilitating physical activity amongst adults (25).

2.34 **Climate change**: this is a major addition to the London Plan and is very important for long-term health, health inequalities and sustainability at every geographical level.

2.35 We support the emphasis which Objective 6 places on mitigating, and adapting to, climate change. Planning contributes to increasing climatic problems if it fails to promote policies that encourage reductions in fossil fuel use and policies that include energy conservation in the construction and use of buildings. Urban planning can make a positive contribution by curbing the rates of greenhouse gases emitted due to human activity. This can be achieved by influencing energy use in buildings and transport and by developing renewable energy sources (26). The Plan acknowledges the effects climate change is having upon tidal reach and potential effects on flooding.

- Climate change, on a global scale, is a bigger hazard than Aids, obesity or bird flu. Extremes of heat and cold, rising sea levels, droughts, floods, storms and food shortages - these are the likely effects. In turn, they threaten to lead to famine, drowning, destruction of human habitation, mass migration, the spread of deadly diseases and armed conflict as people fight over scare resources (27).
- A Department of Health report looked at the effects of climate change on health. It acknowledged large uncertainty surrounding the estimates. The main conclusions were the impact of increases in river and coastal flooding, and severe winter gales. It also clearly addressed the balance between the potential benefits and adverse impacts of climate change: the potential decline in winter deaths due to milder winters is much larger than the potential increase in heat-related deaths. Climate change is also anticipated to lessen air pollution-related illnesses and deaths, except for those associated with tropospheric ozone, which will form more readily at higher temperatures ((28) quoted from (29)).

2.36 Policy 4A.15 describes how the Mayor will offer a programme of training and expert advice in the assessment of potential impacts of developments and in determining appropriate packages of measures. The NHS has substantial estates and large new build programmes and a correspondingly large corporate social responsibility (CSR) to address climate change issues: CSR is defined as using resources to maximise social, economic and environmental benefits. We recommend that the health sector is included in this programme. The environmental strategy for the NHS details a number of actions which NHS bodies should adopt (30) in the construction and management of their estates. Other commentators have described a wider programme of CSR including sustainable procurement and employment polices (31;32).

2.37 We note that the new national policies on smoke free environments will mean that there will be an increased demand for patio-heaters and for temporary structures to shelter

smokers. Patio-heaters are very energy intensive: running a 12kW propane heater for 1 hour will produce 2.6kg CO_2 (33).

2.38 **Air quality:** we welcome the fact that policy 3C.6 has been extended to include airport operation since it is the aeroplanes, and not the airports themselves, that are the major contributors to greenhouse emissions. The local effects of aviation on air quality are tightly monitored and airports such as Heathrow, Stansted and Gatwick will be concerned to keep emissions within strict limits. This however does not imply that there is no health effect: it is generally assumed that there is no level below which health effects do not occur. Over a much wider area, *eg* Europe wide, potentially large populations are exposed to very small increments of key pollutants from aviation such as PM and ozone. A public health perspective encourages emissions to be kept to a minimum.

2.39 While the plan review's discussion of the environmental effects of aviation is welcomed we question the strong support which is expressed for aviation. Policy 3C.6 appears to support more stringent controls on London Heathrow than at Gatwick or Stansted. We recognise that the aviation white paper advocates carbon trading schemes as the best way of facilitating economic growth and meeting environmental standards. Aviation currently falls outside the carbon trading agreements. We suggest that the policies of the London Plan should recognise this.

Getting Results

2.40 In this section we summarise SA objectives 8 to 14. These include

- Built and Historic Environment
- Housing
- Accessibility / Availability (Transport)
- Regeneration & Land-Use
- Employment
- Stable Economy
- Creativity and Innovation.

2.41 **Housing**: the improved policy on special needs and specialist housing (3A.10), including the direction to boroughs to undertake comprehensive assessments of the need for new care homes is welcome as it is widely recognised that current supply is insufficient in order to meet the needs and preferences of older Londoners. However the typology of should be extended to include extra care housing.

2.42 The London Supporting People strategy is mentioned, but there is no specific mention of the need to increase the availability of move-on accommodation. It is estimated that between 30%-40% of single homeless people in hostels are ready to move on, but there is no accommodation available. Many have low or no support needs.

2.43 New policy 3A.4i requires residential development to have regard to policy on play space and informal recreation. This is an important development given the role physical activity plays in combating obesity among children.

2.44 Affordable high quality housing is fantastically important. The population boom and average smaller household sizes means that London needs lots more high quality housing. The transitional period while new communities bed in, while property prices fluctuate *etc* may be intensely disruptive and unsettling for some communities. We ask whether the policies in the review can address this.

2.45 We note that households which include someone with a long term illness or disability are *somewhat more likely than others* to live in non-decent homes (37 per cent, compared to 31 per cent) and in unfit homes (12). Income and ethnicity are also recognised as significant factors. Housing supply needs to cope with flexible demand *eg* some families need to be in temporary housing, there is a need for housing for socially excluded and vulnerable groups (people coming out of rehabilitation, with mental health problems, ex-offenders *etc*).

2.46 **Stable economy**: the review adopts the initial vision for the London Plan so economic *growth* continues to be a key driver. Consistent with the new national sustainable

development strategy, we suggest framing economic objectives in terms of economic development rather than growth. The Statement of Intent places the emphasis strongly on economic growth (34) while the policies tend to use the terms interchangeably. Para 1.59 acknowledges that the gap between the richest and the poorest has grown for wealth and quality of life measures.

2.47 Economic growth does not guarantee an equitable distribution of the economic gains. Job creation does not necessarily *trickle down* as job opportunities for the long-term unemployed, Measures to improve the infrastructure for economic activity in deprived areas must be coupled with measures to improve facilities and services for groups such as the long-term unemployed. The increased emphasis on accessible, affordable and appropriate childcare (3.149 and 3.150) is thus a welcome policy development. Lack of access to affordable childcare acts as a barrier to people particularly lone parents taking up employment and training opportunities, while the lack of paid employment for parents particularly lone parents is a major contributory factor to London possessing the highest rates of child poverty in the country.

2.48 Employment in the hotel, restaurant and retail sectors are notorious for offering low paid and insecure entry level jobs. These have negative health effects. Boroughs which already suffer from high unemployment (and long-term unemployment) and whose residents lack the necessary skills to access higher grade jobs the forms of employment provided by these sectors it is likely that these jobs will not facilitate social inclusion for these groups and may further compound existing deprivation thereby increasing inequality across London.

2.49 **Health and employment:** Reducing unemployment amongst socio-economically deprived groups the London Plan should potentially have a positive health impact. A wealth of evidence has demonstrated unequivocally that the incidence of unemployment has both psychological and physiological health impacts such as depression, anxiety, low self-esteem, low affectivity, i.e., unhappiness, cardiovascular disease, coronary heart disease and ultimately increased mortality (35). Research has found that the health disadvantages induced by unemployment are primarily related to poverty created by the low-income nature of unemployment (36).

2.50 In reaction to this it is assumed that mechanisms designed to move people from unemployment to employment are the key factors in tackling poverty and improving health. The few studies which exist examine the impacts of reemployment of the unemployed do in fact demonstrate that reemployment can reverse the negative health effects of unemployment. There is currently very little evidence on the positive association between employment and health. Using longitudinal data, and taking into account social and demographic characteristics, research has found that the health of a person influences their employment status and also that employment status influences their health (37).

2.51 However, it is dangerous to infer the simple causation that the transition to employment will function as a panacea of the economic and social problems faced by the unemployed and economically inactive – the notion that "any job is better than no job".

2.52 Indeed, the Plan should consider that when addressing the needs of the "labour market weak" such as lone parents and ethnic minority groups it is necessary to recognise that the simplistic dichotomy between employment and unemployment is rather more complex than viewing unemployment as 'bad' and employment as 'good'. In its strategy document report Health, work and well-being – Caring for our future, (38) the Government sets out its vision for improving the health and well-being of working age people:

2.53 "Together we will create an environment that promotes the health and well-being of all those in work and all those who wish to work".

2.54 This vision is a central element of a wider welfare reform agenda that is set out in the Government White Paper *Choosing Health: Making Healthier Choices Easier (17)* and Green Paper *A New Deal for Welfare: Empowering People to Work (39)* .

2.55 In societies where income differences between rich and poor are smaller, the statistics show not only that community life is stronger and people are much more likely to trust each other, but also that there is less violence – including substantially lower homicide rates, that health is better and life expectancy is several years longer, that prison populations are smaller, birth rates among teenagers are lower, levels of educational attainment among

school children tend to be higher, and lastly, there is more social mobility. In all cases, where income differences are narrower, outcomes are better. (40) All these relationships are statistically highly significant and cannot be dismissed as chance findings.

2.56 We are dealing with the effects of relative, not absolute, deprivation and poverty. Violence, poor health or school failure are not problems which can be solved by economic growth alone – by everyone getting richer without redistribution. Across the richest 25 or 30 countries there is no tendency whatsoever for health to be better among the most affluent rather than the least affluent countries. The same is also true of levels of violence, teenage pregnancy rates, literacy and maths scores among school children, and even obesity rates. Wilkinson states that 'we have reached a level of development beyond which further rises in absolute living standards no longer reduce social problems or add to wellbeing (40;41)

Good jobs / bad jobs

2.57 Some forms of employment may provide soft skills but individuals who do not possess adequate or even basic 'soft' skills, qualifications and training will be unable to command employment that can provide these soft skills/opportunities for career progression. Successful programmes aimed at helping individuals into work focus upon providing the basic skills and 'hard' qualifications needed in order to command sustainable living wage employment. Temporary, insecure and low paid forms of employment are not significant mechanisms in facilitating social inclusion and in fact lead to the process of labour market churning whereby individuals move from unemployment to employment to unemployment. This has been shown to *scar* workers, i.e., make them less likely in the future to seek paid employment thereby reducing the likelihood of returning to the labour market.

2.58 Recent research has begun to suggest that flexible employment may have adverse affects on the health of workers. For instance, mortality is significantly higher among temporary workers in comparison with permanent workers (42) Persons who experience frequent job changes are more likely to smoke, consume more alcohol, and exercise less (43), and workers who perceive job insecurity experience significant adverse effects on their physical and mental health (44). Temporary workers have a significantly higher risk of having fatal and non-fatal occupational injuries than permanent workers. Lower job experience of temporary workers may partially explain why they are at a higher risk of experiencing occupational injuries (45)

2.59 Despite some of the limitations of these kinds of studies, primarily in the various definitions of flexible employment (which can be variably defined as job insecurity, frequent job change, or type of contract), the picture regarding this important question is becoming clearer.

2.60 It is true that not all flexible employment will have a negative effect on health. Among highly educated workers, such as managers and professionals, a flexible labour situation could be beneficial because job changes may be voluntary or reflect the initial stages of a professional career, or both. This is, in fact, suggested in the study, which found that the association between flexible employment and mental health status varied as a function of social class, mostly affecting less privileged workers (45)

2.61 For temporary workers occupying insecure employment promoting a higher level of permanent employment, with all of its benefits, is an important way towards preventing occupational injuries. Increasing workers' knowledge of workplace hazards, especially among temporary workers, is an additional way of reducing the risk of occupational injuries (46).

Regeneration and land-use

2.62 New policy 3D.4i on Casinos outlines the way in which the London Plan will meet central Government policy on regional casinos.

2.63 The SA team recognise that this policy is in line with central government policy.

2.64 We note that recommendation 2 of the London Assembly report on new casinos in London (47) states that

2.65 ... any applications for new regional casinos must recognise their potential negative impact. As part of the application, the developers should publish a clearly defined action plan to

mitigate any negative side-effects. We further recommend that the action plan should be monitored by the Boroughs and enforced by the Gambling Commission.

2.66 There is a large amount of uncertainty surrounding the potential effects, either beneficial or adverse, of regional casinos. This is a highly controversial and problematic issue. Regional casinos are new to the UK. In Section 4, page 19 we provide a detailed account of evidence relating to the effects of casinos.

2.67 In summary evidence on casinos from different national and international sources suggests that:

- they should not be located in (and preferably not close to) town centres;
- their accessibility and availability should be restricted;
- regional casinos do provide employment for large numbers of people but 50%-60% of this is estimated to be low-grade employment requiring no qualifications;
- casinos are associated with an elevated risk of pathological and particularly problem gambling amongst populations surrounding casinos;
- problem and pathological gambling are associated with other forms of addictive behaviour such as alcohol abuse and smoking; and
- problem gambling is positively associated with measures of deprivation.
- Casinos may bring minor beneficial employment effects: these appear to be moderated by the types of gambling within the casino (48) which suggests that the employment will be low status. The health effects of employment are directly related to the quality of that employment (49).

2.68 Policy 3D.1 provides the criteria for Development Plan Documents (DPDs) to strengthen the wider role of town centres. The Greenwich Peninsula is not a town centre, however Wembley is cited as a town centre that has a strategically important cluster of night-time activities.

2.69 It is recommended that the GLA pays close attention to the national pilot study on Casinos and amends its policy accordingly. The monitoring of social and economic effects will be essential to help inform the best options for Casino development in London and ensure maximum benefit and minimum adverse effect.

2.70 A range of mitigation measures were proposed and the policy authors have modified the policy.

Transport and accessibility

2.71 on this first reading transport and accessibility are well dealt with. London is blessed with an excellent transport system and a range of alternative modes of travel. It is perhaps unfortunate that the opening statement for *Connecting London* (50) is *making London an easier city to move around* (para 3.157) as this could be read as placing an emphasis on *mobility* rather than *accessibility*.

2.72 We welcome the support for cyclists. Adequate infrastructure for cyclists (and walkers) needs to be provided. We welcome the support for public transport. The altered policies could point out the enormous health benefits to be gained from modal shift to more active forms of transport and thus increasing levels of physical activity (see 2.32 above). The altered policies make no mention of personalised travel planning which has been shown to increase uptake of public transport. This would assist with encouraging people to switch to public transport (see para 1.17).

2.73 Until we all become Dutch or Danish it is likely that driver behaviour will remain the biggest threat to vulnerable road users and the biggest deterrent to people taking up cycling. That said, life years gained due to the healthy exercise from cycling have been estimated, in the UK, to outweigh those lost to injury by 20:1 (51).

2.74 Demand management is absolutely critical and we wholly support its introduction (para 2.23 and para 2.27 and Policy 3C.3): cyclists, walkers and public transport are all far more efficient users of the road space and emit less greenhouse gases and should be encouraged. The risk of injury, especially for child pedestrians, increases with traffic volume

and at sites with highest traffic volumes it has been shown to be 14 times greater than at less busy sites (odds ratio 14.30, 95% confidence intervals 6.98 to 29.20) (52).

2.75 We support the changes to policy 3C.2 which require new development to be matched to transport capacity and which point developers and development control authorities to TfL's guidance on transport assessment and travel plans. We draw attention to the recommendations of the Health Select Committee (53) which states that all transport project proposals and policies should be subject to a health impact assessment before implementation. There is an obvious parallel with the new London Plan Policy 3A.20.

2.76 Policy 4B.1 promotes high quality and inclusive design to create healthier communities: Home Zones, which are cited from the Mayor's Transport Strategy (para 3.199) provide a golden opportunity to make developments truly accessible for all ages and increase social cohesion etc. We understand that current guidance does not recommend retro-fitting Home Zones; the Mayor's SPG on *Sustainable Design and Construction* could recommend that new developments incorporate Home Zone principles.

2.77 There are clear opportunities for linking policies which enhance the provision of play space for children with those on design, such as 4B.4, and on transport and parking (see policy 3C.1) to ensure that the urban environment is child-friendly.

- Children's play territory has been reduced as roads and pavements become more and more dangerous. This affects levels of physical activity. It also impairs, or at least alters, children's psychological development by curtailing their sense of independence and personal mobility. The acquisition of personal autonomy promotes esteem whereas motorised transport limits children's autonomy and increases their dependence upon adults (54).
- Car ownership rates in London have shown little change over the last five years: approximately 0.35 cars are owned per head of population (55). At time of writing we do not have figures for projected levels of car ownership in London. Outside metropolitan London levels are expected to rise. Car ownership (or lack of) is one of the indices of deprivation and as expected levels of ownership across London parallel deprivation (56). Successful economic regeneration may increase levels of car ownership. New residential developments will attract homeowners who may have higher rates of car ownership.

2.78 It should also be noted that ownership is not the only factor: the *use* and the *accommodation* of cars is also important.

2.79 *Use*: the Commission for Integrated Transport (57) report that 'despite low car ownership, London has a relatively high level of car travel with nearly three times as many trips made by car than public transport, although London does perform well on walking'. Policy 3C.3 which promotes modal shift is vital to encourage more people onto public transport.

2.80 *Accommodation*: people will continue to need space to accommodate, their cars. We refer the policy authors to published, and emerging, best practice guidance on parking (58): this states clearly that the provision of infrastructure for parking should be an integral part of urban design and must not be seen as a numerical formula which can be added on at the end of the design process. We state that parked cars affect health and wellbeing.

- Parked cars can obstruct vision and increase social severance making it less attractive to be a pedestrian. A high density of curb parking is associated with increased risk of injury for children (52). As an international city London has a low number of road deaths, with 3.2 fatalities per 100,000 population (compared with 6.7 in Paris, 8.5 in Barcelona and 12.5 in Rome) although the risk of injury accident is high in London at 635 per 100,000 to Paris's 420 (57).
- London's front gardens have given way on a huge scale to parking bays which, added together, cover an area of 32 square kilometres (12 square miles) (59). This GLA report describes how in streets where the majority of gardens have been converted the width of the road is effectively trebled leading to increased traffic speeds and increased risk and occurrence of accidents.

Taking Responsibility

2.81 In this section we summarise SA objectives 15 to 17. These include

- Liveability and Place
- Education and Skills
- Ownership and Participation

2.82 **Liveability and place**: Policy 2A.9 sets out the vision for sustainable communities in London. It lists a number of component properties of sustainability. The virtue of describing what local authorities should do for sustainable communities is that the actions can be checked off. The danger is that a strategic document cannot include everything: that said, we would like to see mention of appropriate retail facilities, especially those which provide access to affordable, safe and nutritious food, in 2A.9 as part and parcel of the *elements that make London's residential areas attractive*. We acknowledge that the Plan does make some mention (in new paragraph 3.232i) about the role street and farmers markets play in meeting dietary requirements and enhancing the vitality of town centres.

2.83 Good design is critical to ensuring that London continues to be a global city. Design which is sensitive to local character and context risks being a conservative and bland pastiche. Good design which encourages liveable communities and which actively prioritises physically active transport and human interaction. In some ways this is a restatement of the Home Zones point in para 2.76 however the Plan's emphasis on design, *eg* Policy 4B.2 which promotes world class architecture and design, should not be restricted to landmark buildings but should be actively encouraged in residential developments.

2.84 **Education and skills**: the review provides a clear view about the ways in which the world economy will change over the coming decades with China & India rising up the global pecking order. It is not so clear how providing services to these new economies such as professional, legal, accountancy and advertising services is a long-term blueprint for success that will enable London to maintain its pre-eminent position. Neither does there appear to be any mention of the need to prepare London's citizens and businesses to do business with people in these new markets.

2.85 We also ask whether the policies are future-proofed: for example older people in 15-20 years (*ie* a lot of us) are likely to be more demanding than the generation who grew up during, and after, the Second World War. The future older population will not be made up of a high proportion of single, dependent older women. Older people will want more opportunities for education, employment, entertainment *etc*. Health profiles and demand for services will alter. People's living conditions will also change as they move through the life cycle. Deprivation is not a static phenomenon; people move in and out of it.

2.86 **Ownership and participation**: the text supporting Policy 2A.9 places a clear emphasis on building capacity for communities to take the lead in addressing their own needs. This ties in with the findings of an influential, Treasury sponsored, review of long-term population health (60). For public health to improve, and for demands on the health service, to be contained people need to take a responsibility for their own health. People need to be *fully engaged*: 'levels of public engagement in relation to their health are high: life expectancy increases go beyond current forecasts, health status improves dramatically and people are confident in the health system and demand high quality care. The health service is responsive with high rates of technology uptake, particularly in relation to disease prevention.'

2.87 Policy 2A.5 looks at Opportunity Areas and includes discussion about public realm, open space and tall buildings. The Royal Institute of Chartered Surveyors have questioned the extensive use of public realm in major developments citing concerns about exacerbating social exclusion, connectivity to the local environment and the sterility of the finished schemes (61).

2.88 Policy 5D.2 states the legacy aims for the Olympic & Paralympic Games in 2012 for north east London while Policy 3D.5 looks at the wider legacy from the Olympic & Paralympic Games. We agree that these provide all sorts of opportunities for Londoners from employment to physical activity.

2.89 There is ample evidence from other Olympic & Paralympic cities to suggest that the experience of preparing for, and hosting, the games can be very disruptive for communities living adjacent to the Olympic & Paralympic sites. While these adverse effects are likely to be relatively short-term they will be intensive. This will exacerbate existing health

inequalities. It would be helpful to require short and medium term effects on local communities to be considered as well as the longer-term legacy effects.

- Andranovich *et al* (62) analysed the approaches taken by three US cities to bidding for, and staging, an 'Olympic mega-event'. The Mayor of Atlanta stated that the Games would lift people out of poverty. There was, however, no strategy nor funds for anti-poverty programmes. Los Angeles and Salt Lake City made no provisions for the inclusion of non-elite interests in their bids. The challenge is to ensure that community interests include the needs of local residents and local public spaces and are not limited to professional sports teams, their owners, developers, hotel and leisure industry operators.
- Recent press reports suggest that changes have been made to the 2012 Olympic masterplan which have removed legal guarantees covering regeneration and legacy benefits (63)

2.90 The transport infrastructure improvements for the Games should encourage modal shift to public transport and to cycling.

Developing Respect

2.91 In this section we summarise SA objectives 18 to 20. These include

- Health and Well-being
- Safety and Security
- Equality and Diversity

2.92 **Health and wellbeing**: in many instances the health effects of the London Plan policies will depend on the way in which they are implemented. The guidance which accompanies the policies and monitoring the way in which they are put into practice will be very important.

2.93 Objective 4 includes a welcome new policy direction to improve the provision of social infrastructure and related services, including the provision for health, playspace and childcare facilities, and to address health inequalities.

2.94 The revised policy linking spatial planning objectives to national health policy and local delivery plans, as outlined in 3A.17, will help to foster closer links between boroughs and PCTs. This should improve the health component in local development frameworks and provide the policy framework to enable PCT staff to input health considerations into developments schemes.

2.95 We support the explicit mention of health impact assessment in Policy 3A.20. This is a positive step and will hopefully remove any ambiguity with the previous wording. This recommendation will have resource implications: the onus must be on the developer to fund the HIA and where an environmental impact assessment is required the Director of Public Health should be included in agreeing the scope. It is unlikely that Primary Care Trusts will have the capacity to conduct HIAs in each instance. The environmental assessment sector will have greater expertise in the health protection elements of HIA. The Best Practice Guidance for public health is very important in this respect (64).

2.96 Health services and social infrastructure: we support policy 3A.15 which extends the definition of social infrastructure and community facilities. We note that work is currently being conducted to look into planning and developing social infrastructures. We also note that the health sector could be a significant player in the London economy. It is a disparate sector which is overstretched and undergoing reorganisation but it employs people in every London borough, it owns large amounts of land, it commissions vast amounts of goods and services and it is responsible for huge movements of people. As such it should be aware of its corporate social responsibility: this is recognised in para 3.79i.

2.97 **Safety and security**: social cohesion is vital in countering/reducing/undoing the sense of grievance and alienation between and within communities. Social cohesion is linked also to health and wellbeing.

2.98 Health sector stakeholders such as the Strategic Health Authority, the Primary Care Trusts and the Health Protection Agency are important stakeholders in delivering new policy 4B.5i which provides for London's resilience and emergency planning. We have seen above how

action to address health inequalities is one of the core objectives of the London Plan. The design, of individual dwellings and of the wider built environment, contributes to reducing health inequalities through health improvement, *eg* social inclusion and mental health, and through health protection *eg* lifetime homes and importantly emergency planning.

2.99 Crime reinforces social exclusion and can contribute towards environmental degradation. Fear of crime can make people reluctant to walk, use public transport, or go out after dark. The London Plan includes a welcome new emphasis for developers and boroughs to ensure that urban design principles are used to design out crime and the recognition that crime disproportionately affects Black and Minority Ethnic groups (4.40i).

2.100 **Equality and Diversity**: Policy 3A.14 includes detailed consideration of the requirements of different population groups within London including particular spatial issues which they may face. These include issues relating to the provision of and access to services and issues relating to quality of life. This is highly impressive. On this first reading we are not clear how this detailed understanding permeates through, and informs, the main body of the review. The Supplementary Planning Guidance on *Meeting the spatial needs of London's diverse communities* (66) will be very important in this respect.

2.101 Also welcome is the acknowledgement of the role that new Board for Refugee Integration (para 3.71), which the Mayor will chair, and the associated strategy will play in addressing the key social determinants that affect refugee health and wellbeing, such as housing, employment, healthcare, safety and provision for young people.

3. Urban development and health change: some evidence

3.1 How will the modified policies of the London Plan affect the health and well-being of London's population?

> Heading the list are a city's human assets, that is, people and the quality of their lives and livelihood.
>
> At issue here are the so-called basic human needs, principally adequate housing with secure tenure; educational opportunities for both girls and boys to prepare them for the modern world; and access to good health.
>
> The satisfaction of these tangible, material needs constitutes the foundation for our most fundamental right, the right to life.
>
> Achieving quality housing, education, and health for every citizen must therefore be the aim of every genuine development.
>
> In the final analysis, this is a state responsibility. Leaving their satisfaction to the blind operation of market forces will only create gross inequalities, allowing those few who already have a foundation in basic assets to pursue a life of human flourishing while marginalizing the majority who lack the foundations for this most precious of human rights
>
> John Friedman, UN-Habitat Award Lecture, 2006 Third World Urban Forum

3.2 As with all spatial plans in England the further alterations to the London Plan are subject to a joint Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA).

3.3 The SEA Directive is very important for health as it explicitly requires the consideration of the likely *significant* effects on *population* and *human health* (5). We are not conducting an autonomous Health Impact Assessment (HIA) but are looking at health issues arising from the alterations to the London Plan as part of this wider SA/SEA process.

3.4 SEA and SA are usually carried out at the same time and in such a way that the requirements of both approaches are met (10). We shall simply refer to this joint process as SA from now on.

3.5 The Greater London Authority (GLA) has commissioned Forum for the Future to conduct the SA of the further alterations to the London Plan (11). The GLA has commissioned Ben Cave Associates to provide special input on health and wellbeing. The London Health Commission has funded this evidence base which is prepared for workshop participants, for the SA team and for the policy authors. .

Methodology

3.6 This evidence review has been conducted against the 20 SA objectives which were developed during the scoping phase of the SA (18). A summary of the evidence linking health and the SA objective is given in Section 4 starting on page 23.

3.7 The conceptual framework for this work rests on the premise that population health is influenced by a broad range of factors operating interdependently at multiple levels. The framework is based upon literature from public health, social epidemiology, human geography which have considered the social and economic determinants of population health.

Problems of predicting health impacts of the Plan objectives

3.8 The recommendations in this SA are founded on the evidence base.

3.9 The empirical evidence on the potential health impacts and magnitude of effect of social interventions such as those envisaged and embodied within the London Plan is limited (67) (68). The empirical evidence that does exist has tended to focus on the health damaging effects of low socio-economic status, unemployment and living in deprived neighbourhoods and housing. In comparison, there is considerably less evidence available on what happens to health and well-being when there is an intended amelioration and change in aspects deprivation such as those envisioned within the objectives of the London Plan. The small

body of evidence that is available is equivocal about how much positive health gain and reduction in health disadvantage one can anticipate from the changes likely to flow from such interventions (69).

3.10 Macintyre (67) has recently commented, there is a considerable lack of information on the actual health impacts of interventions. Although the longitudinal monitoring of the actual health effects of policy interventions generates the most rigorous empirical evidence, it has rarely been utilised due to the prolonged time scales needed in order to conduct comprehensive monitoring and the inherent lagged exposure-effect rates that are exhibited by physical health in particular (69). In sum it is the age old problem of short-time scales for policy delivery which are endemic within policy and politics, and which mean that the longitudinal examination of the impact of policy on apparently 'fuzzy' concepts such as health often prove too costly in terms of time and money.

3.11 The evidence regarding the 'reversibility' of disadvantage on health is extremely limited, with research (70) proposing that it is not realistic to expect that the damage to health, especially physical health from poverty, will be quickly reversed when an individual experiences a rise in his / her economic situation and material hardship is reduced. The difficulty of reversing ill health is due to the lagged exposure-outcome relationship of physical health outcomes in particular. To achieve a reduction in ill health and health inequalities, it is suggested that sustained and significant improvement in health determinants, for the most disadvantaged groups, is likely to be required (71). The studies that do exist, particularly those relating to housing interventions, housing improvement and re-employment, demonstrate that the amelioration in aspects of deprivation such as the removal of damp and installation of double glazing, for instance, lead to positive health gains for the individuals exposed to these changes (72;73)

3.12 This document draws on earlier reviews and on peer reviewed articles. Reviews looking at links between wider determinants of health and health e.g.

- What works (74);
- Literature reviews commissioned and carried out for HIAs of draft London Mayoral strategies eg
  Transport: on the move (75);
  Biodiversity;
  Air Quality;
  Rapid review of health evidence for 'Towards the London Plan (76) and
  Energy.
- HIA for regeneration projects. Volume II: Selected evidence base (77);
- The Acheson Report on Inequalities in health (78);
- Health evidence base for the London Cultural Strategy (79)
- Crime and fear of crime and health ... a rapid review (80);
- Kings Cross development and determinants of health (81);
- The solid facts (82); and
- Evidence from systematic reviews of research relevant to implementing the 'wider public health' agenda (83).

3.13 Reviews looking at particular determinants eg

- New roads and human health: a systematic review (84)
- Review of environmental and health effects of waste management: municipal solid waste and similar wastes (85)

3.14 Expert papers eg

- Rapid review on noise and health in London (86);
- Guidelines for community noise (87);
- Occupational and community noise (88)

Geographical/Temporal coverage

3.15 Maximizing, maintaining and protecting the health of the population is not solely about the provision of, and access to, health services but also about reducing social exclusion, enhancing access to good quality jobs and housing. The Plan contains various objectives which all will have an effect on the health and well-being of the population. This is broadly referred to as the social determinants of health in that health and well being are influenced by the social, environmental and economic aspects.

3.16 The *Choosing Health* white paper (89) states that:

'Interventions and policies designed to improve health and reduce health disadvantage should provide the opportunity, support and information for individuals to want to improve their health and well-being and adopt more healthier lifestyles. Policy cannot – and should not – pretend it can 'make' the population healthy. But it can – and should – support people in making better choices for their health and the health of their families. It is for people to make the healthy choice if they wish to'

3.17 As the London Plan is based on a long-term strategic vision it is apparent that many of the changes envisaged will have limited effects on health in the short-term. This is because the significant changes or improvements in terms of land use, infrastructure improvements will require substantial planning, community consultation and possibly land assembly and acquisition which will take some time to put in place.

3.18 Health improvement and health gain of existing populations will demonstrate a lagged effect as noted above although there may however be a number of short-term improvements particularly in terms of psychological health from the more 'cosmetic' and incremental changes derived from activities which tackle an individual's immediate social context such as neighbourhood and housing quality, i.e., creating green and safe spaces, reducing the incidence of vandalism and graffiti, and improved heating and ventilation within a house. However, 'cosmetic' quick fixes should not take precedence over activities which seek to generate long-term improvements in an individual's social and economic well-being such as education, employment and the creation of a stable economy. It is only by focussing on these long-term goals that individuals and communities will experience social mobility and reduction of inequality.

3.19 A major concern is that Plan may function to further accentuate the inequalities that sections of the existing population already experience. Intense pockets of multiple deprivation exist across London which mean that individuals and communities may have further to 'travel' in terms of improving socio-economic position but also their health and well-being than more socio-economically affluent individuals and communities. The Plan must be cognisant of the 'ecological fallacy' and the fact that within affluent communities pockets of deprivation exist. The sub-regional and local implementation of the Plan is critical to ensuring these deprived individuals and communities are not overlooked.

3.20 Empirical evidence from public health and social epidemiology amongst others would suggest that policies aimed at tackling health inequalities and improving health should simultaneously be directed at the neighbourhood, community and regional levels (or the contextual and individual compositional). It is only by delivering policy at these three levels that adequate coverage of the social and economic determinants of health and well-being can be achieved and health improvements occur (15).

3.21 In relation to the above, the Plan must therefore consider the social and economic profile of the population groups that targeted by the policies. Different sub populations have varying needs such as the elderly, ethnic minorities and the young. It is necessary for the SA *to consider that the policies for improving health and reducing inequalities will have variable effects depending on the age, gender, ethnicity, economic status and geographical location of the local population*.

Uncertainty and lack of data

3.22 As noted in Section 1.2.1 the empirical evidence on the health impacts / effects of social interventions such as those envisaged and embodied within the London Plan is limited (78;90-92). The empirical evidence that does exist has tended to focus on the health

damaging effects of low socio-economic status, unemployment and living in deprived neighbourhoods and housing. In comparison, there is considerably less evidence available on what happens to health and well-being when there is an intended amelioration and change in aspects deprivation especially that embodied within the objectives of social interventions such as regional development plans. The small body of evidence that is available is equivocal about how much positive health gain and reduction in health disadvantage one can anticipate from the changes likely to flow from such interventions (93).

3.23 As noted above and as Macintyre (94) has recently commented, there is a considerable lack of information on the actual health impacts of interventions. Although the longitudinal monitoring of the actual health effects of policy interventions generates the most rigorous empirical evidence, it has rarely been utilised due to the prolonged time scales needed in order to conduct comprehensive monitoring and the inherent lagged exposure-effect rates that are exhibited by physical health in particular[1]. In sum it is the age old problem of short-time scales for policy delivery which are endemic within policy and politics, and which mean that the longitudinal examination of the impact of policy on apparently 'fuzzy' concepts such as health often prove too costly in terms of time and money.

3.24 Data and valuable lessons from previous policy interventions may also remain hidden within government reports of policy evaluations (92). For example, large-scale evaluations of regeneration programmes are commissioned by government departments but their findings are rarely published in academic journals and the public health value of the evaluations' findings appears to have been overlooked. In addition, evaluations of programmes may be more likely to prioritise assessments of socio-economic outcomes, over health outcomes (92). Impacts on socio-economic outcomes have been recommended as a pragmatic and more immediate alternative to assessments of health impacts where health impact data are absent or difficult to obtain. In addition as (96) note policy development as 'enlightened' / evidence based policy is hard to sustain where a lack of systematic storage of data means that researchers, policy makers and practitioners may struggle to produce clear answers to important policy questions.

3.25 The effects against a number of the objectives remain difficult to predict. This is either because there is insufficient specific data, for example baseline rates of ownership and community participation, environmental quality and climate or because it is difficult to make useful predictions at the sub-regional level *eg* crime and education.

3.26 Thomson et al (92) sought to synthesise the data and examine whether urban regeneration programmes in the UK (1984-2004) had improved public health and reduced health inequalities. They found little evidence of the impact of national urban regeneration investment on socio-economic or health outcomes. Where impacts had been assessed, they were often small and positive. However adverse impacts had also occurred. The authors recommended that impact data from future evaluations is required to inform healthy public policy (92).

3.27 Most of the empirical evidence cited below is derived from ecological or cross sectional studies. We have specifically noted in the tables where studies have used a longitudinal, natural experiment or case control design. However, as noted above studies of this sort are extremely limited. Ecological studies compare sets of population data from the same geographical area. They show variation in whole populations but the data are not associated with individual people so it is difficult to know whether variation in health determinants are associated with health difference at the level of individuals. Cross sectional studies give a picture at one moment in time. They show whether risk factors and poor health co-exist but cannot show conclusively whether the relationship is causal *eg* a cross sectional study might tell us that people with poor health are more likely to live in bad housing however this does not tell us whether people who are already in poor health end up in poor housing because of low incomes and other factors. Their poor health status might also be caused by factors other than poor housing: for example, those living in poor

[1] This is being challenged by psychobiological/biomarkers research such as that of Westerlund *et al* (95), which demonstrate that physiological health changes can take place within a short-time scale of an intervening stimulus or change of the individual's psychosocial context.

housing may also be unemployed, or working in hazardous conditions, or they may have a poor diet.

4. Summaries of evidence

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Managing Resources **1. Biodiversity** To conserve and enhance natural habitats and wildlife and bring nature closer to people.	Kuo and Sullivan (97) examined the crime rate of a large housing development in Chicago. The authors found that the greener a building's surroundings were the fewer crimes (property and violent) reported. Dense vegetation has been linked to the fear of crime, lower perceived security (98). View distance is an important factor as vegetation blocks views. Provides potential cover for criminal activity. Well maintained vegetation outside a home may serve as a cure to care. Vegetation may mitigate crime by reducing mental fatigue. Kweon (99) looked at physical environment, green space, in relation to levels of social integration with neighbours (and a possible link to social capital). The sample were 91 elderly residents (62-91 years old) of a inner city Chicago public housing association. Kweon reports that the use of green outdoor common spaces predicted the strength of neighbourhood social ties and sense of community. Neighbourhood community ties are very important for the elderly. Run down, noisy, high rise living conditions discourage the elderly from social interaction: these settings are have been labelled sociofugal (100). Settings which encourage older adults to develop social ties with neighbours are known as sociopetal: these settings include features such as access to transport and safe public spaces. The study suggests that the use of trees near elderly people's homes may be an inexpensive way to enhance their social integration. Caring for their local environment may also enhance their health.
2. Water Quality & Water Resources To improve the quality of surface waters and groundwater and to achieve the wise management and sustainable use of water resources	The provision of clean water is a key public health issue and requires constant vigilance (101). Water has other areas for consideration *eg* the need to husband resources, water as a leisure commodity and the risk of flooding. The water industry is increasingly required to provide water supplies to properties built on areas of land contamination. The potential impact of the contaminants within such sites on the water supply pipes and therefore water quality needs to be seriously considered. Acidic land contaminants lead to corrosion problems for metal pipes, however, plastic pipes are susceptible to physical degradation or permeation by organic chemicals (102). Work in the US suggests that urban sprawl can threaten both the quantity and the quality of the water supply. As forest cover is cleared, and impervious surfaces built over large areas, rainfall is less effectively absorbed and returned to groundwater aquifers. Instead, relatively more stormwater flows to streams and rivers and is carried downstream. Higher density development patterns can reduce peak flows and total runoff volumes. With better control of 'point sources' of water pollution - factories, sewage treatment plants, and similar facilities it is now 'non-point source' water pollution that has emerged as a major threat to water supplies. This occurs when rainfall (or snowmelt) moves over and through the ground, picking up contaminants and depositing them into surface water (lakes, rivers, wetlands, and coastal waters) and ground water. Much of this problem relates to agricultural land, the primary source of contamination by fertilisers, and insecticides. However, a growing form of non-point source pollution is oil, grease, and toxic chemicals from roadways, car parks and other surfaces, and sediment from improperly managed construction sites, other areas from which foliage has been cleared, and eroding stream banks (103). Observers in the United States have shown that carpeting rural areas with concrete parking has a serious effect on the water supplies. Rainfall is naturally captured by vegetation, swamps, trees, permeable soil, or other natural absorbents. These areas retain and purify water for further recycling. However, when natural habitats are covered over with impermeable surfaces, the hydrological cycle is

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	negatively affected, causing runoffs, floods, and water contamination. The volume of storm water that washes off a parking lot is 16 times greater than the amount that can be absorbed in a field. Invariably, rainfall from parking lots mixes with grit, oil, and other debris, contaminating its flow into reservoirs (104). Research on waterborne diseases in the United States shows the highest incidence and quickest contagions occurred after heavy rainfall fell onto impervious surfaces (105). Around two thirds of London's front gardens are already at least partially covered by surfacing other than vegetation – paving, bricks, concrete, or gravel being the most likely alternatives. London's front gardens have given way on a huge scale to parking bays which, added together, cover an area of 32 square kilometres (12 square miles). The most worrying impact of hard surfacing on this scale is the increased burden that is placed on London's underground drainage system by the run-off of rain from hard surfaces. London's sewers are designed to carry a combination of sewage and rainfall. The more ground which is covered by impermeable hard surfaces such as concrete or paving slabs, the less rainfall will soak into the ground and the more will run into underground drains. At times of heavy rainfall, the drainage pipes overflow and the contents are discharged into London's rivers. This not only results in raw sewage being discharged into the river, with associated impacts on life in the river, but at times of very heavy rainfall it can result in localised flooding when rivers burst their banks. The experience of the flash floods of August 2004 in west London provides a dramatic picture of what this might mean (59). **Flooding**: flood risk is defined as 'a combination of two components: the chance (or probability) of a particular flood event and the impact (or consequence) that the event would cause if it occurred. Flood risk management can reduce the probability of occurrence through the management of land, river systems and flood defences, and reduce the impact through influencing development in flood risk areas, flood warning and emergency response' (106). The estimation of future flood risks is difficult due to uncertainties, however, all scenarios point to substantial increases (107). This projection of increased flood risk applies to flooding from rivers and coasts and also to localised flooding. Localised flooding is caused by sewer and drainage systems in towns and cities being overwhelmed by sudden downpours. Events in the Thames in August 2004 show the effect of sudden downpours. It is estimated that the numbers of properties at high risk of localised flooding could increase four-fold (107). Regulating and influencing development is essential. Flood defences can be constructed so that flood risk is minimised, but controls are also needed to prevent development that could increase flood risk (106). Floods in Britain are typically small-scale, short-lived and shallow. However, the health effects which can result from these floods are often very marked. These health impacts range from premature death, clinical problems requiring hospitalisation or consultation with doctors, to an increase in the use of non-prescription drugs or alcohol, depression, insomnia, low self esteem and general feelings of ill-health (108).

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3. Natural Resources To minimise the global, social and environmental impact of consumption of resources by using sustainably produced, harvested and manufactured local products.	This has been a difficult objective for which to provide health evidence. We quote below from a 2001 report looking at the resource intensive nature of the food distribution system. A similar process could be described for the majority of manufactured and processed commodities. **Fuelling the food system** Many of the high-profile social, environmental and public health problems within the food system are symptoms of flaws within the farming and food system. One of the most damaging aspects of the contemporary food system is the extent to which the supply of even the most basic foods has become dependent on petroleum (109). Transporting food long distances is energy inefficient. We put in more energy (in the form of non-renewable fossil fuels) than we get out (in the form of food calories). For every calorie of iceberg lettuce, flown in from Los Angeles, we use 127 calories of fuel. Long distance transport also emits carbon dioxide (CO_2), a greenhouse gas. One sample basket of imported organic produce could release as much CO_2 into the atmosphere as an average four bedroom household does through cooking meals for eight months. The 26 products, collectively, travelled a distance equivalent to six times round the equator (241,000 kilometres). The same basket of non-organic imported produce would do the same damage. However, on top of this, non-organic food uses more energy in the production process. Non-organic milk, for example, needs five times more energy per cow than organic milk. Food packaging also uses energy and creates pollution. Most of the 80 million food and drinks cans we use each day are not recycled but buried, in increasingly scarce landfill sites. International food trade is increasing faster than the world's population and food production. Between 1968 and 1998, world food production increased by 84%, population by 91% and food trade by 184%. UK imports and exports of many food products have increased in recent decades. The situation for certain food categories is now critical. For example, even if all UK fruit production went to UK consumption, out of 100 purchases, on average only 5 will have been grown in the UK. Rather than importing what they cannot produce themselves, many countries appear to be simply 'swapping food'. In 1997, the UK imported 126 million litres of milk and exported 270 million litres. The organic sector seems to be repeating these trends, with UK imports of meat growing from 5% of the market in 1998/9 to 30% in 1999/2000. Of all organic food consumed in the UK, three-quarters is imported. This is because UK farmers, like their conventional counterparts, cannot supply large volumes of standard produce all year round, to the major retailers who dominate the distribution system. One study has estimated that UK imports of food products and animal feed involved transportation by sea, air and road amounting to over 83 billion tonne-kilometres, using 1.6 billion litres of fuel and, resulting in 4.1 million tonnes of carbon dioxide emissions

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4. Climate Change **To** address the causes of climate change through minimising the emissions of greenhouse gases and ensuring that London is prepared for its impacts.	The world population is encountering unprecedented and wholly unfamiliar human-induced changes in the lower and middle atmospheres and world-wide depletion of various other natural systems (e.g. soil fertility, aquifers, ocean fisheries, and biodiversity in general). Beyond the early recognition that such changes would affect economic activities, infrastructure and managed ecosystems, there is now recognition that global climate change poses risks to human population health (29). The UK assessment concentrated on producing quantitative results for the following health outcomes ((28) cited in (29)), for three time periods and for four climate scenarios: ▪ Heat-related and cold-related deaths and hospital admissions ▪ Cases of food poisoning ▪ Changes in distribution of Plasmodium falciparum malaria (global) and tick-borne encephalitis (Europe), and in seasonal transmission of P. vivax malaria (UK) ▪ Cases of skin cancer due to stratospheric ozone depletion. The large uncertainty surrounding these estimates was acknowledged. The main conclusions of the report were the impact of increases in river and coastal flooding, and severe winter gales. This report also clearly addressed the balance between the potential benefits and adverse impacts of climate change: the potential decline in winter deaths due to milder winters is much larger than the potential increase in heat-related deaths. Climate change is also anticipated to lessen air pollution-related illnesses and deaths, except for those associated with tropospheric ozone, which will form more readily at higher temperatures ((28) quoted from (29)).
5. Air Quality **To** improve air quality.	There are serious health effects to people exposed to the current levels of air pollution in European countries. COMEAP (United Kingdom Government Committee on the Medical Effects of Air Pollution) (110) also states that air pollution: ▪ has short term and long term damaging effects on health; ▪ can worsen the condition of those with heart disease or lung disease; ▪ can aggravate but does not appear to cause asthma; and ▪ in the longer term, probably has additional effects on individuals including some reduction in average life expectancy, though the extent of this is not fully understood at present. In terms of health air quality and levels of pollution are pertinent for the elderly and young children. Those most affected by air pollution tend to live in deprived neighbourhoods with major arterial roads running close to them. The combined health impacts from road traffic injuries and transport related air pollution are estimated to account for 1% of annual deaths in London and is responsible for a major contribution to morbidity (75).
6. Energy To achieve greater energy efficiency and to reduce reliance on fossil fuels for transport, heating, energy and electricity.	To make sense of the diverse ways in which energy is linked to health, it helps to draw a distinction between energy and energy services. Although much of energy policy is focused on the former, it is the latter that we really care about: heat, light, power and mobility. Crucially, energy services can be improved without increasing energy supply. Installing loft insulation, for example, will increase domestic warmth and may even reduce energy consumption (111). Energy services typically play a positive role in promoting health whereas the generation of energy tends to have negative health impacts. Consequently, there are often health trade-offs involved in energy consumption. For example, we currently use fossil fuels to keep warm in winter, but burning these fuels increases air pollution. Similarly, an ambulance driven to a casualty department will leave a trail of

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	noxious exhaust fumes behind it. The goal of a healthy energy policy should be to maximise the benefits of energy services while minimising the negative impacts of energy generation. At the level of the individual or household, there are many people who do not have a secure supply of energy because they cannot afford it. Those who forego essential energy services, particularly heating in the winter, face heightened risks of illness and mortality. Consequently, fuel poverty is a major public health concern. Fuel poverty is defined as the inability to obtain adequate energy services for 10% of income. As the key issue is access to energy services, the focus on fuel is rather misleading and the term 'affordable warmth' is more accurate. In practice, people who lack affordable warmth are likely to gain it through energy efficiency measures rather than through better access to fuel. Cold homes are dangerous places, especially for vulnerable people. Every year in the UK, many more deaths occur in winter than in summer. For every ten deaths that occur at the lowest rate in summer, fourteen occur at the highest rate in winter. Although a similar seasonal pattern is seen in other European countries, the magnitude of the increase in the winter death rate in the UK is comparatively large. Although there are other seasonal factors which affect health, such as lower levels of vitamin C in the winter diet, cold is manifestly the principal problem (112). Hypothermia is not a major cause of winter mortality; the main culprits are cardiovascular (heart) and respiratory (lung) disease. A key defence against cold is to minimise bodily heat loss by reducing blood supply to the skin, leading to an increase in blood concentration and a heightened risk of clot formation. Respiratory disease pathways are more complex but can involve the weakening of respiratory tract defences, thereby increasing susceptibility to infections; bronchoconstriction, exacerbating asthma and chronic obstructive pulmonary disease; and inflammation of the lower airways, also affecting asthma. Cold homes also make people ill. Most of the illnesses associated with cold homes are due to the presence of damp which encourages the spread of mould. Mould thrives in the organic materials in walls and cavities such as plaster, wallpaper and wallpaper paste and can easily spread to carpets, furniture and clothing. Mould growth can cause respiratory illness and infections, although its contribution to asthma is small. Damp and mould are linked in adults to a range of symptoms including nausea, breathlessness, backache and fainting. In children, symptoms are worse and include vomiting, wheeze, irritability, fever and poor appetite. Cold and damp homes also have effects on mental health. Problems arise because of the struggle to keep warm and pay fuel bills, the sight and smell of mould, and the stigma of living in unclean conditions(112). Renewable energy resources such as wind and solar power are not only good choices for mitigating climate change, they also have the lowest adverse health impacts overall because they do not produce pollution when in operation. Biomass power plants, which burn agricultural wastes or energy crops, are also a good choice for minimising climate change, although in some cases they produce more air pollution than natural gas power stations. Coal and oil-fired plants have by far the worst impacts on both air pollution and climate change. Switching to renewable energy is clearly a healthy choice, both for the UK population living downwind of today's power plants and for the global population that will suffer the future effects of climate change. However, the best energy choice is always to use less, either through better demand management or improving energy efficiency. Maximising the efficiency of energy generation is also important. Combined Heat and Power Plants deliver far more useful energy per kilogram of pollutants than an ordinary power plant using the same fuel. Hydrogen fuel cells are also very efficient in their use of fossil energy, usually natural gas. Hydrogen fuel cells powered by renewable energy offer the long term possibility of pollution-free, healthy transport.

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	Energy is the fourth biggest cost to the NHS, after staff costs, drugs and medical purchases. Hospitals alone account for just over 1% of all the primary energy use in the UK (113). The NHS is therefore in a good position to promote health not only by reducing energy-related emissions but also by saving money for health and healthcare. The same argument can be made for the broader public health responsibilities of local government and for the voluntary sector. Although not faced with the task of keeping hospitals warm, local authorities typically have substantial estates which may include energy intensive service such as swimming pool (111).
7. Waste **To** minimise the production of waste across all sectors and increase re-use, recycling, remanufacturing and recovery rates.	Waste management is a very large scale activity which inevitably has consequences for human health and the environment. At the very least it involves transporting waste materials. The various waste management processes such as landfill and incineration are very different in character and give rise to different kinds of human health hazards. Domestic waste is the main component of municipal solid waste and this can contain hazardous substances such as pesticides used within the home. If such substances are volatile then it is likely that they will be released from a landfill. Incineration may destroy such substances but combustion itself is well known to create toxic substances such as sulphur dioxide, oxides of nitrogen, dioxins and furans. Composting can also generate hazardous substances – for example, some of the micro-organisms which flourish in the composting process are able to release spores with allergenic properties which can stimulate or exacerbate respiratory diseases. Even recycling processes are not without risk. These may well involve the expenditure of energy and consequent release of combustion gases and/or produce contaminated wash waters (85). Incineration: modern, well-managed incinerators can be an effective means of reducing and disposing of waste materials. However the by-products of the combustion process may contain hazardous or toxic pollutants and emissions will add to background pollution levels. As a result, there is often considerable public concern over the possible health effects of living near to incinerators processing hazardous, clinical or municipal waste. The report (85) presents a systematic review of epidemiological studies of the public health effects of waste incinerators. There is no doubt that air pollution (from all sources) can have an adverse effect on the health of susceptible people (ie young children, the elderly and particularly those with pre-existing respiratory disease). Recent work in the UK by the Committee on the Medical Effects of Air Pollutants (COMEAP) demonstrates that exposure to air pollution can bring forward death in patients with severe preexisting disease, although the degree of life shortening is typically of the order of a few weeks at most per individual (114). However, there is currently little convincing evidence that ambient levels of air pollution cause adverse health effects in healthy people (85). Most of the epidemiological studies of possible health outcomes in populations living close to incinerators have not given clear indications of the presence or absence of an effect. Of necessity, many of the studies examining possible health effects are retrospective and employ routinely collected data such as cancer registrations, birth and death records. Whilst such observational studies can provide evidence of association between a health outcome and an environmental pollutant, they cannot, by themselves, demonstrate a cause and effect relationship. The interpretation of these findings is also crucially dependent on well-known limitations, including possible sources of bias and confounding, together with the ever-present difficulty in obtaining reliable and accurate population exposure data (85). It has been hypothesised that exposure to dioxins and furans (either directly via inhalation or indirectly via the food-chain) is responsible for some cancers in communities around incinerators. However, epidemiological studies on the older generation of incinerators that emitted significantly greater amounts of dioxins than newer facilities have failed to identify an effect. Given that the emissions of dioxins and furans from modern incinerators are orders of magnitude lower than from older incinerators, it can be said with some confidence that any impacts of dioxin and furan on cancer rates in local people are small or non-existent and unlikely to be quantified through epidemiology (85). There is little evidence to suggest that waste incinerators are associated with increased prevalence of respiratory symptoms in the surrounding population. This is consistent with the data from risk assessments, emissions and ambient air monitoring in the vicinity of

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	incinerators which indicate that modern, well-managed waste incinerators will only make a very small contribution to background levels of air pollution. In many cases, air monitoring data do not demonstrate that emissions from the incinerators are a major contributor to ambient air pollution (85).
Getting Results **8. Built and Historic Environment** **To** enhance and protect the existing built environment (including the architectural distinctiveness, townscape/landscape and archaeological heritage), and ensure new buildings are appropriately designed and constructed in a sustainable way.	Whilst people want better housing, better healthcare and better schools, it is their immediate neighbourhood that has the biggest impact on their relationship to their friends, their family and their neighbours as well as their own self-esteem and sense of health and well-being 10. Focus on neighbourhoods and their development, in all parts of public policy, has led to a debate about the resilience of neighbourhoods, and, specifically their capacity to respond to diversity, fragmentation and changing needs. Neighbourhoods are both complex and adaptive places. They are not static social organisms but networks of individuals and organisations that need to embrace difference and nurture it. High performing neighbourhoods are, by definition, ones in which trust in institutions is developed and confidence in their ability to deliver restored (115). The Commission for Architecture and the Built Environment state "the concept of neighbourhood describes the physical organisation of uses in and between buildings and spaces" (116). Above all, "whatever the official definition used, the people who live in a neighbourhood generally know which neighbourhood is theirs – where it starts and where it ends" Whilst, definitions vary there are a number key elements that consistently emerge in all of them. These are: ▪ Geographical space; ▪ Housing type and tenure; ▪ Administrative area; ▪ Common interest and/or beliefs; ▪ Social networks. Social cohesion is not something that a community generates in isolation from government and regional policies. It is an outcome of social investment (117). Good design encourages greater ownership and involvement of communities and can reduce negative effects such as vandalism and the under-use of facilities (118;119). Community-level structural factors which can impede social organisation include residential instability, family disruption and high ethnic heterogeneity (120). These factors can lead to a weakening of adult friendship networks and a weakening of value consensus in the neighbourhood and increase the likelihood of deviant behaviour. Residence in a poor neighbourhood has been associated with an approximately 50% increase in mortality compared with a non-poverty area (121). Living in poor social environments has been associated with an increased risk of poor self rated health and death (122).

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9. Housing **To** ensure that all Londoners have access to good quality, well-located, affordable housing that promotes liveability.	It is important that the dwellings and neighbourhoods created are attractive, well designed and promote liveability and health. It is not always clear which of the determinants of health has a direct causal link with housing and which are merely indicators of other variables, about the mechanisms by which they operate and about how the various factors such as age, or tenure or income interact with each other. Housing redevelopment and regeneration can result in a better quality of life for the people who live there. There is a growing body of evidence from research and innovative projects that demonstrate what works. While neighbourhood improvement may 'gentrify' an area social problems tend not to be solved but evacuated and moved elsewhere (123). The subsequent absence of social problems is thereby used as evidence that gentrification has positive social impacts. This displacement has real social costs (123): for example, increased housing need, overcrowding in 'hidden households' and homelessness. In addition, displaced residents may feel resentment, disenfranchisement and a sense of exclusion. Displacement also has neighbourhood effects (124) *ie* impaired social networks and reduced service provision. These neighbourhood effects will adversely affect vulnerable groups that are less able to cope with the psychological and financial costs. Thomson et al (125) reviewed the health effects of housing improvement. They found few studies examining the effects of housing improvements on health, and the quality of the studies identified was generally poor. Improvements were reported in overall self reported physical and mental health, as well as reductions in symptoms and use of health services. There was some evidence of improvements in broad indicators of social inclusion such as neighbourliness and fear of crime.
10. Accessibility / Availability (Transport) **To** maximise the accessibility to key services and amenities and increase the proportion of journeys made by public transport, by bicycle and by foot (relative to those taken by car).	Transport's primary function is to enable access to people, goods and services ((126) cited in (78)). In so doing transport promotes health indirectly through the achievement and maintenance of social networks and by enabling people to access employment opportunities. Lack of access to transport is experienced disproportionately by women, children and disabled people, people from minority ethnic groups, older people and people with low socio-economic status. These groups find their access is reduced to services such as shops and health care and they spend a higher proportion of their resources on transport (78, p56). Disadvantaged urban areas tend to be characterized by high traffic volume, leading to increased levels of air and noise pollution and higher rates of road traffic accidents without the benefits of access to private transport (126). The accessibility of facilities, opportunities for activity, and aesthetic qualities of the area are important factors in whether people take part in physical activity (127). The proximity of a park, a cycle path, or shops can lead to higher levels of exercise or recreation. Also, awareness of facilities, satisfaction with facilities, and the perception that the area offers opportunities to be physically active encourage greater physical activity (128). For older people access to local facilities, pleasant scenery and seeing other people exercise is important to whether or not they participate in physical activity (129). Affordable and reliable pubic transport is necessary for connecting deprived neighbourhoods and estates to services particularly employment. In London the unemployed and those looking for work are often required to commute over large distances in order to access employment opportunities. Due to the nature of the jobs they are able to command which tend to be characterised by low pay it is often not financially viable or rationale for individuals to take up these jobs. Remaining unemployed of course has its resultant health impacts. However, commuting especially long commutes have been shown to reduce levels of social capital and bonds particularly those relating to interfamilial relationships. This has been linked to poor educational outcomes amongst children. Important to ensure that reducing congestion means that volumes of traffic, and the speed with which the traffic moves, also reduce. Increasing the use of public transport and cycling and walking and decreasing reliance on private motorized transport has health and

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	social benefits – increasing physical activity and reducing social isolation (130). Traffic has the potential to affect social networks on a very local basis: as traffic volumes increase people's sense of neighbourliness and the geographic density of their friendships decreases (see 131). The development of a new transport network in an area has major implications for the social networks of the community in question, reducing social cohesion and contributing to feelings of isolation. This process is termed community severance and occurs when roads carrying large volumes of traffic cut through residential areas, in effect 'severing' them (132) Egan and Petticrew *et al* (84) describe a qualitative study which examined the ways in which people adapted to the opening of a large new road (133). The author noted three types of adaptation ▪ attitudinal adaptation *eg* reconciling oneself to the inevitability and/or usefulness of the new road); ▪ behavioural adaptation *eg* spending less time in certain rooms or the garden; and ▪ environmental adaptation *eg* installing double-glazing, fences *etc*. The same authors (84) report a study which investigated community severance by roads (134-136). Movements across neighbourhoods were found to be on average 14% lower in the new road areas. Irrespective of whether a major road was 5, 10 or 30 years old residents adapted to the 'barrier effect' produced by the major roads by expanding the boundaries of what they considered to be their neighbourhood to include amenities situated further away from their homes, but on their own side of the road.
11. Regeneration & Land-Use **To** stimulate regeneration and urban renaissance that maximises benefits the most deprived areas and communities and to improve efficiency in land use through the sustainable re-use of previously developed land and existing buildings.	There is a general presumption that renewal is beneficial for health because regeneration programmes act on working and living conditions which are, in turn, determinants of health. It may appear self-evident that improvements in health determinants for disadvantaged groups will lead to health improvement and so reduce health inequalities in society (93). However, this assumption must be considered in the light of the evidence from research on health inequalities. Otherwise such an assumption becomes a 'given' based on a perspective that is too narrow and inflexible (137). While there is a wealth of evidence linking poor health and deprivation, there is very little evidence to show what happens when determinants of health improve, i.e., the health impacts of regeneration programmes and economic development (93). The emphasis in regeneration used to be about building new houses. This destroyed communities. Renovating and improving the existing housing stock particularly in deprived areas helps to improve the image of the community and can also lead to health improvements amongst the original population. The improvement of the physical environment even minor cosmetic changes such as cleaner streets and removal of graffiti within neighbourhoods and communities may also serve to enhance neighbourhood safety, reduce fear of crime and promote physical activity within these neighbourhoods. It can also enhance community levels of social capital. See Section 5starting on page 41 for discussion of evidence surrounding Regional Casinos.
12. Employment **To** offer everyone the opportunity for rewarding, well-located and satisfying employment.	'Choosing health' white paper recommends Government and others can take to extend healthy choices by: reducing barriers to work to improve health and reduce inequalities through employment; improving working conditions to reduce the causes of ill health related to work; and promoting the work environment as a source of better health. Tackling the lack of qualifications is essential although may need to look at whether these supply side policies are sufficiently meeting local employment demand. If there are too many people with only basic skill levels employers may be encouraged to offer lower wages. Pathways to work should be promoted and supported in areas of high unemployment such as the use of Intermediate Labour Market training schemes and the New Deal programmes. Individuals with a lack of basic skills and limited employment experience will be exposed

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	unfavourable labour market outcomes in terms of job sustainability if they are 'thrown' directly into employment. This does not promote social mobility nor help reduce health and income inequalities. In terms of the health impacts, need to consider the types of jobs that individuals with basic skills are able to command. Low paid insecure forms of work usually do not promote social inclusion or mobility. In terms of health these jobs may be actually worse than remaining unemployed. Addressing unemployment amongst households with children is a necessary requirement in the reduction of child poverty. Research shows that children whose parent(s) are unemployed are more likely to experience poor health and educational outcomes. This is particularly the case amongst lone parent households. Job creation does not necessarily 'trickle down' as job opportunities for the long-term unemployed, and is neither a sufficient, nor necessary, condition for reducing long-term unemployment (138). Employment policy should include measures to tackle possible discrimination by employers and better targeting of vacancies to long-term unemployed people. Nationally ethnic minority unemployment is more than double that of comparable White sub-populations (139). Empirical evidence linking economic growth to health impacts is limited and the evidence that does exist is equivocal on the whether local economic development is beneficial for health. A number of longitudinal case control studies demonstrate that reemployment into satisfying work may be beneficial. However, a transition from unemployment to 'inadequate' work is unlikely to be beneficial to health (140-143) and not facilitate social inclusion or mobility. Furthermore, it may take a significant time for the 'damage' to health resulting from unemployment to be repaired. Re-employment in low quality work may be actually worse for psychological health than the experience of unemployment (140;144;145). Employment opportunities created by regeneration schemes risk being dominated by low paid, insecure, secondary sector, non-standard forms of employment which may contain many of the negative attributes described above (146-148). As noted in Reviewing the London Plan document (2005) GLA research has established working age income poverty in London is concentrated in households with dependent children, while working age adults who do not live with children have the same poverty rate in London as at national level. The research has also established that the difference in poverty levels between London and the national average is overwhelmingly the result of poor labour market outcomes affecting families with children. About 60 per cent of children in poverty in London are in workless households. Even if employment prospects do improve, for some groups of workers such as lone mothers and socio-economically deprived families, there may be conflicts between the demands of employment and other salient roles and responsibilities (149-151). As cited in the above paragraph these population sub groups are already disproportionately affected by poverty. Employment policies and job creation mechanisms should offer a sustainable route out of deprivation rather then further increasing it. Evidence exists that shows that the new jobs created by regeneration initiatives are often filled by workers from other parts of a city or region, rather than local populations in areas targeted for regeneration (152-154).
13. Stable Economy **To** encourage a strong, diverse and stable economy and to improve the resilience of businesses and their environmental, social and economic	Recently the Medical Research Council conducted a systematic review of the health impacts of state subsidised economic development (155). They examined over 9,000 titles and abstracts and found only 11 studies that provided robust and rigorous evidence on health impacts. The majority of this evidence points to the negative health effects of development particularly in terms of the health status of the existing population.

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performance.	Glenn et al (156) conducted a longitudinal study of the health and economic status of a cohort of residents in Johnson County, Tennessee, USA. After a period of economic recession, the local economy improved between 1990 and 1993. The authors found that between 1990 and 1993, long term, non-migrating residents did not on average benefit economically from the regeneration. They experienced a significant decrease in average household income. These residents had a statistically significant worsening in the Duke Health Profile measure of physical health status. Their mental health, measured by the Duke Health Profile, showed slight (insignificant) improvement. Their decline in health was tentatively attributed to either direct or indirect effects of the decline in family income. There was a rapid population increase during the expansion, attributable to inward migrants who were younger and healthier than existing residents. They conclude that local economic development can leave long term area residents poorer and less healthy, and this problem may be masked by an increase in healthier, wealthier inward migrants (156). NB The authors note also that the economic expansion was accompanied by an expansion of health care services availability. This expansion of services was not accompanied by reduced driving times or increased number of visits. The empirical relationship between income inequality and health has been much debated and discussed. Recent reviews suggest that the current evidence is mixed, with the relationship between state income inequality and health in the United States (US) being perhaps the most robust (157). Nearly a hundred empirical studies have now examined the relationship between income inequality and health. Despite large number of aggregate and multilevel studies addressing this topic, there is no consensus about whether income inequality is a threat to public health. In a recent review of the multilevel studies of income inequality and health published to date ((158) three broad patterns of findings were identified. First, income inequality has not been found to have an adverse effect on population health in countries that are more egalitarian (or have a stronger welfare state) than the United States (US). In countries that are more unequal than the US, however, there seems to be some support for the adverse effects of income inequality on population health. Second, the most consistent association between income inequality and health appears to be at the level of the US states, where higher inequality has been linked to higher all-cause mortality risk, lower self-rated health, higher prevalence of depressive symptoms (as well as a more adverse profile of health-related behaviors.

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14. Creativity and Innovation **To** promote creativity and innovation in the environmental and social economy (including new clean technologies, renewable energy, pollution control and the skills sector).	In a recent lecture at the World Urban Forum (2006) the planning specialist John Friedmann described intellectuals and creative industries as important assets for city-regions. "Its quality of its universities and research institutes and what the Japanese call their "living human treasures," its artisans and artists, intellectuals and scientists, and all others, musicians and writers, poets and film makers, actors and dancers who embody a region's creative powers. Small in number, they are nonetheless essential to a region's future and should count among its finest treasures. The best among them are also the rarest, and to lose them is an inestimable loss to the city. Creativity must be nurtured. Scientists need research laboratories. Students pursuing advanced degrees require universities that are properly equipped and staffed. Film makers require studio spaces and artists need galleries to display their work as well as studios. Actors and dancers must have stages to perform their work. And all of them require the freedom to create as they will. Creativity cannot be commanded, but creative work requires public support. Market forces alone will not suffice. New ideas and artistic creations are often unpopular, and those who create tend to march to a different drummer from ordinary people. Cultural and intellectual elites, their presence ensures a city's capacity for innovation. Professional contacts extend across the globe to other cities, and from these exchanges come new ways of seeing and thinking that add to the city's liveliness and vigor. It is these elites that are the primary source of informed critical thinking which can be crucial to charting a city's future". Social exclusion disempowers people: it deprives people of access to the arts. The theatre or cinema is not high on the list of priorities when people are struggling to survive Whether spectator, performers or producers the arts provide a unique contribution to building informal social capital. While some of the social impacts of participation in the arts arise from people taking an active part in their own development and that of their community the benefits of participation are different in nature and extent from other aspects of arts activity (159). Participation in the arts strengthens democratic institutions. Putnam found a strong relationship between the number of local choral societies and the effectiveness of government institutions. Putnam writes that communities which sing together better achieve the government they desire (160). The arts can transcend the cultural and demographic boundaries that divide society and find deeper spiritual connections with those like us. The Arts create both bridging and bonding social capital. Traditionally the arts have done more for bonding than bridging. Many activities are segregated by race, socioeconomic class and gender. This is, in part, because people seek those who are like them and, in part, because the system of financing and presenting the arts has traditionally reinforced entrenched patterns of exclusion(159). Appearance and behaviour are intensely political: styles of dress, behaviour and recreation in youth subcultures can be symbolic forms of resistance against the prevailing authority of wider society. Study compared the levels of cultural activity with self-reported health. Individuals who became less culturally active or those who were culturally inactive throughout the study reported poorer health compared with the culturally active. Individuals who moved from cultural inactivity to cultural activity had the same level of self-reported health as the culturally active (161). Cross sectional study found that attending cultural events is linked to longevity. People who rarely attended such events ran a 60% higher mortality risk than those attending most often. However, no conclusion about the causal mechanisms could be drawn (162)
Taking Responsibility	
15. Liveability and Place **To** create and sustain liveable, mixed use physical and social environments	There is now broad consensus that living in deprived (urban) neighbourhoods increases the risks of poor health outcomes (163). Neighbourhood quality has been shown to effect:- people's ability to adopt health promoting behaviours e.g. physical activity (164), smoking prevalence and diet 170; Biological indicators of cardiovascular disease risk e.g. body mass index and systolic blood

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that promote long term social cohesion, sustainable lifestyles and a sense of place.	pressure(165) ; mortality , heart disease incidence and self-rated health (166;167). We have only a limited understanding of what it is about the urban environment and neighbourhoods that leads to different health outcomes. In order to understand which interventions improve population health it is important to distinguish between different aspects of the urban environment(168) . Broadly speaking there are three aspects that is important to distinguish between:- ▪ the service environment (e.g. access to, and quality of, services and amenities); ▪ the physical environment (e.g., air quality, traffic levels); ▪ the social environment (e.g. the quality, content, and volume of interactions between people). The physical condition of the neighbourhood is important if it is to respond to the changing needs of the community, to maintain a neighbourhoods distinctive identity, and safeguard and enhance some of the essential elements of community life that may contribute to a safer and fairer society (169). Lifestyles and the ability to make healthy choices are influenced by the quality of the built environment and are linked to levels of obesity, coronary heart disease, cancer and diabetes. Poorly designed neighbourhoods can expose residents to the detrimental effects of pollution or toxins or to increased risk of accidents (170). What people see when they open their front door has a profound impact on their health (171). Children who have access to or sight of the natural environment have higher levels of attention than those who do not. Access to green space can contribute to health and well-being, social inclusion, community development and culture. Ease of walking, opportunities for activity, access to a green and pleasant environment and the aesthetic qualities of the neighbourhood is associated with increased levels of physical activity. Awareness of facilities and satisfaction with facilities also leads to greater physical activity (169). The corrosive effect of crime and fear of crime, combined with economic disadvantage and a poor physical environment have a major impact on the quality of peoples lives and their health (172). As part of this, trust, tolerance and a sense of attachment to the neighbourhood are strongly related to health. This means that although where you live matters for your health it is your social environment that matters most: "for those of low social status, health is made worse by living in a poor area. There is a kind of double jeopardy". A systematic review of public health research on the environmental determinants of physical activity in adults concluded that the most consistent evidence regarding effects of environmental factors on physical activity in adults is observed for accessibility of facilities, opportunities for activity, and aesthetic qualities of the area (173). In a survey of nearly 3,400 adults in Australia, it was found that the men and women reporting a more convenient environment (including proximity of a park or beach, a cycle path, or shops) or a more aesthetically pleasing environment (a friendly, attractive, or pleasant neighbourhood) were more likely to report walking for exercise or recreation (174). A national phone survey of nearly 2,000 US adults found that the odds of meeting physical activity recommendations were significantly higher in persons who reported access to places to exercise, walking or jogging routes, or a park. The presence of pavements and enjoyable scenery in the neighbourhood was also associated with increased rates of meeting physical activity recommendations. Awareness of facilities, satisfaction with facilities, and the perception that the area offers opportunities to be physically active were also found to be associated with greater physical activity in other studies (175;176). Population density, employment density, and mixed land use are positively related to transit use and walking for shopping and work related trips (177). Using data from a household survey of five selected neighbourhoods, researchers found less travel by car and more non

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	motorized travel (such as walking and cycling) in neighbourhoods characterised by a mix of land uses, high density, and pedestrian-friendly designs (178;179). Pedestrian-oriented design (including pavements, street lighting, and planted strips) has been found not to encourage motorized transport (180). Feldman (181) examined pathways through which low neighbourhood socioeconomic status (SES) and associated subjective neighbourhood characteristics may be associated with self-reported physical functioning. The study showed that living in a lower socioeconomic neighbourhood was associated with greater perceived neighbourhood strain, which, in turn, was associated with poorer physical functioning. Lower neighbourhood SES and greater perceived neighbourhood strain were associated with poorer physical functioning of individuals through less social integration, less perceived control, and greater financial strain. They conclude that neighbourhood SES and associated perceptions of neighbourhoods are associated with physical functioning through the shaping of the social and psychological experiences of individuals living within them. Molnar (182) examined the role of neighbourhood disorder and the lack of physical activity amongst poor urban children. More specifically they looked at the associations between activity levels of urban youth and limited access to safe recreation areas in their neighbourhoods of residence. The investigators found that physical activity averaged 2.7 hours/week and varied significantly across neighbourhoods. Socio-economic status, age, and sex (being male), but not body mass index, were independently associated with physical activity. Lower neighbourhood safety and social disorder were significantly associated with less activity. They propose that an important mechanism for reduced physical activity among youth may be the influence of unsafe neighbourhoods. **Food access and retail centres** The recent UK White Paper on Public Health (89) describes the importance of actions to 'secure better access to healthier choices for people in disadvantaged groups or areas', noting that 'deprived communities often lack good local access to places to buy fresh fruit and vegetables'. Policies to combat diet-related health inequalities have therefore been a priority (78;183-185) but evidence informing where, when and how to reduce these inequalities has been thin on the ground. Studies in Newcastle and Glasgow have recently provided some evidence of the ways in which supermarket development affects people's access to food (186;187). The main findings of these studies are summarised below: ▪ Newcastle (187): *food deserts*, areas where communities have little access to an affordable and healthy diet, exist only for a minority of people. These people live in a locality that suffers from poor retail provision of the foods that compose a healthy diet. They also choose not to, or unable to, shop outside their immediate locality. Key predictors of healthy eating were found to be dietary knowledge, relative affluence, and healthy lifestyle. Retail provision was not independently associated with diet. ▪ Glasgow (186): little evidence for an overall effect of the intervention for fruit and vegetable consumption in portions per day. For those consumers who switched their main food shopping to the new store an improvement in consumption of around 0.35 portions per day was seen though the evidence for this was very weak. A substantial positive improvement in one measure of psychological health (GHQ-12) and a weak positive effect on self reported health was seen in switchers. Little evidence exists relating to the health impacts as a result of large-scale retail interventions and regeneration in terms of food access and choice. Wrigley *et al* (188) note a 'cannibalisation' of trade from other supermarket stores. The suggestion is that in terms of retail structure the impacts of large-scale retail interventions may be negative (189). This would imply shop closures and redistribution towards the new facility rather than a widening of food choice and accessibility. (190;191). There has been growing interest in the ways in which features of the local food environment may be related to the dietary habits of

SA Objective	Implications for health & wellbeing of people living & working in London
	individuals. There is some evidence that the dietary patterns of individuals differ across neighbourhoods and that these differences may not be wholly attributable to individual-level socioeconomic characteristics. Studies in the United States have shown that the number of supermarkets is lower and the number of off-licences and fast food outlets higher (192;193) in more deprived neighbourhoods. In turn, the availability of services and amenities (such as grocery stores, pharmacies, as well as recreational spaces) may facilitate or constrain a person's ability to engage in health-promoting behaviours such as eating fresh vegetables, obtaining medicines, or getting regular exercise (194;195). There has been growing interest in the ways in which features of the local food environment may be related to the dietary habits of individuals. There is some evidence that the dietary patterns of individuals differ across neighbourhoods and that these differences may not be wholly attributable to individual-level socioeconomic characteristics. Studies in the United States have shown that the number of supermarkets is lower (196) and the number of off-licences and fast food outlets higher (197-199) in more deprived neighbourhoods. In turn, the availability of services and amenities (such as grocery stores, pharmacies, as well as recreational spaces) may facilitate or constrain a person's ability to engage in health-promoting behaviours such as eating fresh vegetables, obtaining medicines, or getting regular exercise (200;201). There is also evidence which argues against the processes described above. A recent study (202) examined the relationship between being overweight in preschool children and three environmental factors ▪ the proximity of the children's residences to playgrounds ▪ the proximity of the children's residences to fast food restaurants and ▪ the safety of the children's neighbourhoods. The authors found that within the study population of urban low-income preschoolers, being overweight was not associated with proximity to playgrounds and fast food restaurants or with the level of neighbourhood crime.
16. Education and Skills **To** maximise the education and skills levels of the population.	The Organisation for Economic Co-operation and Development report that the economic importance of knowledge and skills is growing: they also report that the social impact of learning is equally as significant as the economic impact (203). Education, training and learning play important roles in providing the basis for economic growth, social cohesion and personal development (203). Education is positively correlated with employment earnings. Independently of qualifications adult literacy has a strong impact on earnings (204). Educational attainment in one generation has positive effects on the educational attainment of the next generation: better schooled parents have children with a higher level of cognitive development as well as children with higher future earnings potential (205). People with higher educational qualifications tend to be healthier and have a lower take of social benefits (205). An additional year of schooling is associated with reduced average daily cigarette consumption for both men and women (206). People with more schooling tend to be less overweight and engage in more exercise per week than less educated people. People with more schooling are better able to identify relevant health related information and using this information in a constructive manner.

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17. Ownership and Participation **To** promote civic participation, ownership and responsibility and enable individuals, groups and communities to contribute to decision-making at neighbourhood, borough and regional levels in London.	The specific mechanisms underlying the link between community social capital and health outcomes aren't yet clear. There are several distinct pathways through which social capital may influence individual health outcomes. First, at the *community* level social capital may enhance the health of residents through two processes already alluded to: collective efficacy (i.e., the ability of communities to undertake collective action to introduce local smoke-free zones, or to lobby against the closure of local clinics), and collective socialisation (e.g., informal social control over deviant health behaviours, such as underage smoking and drinking) (207;208). In addition to the community-level pathway, community social capital may operate at the *individual* level via the provision of mutual aid and social support. A convincing body of empirical evidence from epidemiology suggests that social support is an important determinant of longevity and quality of life (209). Lastly, residence in a high social capital community may promote health via *direct* psychosocial mechanisms, by promoting feelings of security, identity, shared emotional connection, and 'belongingness'. An excellent example of how these processes may function to affect health is provided by a case study of the 1995 Chicago heat wave, during which hundreds of elderly residents died of heat exhaustion (210). Death rates were highest amongst individuals who resided in communities characterised by low levels of social interaction in public places as well as high crime rates. A lack of community life combined with a fear of crime kept many elderly residents sequestered within their homes and prevented them from reaching emergency cooling centres. Communities with an active street life where neighbours saw each other and interacted on a daily basis were more successful at protecting vulnerable residents against the risk of death. Access to social capital within the broader community (including trusting relationships between neighbours) looms in importance for isolated, elderly people who have limited opportunity for engagement outside their homes (211). However, social capital and social cohesion may not uniformly or invariably be associated with better health outcomes (212). The embeddedness of individuals within a 'high social capital' context may have important deleterious consequences for wellbeing (213). For instance individuals may be constantly called upon to provide social support to members of their bonding networks. Additionally, there may be pressures to conform to certain rules and expectations within a community which do not allow freedom of individual expression. A UK study (214) found that neighbourhoods in which close family bonding ties were predominant tended to be less tolerant of diversity, and possessed fewer bridging ties. Finally, an uncritical application of the social capital perspective may lead to the inadvertent 'blaming' of communities for their problems (215)
Developing Respect	
18. Health and Well-being. To maximise the health and well-being of the population and reduce inequalities in health.	The World Health Organisation give a broad definition of health as "a resource for everyday life, not the object of living. It is a positive concept emphasising social and personal resources as well as physical capabilities". Health encompasses mental health and physical health and is affected by a broad range of factors including housing, employment status, transport and the social and the built environment: these are all determinants of health. Good health plays a central role in achieving sustainable growth. Patterns of behaviour that promote economic, social and environmental sustainability also have health benefits and measures to improve health (especially amongst the poor who are more prone to ill-health) also contribute to sustainable development6. An overarching aim of the London Plan should be to reduce health, and other, inequalities. At the very least the Plan should explicitly aim to prevent socio-economic inequalities increasing. Health and Well-being should be considered important outcomes and indicators of the success of the London Plan. In line with broader government policy, the London Plan should promote a context in which the public are able to do what they can to protect

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	their own health and manage their own health and well-being. The objectives of the London Plan policies should enable people to flourish socially and economically. Individual choice plays an important part for people maintaining a healthy and active lifestyle. How much exercise people take, the food people eat, the levels of alcohol people drink: all these are important factors for individual health. These choices are made within a physical, social and economic environment. It is also important to consider how strategic policies for London can present people with healthy options.
19. Safety and Security **To** enhance community safety by reducing crime, antisocial behaviour and the fear of crime.	Violent crime may result in temporary or permanent disability and, in some cases, death. People who have experienced crime-related trauma may also have a poorer perception of their physical health, greater limitations on physical functioning and more chronic medical conditions. Individuals who have been victims of physical violence have also been shown to have higher rates of cigarette smoking, alcohol and drug abuse, risky sexual behaviour and eating disorders. There is widespread acceptance that the victims of crime often suffer severe psychological distress and subsequent mental health problems. Data from general population studies in the U.S. clearly indicate that crime events are associated with high rates of Post-Traumatic Stress Disorder (PTSD). Secondary victims, such as close relations, witnesses of crime and communities experiencing violence, may also suffer from the psychological affects of crime. The fear of crime can alter people's lifestyles and may affect them in ways that lessen their quality of life and impact upon their physical and psychological health. For example, people in fear of crime may be less likely to use public spaces, may withdraw from social life and avoid going out, especially at night. Fear of crime may also lead to psychological health effects, such as stress, depression and sleeping difficulties. Researchers find that residential mobility is associated with high levels of crime and victimization (216). Residential mobility has one of the largest positive effects on violent victimization of any neighbourhood characteristic, larger than poverty or racial composition (217). Poverty contributes to criminality only in transient communities characterised by rapid population turnover. A review (218) analyses the literature on the effectiveness of street lighting improvements in preventing crime. The following conclusions are supported: ▪ precisely targeted increases in street lighting generally have crime reduction effects; ▪ more general increases in street lighting seem to have crime prevention effects, but this outcome is not universal. Older and US research yield fewer positive results than more recent UK research; ▪ even untargeted increases in crime prevention generally make residents less fearful of crime or more confident of their own safety at night; ▪ in the most recent and sophisticated studies, street lighting improvements have been associated with crime reductions in the daytime as well as during the hours of darkness; and ▪ the debate about lighting effects has served to preclude a more refined analysis of the means by and circumstances in which lighting might reduce crime.

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20. Equality and Diversity **To** ensure equitable outcomes for all communities, particularly those most liable to experience discrimination, poverty and social exclusion.	The *Health in London* reports (12-14) show us that health inequalities can be found between different population groups and between different geographical areas. **Gender**: across London the difference between male and female life expectancy is greater in areas with more deprivation. **Socioeconomic status**: the risk of mental illness increases with social and economic deprivation. Mental illness itself can be a cause of unemployment leading to further deprivation. London is a culturally diverse city, with one in three Londoners coming from an ethnic minority community, and over 300 languages being spoken. This diversity is one of the features that makes London such a vibrant world city – yet we know that London's communities do not benefit in equal measure from the opportunities and wealth the capital has to offer. **Ethnic group**: ethnic minorities experience a higher burden for certain diseases. This burden has been described for the following areas: coronary heart disease, haemoglobinopathies, cancers, diabetes, mental health, tuberculosis and sexual health. Elders from Black and Minority Ethnic groups in London report higher levels of limiting long-term illness. Such differences appear to exist even within income groups; **Age**: in relation to the forecast aging or 'greying' of London, it is necessary to consider how health profiles and demand for services will alter. Individual living conditions will also change as they move through the life cycle. Deprivation is not a static phenomenon; people move in and out of it. The health effects of age may also be compounded by those of ethnicity and social class. For example the high unemployment rate of young Black and Asian people. As the Black and Minority Ethnic population ages the health of BME elderly people assumes growing importance,. This will be an important issue for Bangladeshi people, who currently have a relatively young age profile. The population of elderly people from BME groups in London will triple by 2011. **Geographical area**: Londoner's self-reported health is slightly better than the national average for England. However, there are inequalities within the health of Londoners. Areas such as Tower Hamlets, Hackney and Newham report high rates of poor health. Most of the areas with significantly low levels of male and female good health are located in inner London. In addition there are also wide variations in the percentage reporting their health as not good by ethnic group. The percentage who reported their health as not good was highest in the Asian British Bangladeshi and Pakistani groups and was also high in the Indian and Black Caribbean groups. In terms of infant mortality rate (IMR), London is very similar to the rest of the country. The IMR in London as a whole has declined from 7.3/1000 in 1990-92 to 5.7/1000 in 2000-02. Again as with self-reported health there are considerable inequalities in infant mortality by borough. Brent, Lambeth, Southwark, Newham, Hackney and Waltham Forest had the highest rates and along with Croydon were significantly higher than the England rate.

5. Casinos

5.1 In light of the methodological issues surrounding evidence-based public policy (see page 20) we wish to draw detailed attention to some of the difficulties with the research associated with casino development, economic regeneration and the prevalence of gambling, especially problem and pathological gambling.

5.2 We have searched for information, evidence and research on casino development. All sources are cited as footnotes in the text. Sources include

- Pubmed (academic search engine);
- Casinos Advisory Panel website;
- Independent consultants;
- Paper submitted to the Greenwich EIP by Mayor of London; and
- Oral evidence submitted to the Joint Committee on the Draft Gambling Bill.

5.3 appendix is prepared in response to comments from London Plan policy authors on earlier SA team summaries of evidence on casino development, gambling and health.

5.4 The new policy 3D.4i of the London Plan stipulates that 'Small' and 'Large' casinos should conform to the wider policies of the plan including those for the location of leisure facilities, while Wembley and Greenwich Peninsula Opportunity Areas are appropriate locations for development of 'Regional' casinos.

5.5 Evidence on the economic effects and the social effects of casinos is based on national and international research. It provides few clear answers.

- On regeneration

'... estimates of the potential returns on investment associated with a Regional Casino, and hence the resources which might be available to contribute to the cost of developing a Regional Convention Centre, are particularly sensitive to a range of assumptions for which direct evidence is not readily available (given the fact that this effectively represents a new product while the impact of deregulation of the UK gambling market is untested). As such a degree of judgement is necessary in exploring the potential financial returns associated with a Regional Casino'. (219)

- On problem gambling ...

> 'There is regrettably little good evidence, about problem gambling on which good public policy can be based. Much of what has been written in the UK and elsewhere draws obviously partisan conclusions from highly speculative interpretations of very meagre evidence' (220).

5.6 In relation to Policy 3D.4i we consider a number of issues in relation to casinos.

- Location of casinos
- Gambling: problem and pathological
- Casinos and problem gambling
- Casinos and economic regeneration
- Impact on problem gambling rate

Location of casinos

5.7 Para 3.236iv states that proposals for new casinos of any type should be assessed in accordance with the principles set out in Policy 3D.1 and the other policies relating to leisure development in this plan, although in assessing proposals boroughs should consider the appropriate use of their planning and licensing powers to ensure protection of the vulnerable and to minimise negative impacts on local and wider amenity.

5.8 In his oral evidence to the Joint Committee on the Draft Gambling Bill Professor Peter Collins questions the wisdom of locating casinos in town centres (220).

> ... from a problem gambling point of view, there is no doubt that it is better not to locate casinos in town centres. ... There may be other reasons, like limiting the number of car

journeys that are involved and therefore reducing physical pollution for doing that, but the other point I would make, which is … about social impact: if you put a large entertainment complex, including a casino, in the centre of a town, you will suck huge amounts of money out of the leisure economy in that town; and this goes against the principle of trying to ensure that casinos, in as far as they displace economic activity, do so from a wide area of relative affluence and concentrate the new spend in areas of relative disadvantage. That is the best way of dealing with the economic redistribution policy. I think that is something which not only is undesirable in itself, but will clearly lead to all sorts of objections from all sorts of businesses to downtown casinos.

5.9 Policy 3D.1 provides the criteria for Development Plan Documents (DPDs) to strengthen the wider role of town centres. The Greenwich Peninsula and the site for the Wembley development are not town centres so this policy is not in conflict with 3D.1.

5.10 The most straightforward reason for a likely positive relationship between geographical proximity and problem gambling rates appears to be availability (i.e. allowing more frequent gambling), which has been shown to lead to increased problem gambling prevalence (221). Increasing ambient gambling, i.e., access and availability to gambling has deleterious effects on health. Non-ambient gambling are those forms that are less convenient to access and require forward planning to participate in (e.g. an out of town Regional Casino located away from residential areas). A recent Price Water House Coopers (219) report on the Newcastle casino development states that 'Stakeholders consulted and international research agree that the risk from non-ambient gambling is considerably less than that associated with ambient gambling. Building a Regional Casino in a non-ambient environment is therefore key in terms of minimising the risk of problem gambling' (219).

5.11 As Professor Peter Collins notes in the parliamentary select committee (220)

As far as I can tell from reviewing the evidence which is in my submission, convenience is the single greatest spur to increase problem gambling. The reason for that is that problem gambling is a disorder of impulse control, consequently people are likely to engage in problem gambling behaviour more if temptation is regularly put in their way when they are not expecting it.

Gambling: Problem and pathological

5.12 The impacts on health and well-being of 'addictive' behaviours such as tobacco smoking, alcohol consumption and drug use are increasingly well-established and well-researched. Less widely researched is the issue of problem gambling, most likely to be expressed in the context of mental health, and often linked with other dependencies (222).

5.13 There is no universally agreed definition of problem gambling. Most adults who gamble do so responsibly, but a small minority display problems which meet diagnostic criteria. According to the British prevalence survey published in 2000, the proportion of the adult population who display problems is 0.6 per cent or 0.8 per cent, depending on which diagnostic method is used. In some cases the problems are very severe, leading to devastation in the lives of the gamblers and those around them.

5.14 The most recent comprehensive assessment of problem gambling in the UK was the Gambling Prevalence Study carried out in 2000. This suggested that the rate of problem gambling was 0.8% of the adult population based on the South Oaks Gambling Screen measure. Although it is likely that this rate will have increased, due to the increase in internet gambling and new innovations such as fixed odds betting terminals (FOBTs), it is still provides the most accurate baseline position.

5.15 Whilst problem gambling is generally viewed as a continuum (223), in its most extreme form it has been viewed as an addiction, and hence it has been medicalised. In 1997 pathological gambling was included in the International Classification of Diseases (ICD9) coding, and thus recognised as an official psychiatric disorder (listed under Disorders of impulse control). A substantial body of the current research into problem gambling follows the medical model, based within the discipline of psychology.

5.16 From a public health perspective, individuals who experience gambling-related difficulties, but would not meet a psychiatric diagnosis for pathological gambling, are of as much

concern as pathological gamblers because they represent much larger proportion of the population. The prevalence of problem and pathological gambling has been shown to double in communities within a 10-mile radius of a casino (224;225). Low socioeconomic status has also been found to be a significant risk factor for current problem gambling and probable pathological gambling. (225;226).

5.17 At present the impacts of problem gambling on health and well-being follow two, not-unrelated, pathways.

5.18 The first is within mental health, where studies demonstrate relatively high rates of depression, schizophrenia, life-threatening behaviour and suicide among problem gamblers.

- An epidemiological study based in St. Louis, USA found significantly elevated odds ratios (risk) for major depression and schizophrenia in problem gamblers, alongside suicidal tendencies (222).
- DeCaria et al (227) also observed high rates of a wide range of mental health problems in problem gamblers.
- In 2002, 10% of users of an established telephone helpline for problem gambling in New Zealand reported considering suicide, with 30 of the 4,655 clients having attempted suicide in the past year (228).
- More women than men reported loneliness and isolation in connection with the development of a gambling habit, the majority of respondents reported significant family histories of gambling problems and alcohol dependenc e(229).

5.19 The second pathway relating to co-dependence on alcohol means that it is often difficult to explore problem gambling as a separate issue.

5.20 'Problem gambling' refers to patterns of gambling behaviour that compromise, disrupt or damage health, personal, family or vocational pursuits (230). The individual gambler is most likely to feel the most severe effects, but these can impact on close family members, friends and workplace colleagues. The gambling process can often take priority over other commitments and everyday routines, and where the gambling is sustained over many hours, the gambler will neglect eating and sleeping, resulting in poor physical health (231). Problem gamblers report poor self-related health, and high rates of depression, anxiety and stress (232). A study of pathological gamblers (229) noted that 15.4% of the women and 13.2% of the men reported stress or anxiety as a trigger for gambling. The mean annual percentage incomes lost as a result of this gambling were 83.2% for women and 54.3% for men, though it should be noted that these respondents were at the extreme of the gambling spectrum.

Casinos and problem gambling

5.21 The relationship between casinos and problem gambling is complex. This is especially so in the UK where there is no other super casino on which to base the projections. In general, studies have concluded that problem gambling is related to the availability of gambling. These studies reflect a range of countries (eg. Australia and the US), different gambling cultures and a range of legislative, regulatory, planning and social circumstances .

5.22 We must be wary of directly applying the relationships seen elsewhere to the UK, and London, context.

5.23 There is a significant volume of internationally published research which examines the social costs of gambling with particular reference to health and other personal and interpersonal issues. There are however, very few studies that differentiate casino driven health impacts from those which might accrue from a general increase in gambling in all forms. Moreover, it is becoming widely recognised that gambling, like alcohol, is not a homogenous product: the social impacts of gambling vary depending on the type of gambling concerned - this will also apply to different types of gambling within any particular casino.

5.24 Whilst it is likely that problem gambling will cause a slight increase in the prevalence of poor mental, physical health, these effects should be taken in context. Two points must be borne in mind:

- firstly, it is clear that, where the health and social problems do manifest themselves with problem gamblers, it is unlikely that problem gambling will be the sole root cause; and,
- secondly, other forms of gambling, such as internet based gambling and less regulated gambling, will also be contributing to any increase in the overall rate of problem gambling and, therefore, to associated negative health impacts.

5.25 At a local level, however, there are concerns that locating a large number of gaming machines close to neighbourhoods (particularly those that rank highly in the IMD index) will bring about health problems locally. As Professor Peter Collins (220) notes in his response to the parliamentary selection committee

... high prize machine gambling is the form of gambling most liable to be abused and most likely to increase the incidence of problem gambling. This is because the combination of rapidity of play and the possibility of winning substantial amounts of money makes it comparatively easy, both physically and psychologically, for gamblers to gamble more than they originally intended or can realistically afford; other things being equal, the introduction of high prize machine gambling will lead to an increase in problem gambling;

5.26 The potential effect of a casino on social cohesion has also been highlighted in local authority areas such as Brent by local stakeholders such as the PCT and multi-faith forum (233). Casinos are an emotive and controversial topic and it is clear that some religious and faith communities have extremely negative perceptions of casinos and wish to resist attempts to develop such a facility in proximity to their places of residence. A similar point was made by Sir Peter Hall in his oral evidence to the Joint Committee on the Draft Gambling Bill in relation to the conflict between residents and users of the casino (220).

So, despite the laudable aim of government to have everything mixed up and the housing next door to pubs, clubs and gambling, I think in practice there can be very, very negative effects from these uses in the juxtaposition which would have to be looked at

5.27 It is not possible to quantify or cost the extent of the impact on social cohesion but the fear of creating or exacerbating community tensions is a genuine one.

5.28 There have been studies that show a positive correlation between casinos in a community and an increase in the number of persons suffering from problem and pathological gambling (234). A pre-post test study of the social and economic effects of five casinos on four Ontarian communities found a 1.5% to 2.5% increase of probable pathological gamblers in the local communities (234). Two studies by John Welte and colleagues showed that the prevalence of problem gambling declined significantly as socioeconomic status increased (225;235;236) .

5.29 The 2002 study revealed that African Americans, Hispanics and Asians were more likely to be problem gamblers than Whites (235). The 2004 study (225) examined the effect of community disadvantages and gambling availability on gambling participation and pathology. The significant finding of this study is that the presence of a casino within ten miles of a respondent's home was positively related to problem and pathological gambling. Specifically, respondents to the survey who lived within ten miles of a casino had double the rate of problem and pathological gambling compared to those who lived further than 10 miles from a casino.

5.30 Table 1 examines the implications of this finding for people living within a 10-mile radius of the Greenwich Peninsula location. Table 1 shows an approximate estimate of the adult population living within this 10 mile radius. Figures for the adult population were taken from the census counts for 2001. Boroughs that fall mostly outside the 10 mile radius are not counted.

Table 1 Estimate of problem gambling in 10 mile radius surrounding Greenwich Peninsula

LB Borough	Adult population*	Number of problem gamblers once regional casino established**
Barking and Dagenham	116,973	1,404
Bexley	218,307	2,619
Camden	155,767	1,869
City of London	6,335	76
Greenwich	156,972	1,884
Hackney	145,221	1,743
Islington	136,007	1,632
Kensington and Chelsea	158,919	1,907
Lambeth	204,079	2,449
Lewisham	184,968	2,220
Newham	164,791	1,977
Redbridge	175,830	2,110
Southwark	184,016	2,208
Tower Hamlets	140,421	1,685
Waltham Forest	160,822	1,930
Total	2,309,428	27,712
All London	*5,389,908*	

* 18 years and older
** calculated at 1.2% ie twice the proportion of 0.60% according to the lower estimate of the BGS

5.31 If we accept the findings from the Welte and colleagues 2004 study Table 1 shows that more than 27,000 people will exhibit problem and pathological gambling. This is an increase of more than 13,850 problem gamblers. This 10-mile radius includes some of the most deprived areas with London.

5.32 This underestimates the potential number of people who may be affected: it is based on the 2001 census population counts, it uses the lowest estimate of the baseline prevalence of problem and pathological gambling and it excludes London boroughs and local authorities outside Greater London that do not fall wholly within the 10-mile radius. On the other hand the calculation assumes equal ease of access to the Greenwich site. The Thames may act as a barrier, and a deterrent, to travel from north of the river.

5.33 The 2004 study conducted by the RIGT (224) found

> ... it can be anticipated that legislation and policies that significantly enhance access to electronic gaming machines, casino table games and other continuous gambling forms will generate increases in problem gambling and related flow-on costs to families and communities. Risk profiles are also likely to change, with disproportionate increases among women and some other population sectors including ethnic and new migrant minorities. Problem gambling may also move 'up market', becoming somewhat more evenly distributed throughout socioeconomic strata and age groups.

5.34 A report by EDAW for LB Brent (237) and a report by Hall Aitken (238) each state that our understanding of the causes and effects of casino-driven problem gambling is limited by the lack of research which isolates the impact of casinos and components within casinos. Research in a UK context draws predominately on overseas evidence and is generally over-reliant on assumptions. General trends from the evidence do emerge:

- **Gender** Males more prone but rates in women catching up - women likely to have shorter gambling careers but develop problems at faster rate.
- **Age** The young are seen as the most likely to develop problems - 18-35 year olds at greatest risk - also adolescent gamblers most likely to develop problems.
- **Education** Conflicting results - majority point towards slight relationship between lower educational attainment and problem gambling.
- **Marital Status** Single people are deemed to be most vulnerable - especially separated/divorced - although this may be more of a consequence than a cause.
- **Employment Status** Unemployed and manual/lower occupational groups most vulnerable.

- **Household components** Single-person households.
- **Income** Lower income most vulnerable as they spend a higher proportion of their income on gambling than higher income groups.
- **Ethnicity** Conflicting results although majority point towards higher vulnerability for immigrant and minority populations; also those who do not speak English at home; and Chinese immigrants often most prone.
- **Geography** Proximity to casino generally seen as a major contributor; also most deprived neighbourhoods most vulnerable.

Casinos and economic regeneration

5.35 Para 3.236ii of the London Plan states that casinos (particularly those in the 'Regional' category) are likely to have significant scope to provide regeneration benefits listed as including employment and training, support for regionally important developments or strategic priorities and transport improvements.

5.36 The national and international evidence is equivocal about the scope casinos have to provide regeneration benefits (236).

5.37 A unique quasi experimental study by Costello et al (239) examined the health effects of a rise in income via the development of a casino within a deprived American Indian reservation in the United States. The study found positive psychopathological health impacts such as reduced behavioural problems amongst children; and improved self-reported health – particularly anxiety, depression and physiological health.

5.38 It concluded that these were generated by moving individuals and their families out of poverty. However, the mechanisms responsible for these health changes were primarily psychosocial. Incomes had marginally increased above that of welfare benefits levels; however, it was proposed by the authors that the positive health changes were due to the fact that formerly unemployed individuals had obtained employment within the casino. While this employment provided an income it was the employment that was considered most important, in that it enabled individuals to feel socially included and integrated, provided a structure and purpose to their lives, provided autonomy and control and role models for their children.

5.39 However, Pricewaterhouse Coopers (219) state in their report on the Newcastle casino development that

> … in our experience of similar proposals by casino operators suggests that a significant proportion of casino jobs created could be entry level positions with limited requirements for specific skills or qualifications.

5.40 In the case of a regional casino they state that 50-60% of the jobs created will not require any qualifications. In Section 5.2.1 of the main SA report the SA team note that temporary, unskilled employment does not promote social inclusion and may lead to adverse health impacts.

5.41 As a potential mitigation measure PWC recommend that

> … local education and training agencies and the casino operator work together to maximise the training benefits of a Regional Casino and enhance the development of skills to facilitate progression to higher level positions within the casino operation (219).

5.42 In assessing the significance of these impacts a number of points should be borne in mind (219)

- Gambling is not a homogenous product and the social impacts arising from each type of gambling will differ and this applies to different types of gambling within casinos.
- The extent of the social impact is determined to a considerable degree by the type of licensing and regulatory framework adopted. Security and access policies clearly have a role to play in controlling the social impact of casinos.

5.43 Hall Aitken in their recent analysis of the social and economic impacts of regional casinos (238) note that there will be a significant number of jobs created by a casino, both long and short-term, but:

- many of these are likely to be displaced from elsewhere in the leisure sector; these jobs will not necessarily match the needs of the local population; and
- there is strong evidence to suggest that many of the jobs will go to migrant workers.

5.44 In the late 1980s Atlantic City in the US was a run-down large-scale seaside resort. Large-scale resort casinos were seen as being the means of regenerating the city and turning round its declining fortunes. The city authorities had high hopes for the impact of the investment and expected that an economic renaissance would follow the first casino. However these 'regeneration benefits' did not transpire for Atlantic City (238). The New Jersey Governors Advisory Commission on Gambling 1988 saw the warning signs early on:

... it is clear that retail businesses and retail employment in Atlantic City have continued to decline despite the presence of gambling, and that rampant speculation has rendered the redevelopment of vast parts of Atlantic City difficult if not impossible.

5.45 There is no compelling evidence that suggests the 'Atlantic City effect' will follow a large regional casino in the UK. But there is a clear risk that it could. On the basis of international evidence, Hall Aitken conclude that many existing and competing businesses would be blighted or undermined by the presence of a regional casino. Significant numbers of businesses and neighbourhoods may be affected.

5.46 Three key findings from the Hall Aitken (238) report are that:

- the estimates of economic benefit from a regional casino development are both optimistic and potentially misleading;
- the social costs of regional casino development are potentially high and, for most locations, would outweigh any economic benefit; and
- the proposed regional casino will, on balance, undermine government targets on neighbourhood regeneration.

5.47 In line with the policies in chapter 3A of the London Plan it is important to be cognisant of the views of local residents who will be most affected by the development. Survey research (233) has recently been carried out by the Brent Borough Council to explore the implications of a Regional Casino for the LB Brent. This study included a survey of residents: while 30% of the residents believed that a casino would provide enhanced employment, 79% of the residents surveyed said they would not take up the employment opportunities created by the casino development and 54% were 'strongly opposed' to a casino being located within Brent. Local stakeholders such as the Primary Care Trust and the multi-faith forum also expressed concern. It is clear that some religious and faith communities have extremely negative perceptions of casinos and wish to resist attempts to develop such a facility in proximity to their places of residence. It is impossible to quantify or cost the extent of the impact on social cohesion but the fear of creating or exacerbating community tensions is a genuine one.

5.48 The casino development is intended to be of social and economic benefit to local residents in terms of access to employment, however if residents are unwilling to take up these jobs then the purpose of the casino as a mechanism driving regeneration will be hindered or more specifically local rates of economic activity / unemployment will not be reduced.

Impact on problem gambling rate

5.49 Based on economic assessments of increased revenue, experience from overseas and studies looking at the implications of the new UK legislation, there is little doubt that the number of gamblers and the amount gambled will increase. One report identifies an estimated 62-fold increase in expenditure on hard gaming slot machines once the new legislation is introduced (240).

5.50 The results of international research vary on this subject, although we have seen above that on balance, there may be a positive correlation between geographical proximity and problem gambling rates.

5.51 However, not all studies have shown a relationship between gambling opportunities and the prevalence of problem gambling. A different study of Nevada carried out in 1998 indicated it may have the lowest rates of problem gambling in the US (cited in Welte, source 225).

Also when Windsor Casino, Ontario was opened no increase in the local rates of problem gambling were noted (241)

5.52 Casino operators argue they have little incentive to generate revenue from problem gambling in their casinos. However, the range of research indicates that problem gamblers account for a significant proportion of gaming revenues.

5.53 A further fundamental question to consider is whether casinos have an incentive to proactively reduce problem gambling. Three factors appear to be at play, the first an incentive to address problem gambling, the second and third being disincentives.

5.54 Susan Fisher (242) provided evidence that the UK casino industry is sustained by regular gamblers among whom the prevalence of problem gambling is relatively high. Whilst regular (i.e. at least once a week) casino visitors made up only 7% of all casino patrons they were extremely active, accounting for 63% of all casino visits. The prevalence of problem gambling in this group was 15%.

5.55 Other international evidence supports this view, with the research data outlined in the table below indicating that casinos generate a significant proportion of their revenues from problem gamblers.

5.56 As Fisher concludes in her research paper:

They [UK casino operators] may therefore see it in their enlightened self-interest to assist with patron research, as a first step toward the minimisation of problem gambling on their premises. On the other hand, if patron research demonstrates that their revenue is drawn primarily from a small proportion of regular patrons, among whom the proportion of problem gamblers is high, they will be forced to make difficult and possibly radical decisions about where the future of their business lies.

5.57 International benchmarking shows that spending on problem gambling in the US, Canada, Australia and New Zealand is considerably higher, in both per capita and per estimated problem gambler terms, than the £3 million proposed for the UK (243). GamCare and Gordon House, for example, have each stated that they would be able to spend £10 million and that additional funding is needed to increase the availability of treatment services and to raise awareness of the services that already exist. Other UK charities have also been noted in the press arguing they need further resources.

5.58 As PWC note in their report for the Newcastle City casino development:

'Given the risk of insufficient national funds to address problem gambling in the UK it would appear especially important for Local Authorities to ensure that they do not 'own' the risk of addressing potentially very significant problem gambling costs. Embedding the principle of a variable financial contribution from any Regional Casino operator, sufficient to mitigate social impacts, will therefore be vital'.

5.59 PWC (219) recommend the following:

Embed a variable operator contribution to address social risks in any licensing arrangements. Local borough councils should ensure that social impact risks, particularly the high risk and uncertain area of problem gambling, are 'owned' by the casino operator.

Recommendations

5.60 The following recommendations are based on recommendations made by the London Assembly and by independent consultants and were made to the London Plan policy authors.

- Any applications for new regional casinos must recognise their potential negative, and differential, impact on populations within a 10-mile radius. As part of the application, the developers should publish a clearly defined action plan to mitigate any negative side-effects. We further recommend that the action plan should be monitored by the Boroughs and enforced by the Gambling Commission.
- The local education and training agencies and the casino operator work together to maximise the training benefits of a Regional Casino and enhance the development of skills to facilitate progression to higher level positions within the casino operation. This

will help to offset potential negative effects of temporary and unskilled employment and to promote opportunity for socially inclusive employment.

- Embed a variable operator contribution to address social risks in any licensing arrangements. Local borough councils should ensure that social impact risks, particularly the high risk and uncertain area of problem gambling, are 'owned' by the casino operator and that costs are not borne by NHS organisations and the borough council.

5.61 Each of these recommendations was considered by the policy authors and the policy on casinos was amended accordingly.

6. Notes from consultation workshop

Introduction

6.1 On Wednesday 5th July 2006, the Greater London Authority hosted a workshop for the SA of the further alterations to the London Plan. There were approximately 40 participants. The list of participants is provided on page 58. Prior to the workshop participants were sent a briefing paper on health issues associated with the alterations to the London Plan and an evidence base.

6.2 The purpose of the workshop was to

- Support participants in considering key policy alterations relevant to health, in the light of the existing evidence and on the basis of stakeholder knowledge, by:
  - providing an overview of the contents of the *draft Further Alterations to the London Plan* and the development process underpinning it; and
  - briefing participants on key aspects of the existing evidence on the health impacts associated with the draft Strategy.
- Enable participants to share their own experiences and knowledge on equal terms, through structured group discussions.
- Identify ways in which changes in the *draft Further Alterations to the London Plan* support health, and ways in which the alterations could be strengthened, and to use this information to shape clear and practical recommendations to inform the final Strategy.

6.3 The workshop started with a brief introduction and an outline of Sustainability Appraisal and Strategic Environmental Assessment and health. Jane Carlsen then described the purpose of the further alterations. Ben Cave then described how the workshop would be run. The slides from the presentations have been circulated. The timetable of the workshop is shown below. The participants split into groups. Each group was facilitated and the participants were asked to focus on prioritising the significant health effects.

Time	Who	What
10.15		Tea & Coffee
10.30	Ben Cave	Introduction & welcome
10.40	Jane Carlsen	What are the *Further alterations to the London Plan*?
10.55	Ben Cave	What does this mean for health and wellbeing?
11.05		Coffee
11.15		Facilitated small group work
12.15	Ben Cave	Feedback
12.25		Facilitated small group work – Recommendations
12.45	Ben Cave	Feedback, next steps, evaluation forms and close

6.4 A workshop for the London Sustainable Development Commission was held on 11th July 2006. The initial findings from these workshops were discussed with London Plan policy authors on Wednesday 12th July 2006. The full SA report was discussed. Many issues were raised including the powers of a spatial plan. There was general support for the messages coming from the workshops but also a request for clearer wording in the recommendations. Clarification was requested on some points.

A note on the *Diamond Nine* approach

6.5 The SEA Directive stipulates that *significant* effects on human health should be identified. The focus of the workshop was on identifying the significant effects of the alterations.

6.6 Diamond Nine helps to get discussion going, draw out people's views on priorities … and draw on different stakeholders values, knowledge and experience to reach consensus.

6.7 Facilitators were provided with detailed briefing. Participants were asked to individually identify their top 2 or 3 most significant effects. Working as a group they were asked to stake their claim on which they think gets the top spot … (and later the other positions) and to 'argue' why until consensus is reached (ie consensus being 'the choice that all may not agree with but can live with').

6.8 The note takers attempted to capture the rationale/key reasons the group give for the ranking of the effects.

6.9 This is not a scientific process of research but an exercise to encourage participants to focus in a short time. Many participants felt uneasy about losing particular issues. We will take note of all issues as we write the next iteration of the SA report.

Analysis

6.10 In the next section we provide the notes from the small group discussions. We look at the issues chosen as 'top three' significant impacts in the bullet points below. The 'top nine' from each group are shown in a table on page 59*ff*.

- Reducing health inequalities received strong support from each of the groups. How would this be prioritized, achieved and measured?
- Economic growth and economic development received support in the context of community growth or community benefit.
- *Access* to all that London can offer for all Londoners was the first choice for one of the groups. This group explicitly used a very wide definition of *access* and included access to physical, environmental, social and economic opportunities and access to services.
- Implementation was cited as an important issue. This delivery theme was picked up by other groups in the questions about targets, indicators for the health inequalities objective.
- Climate change was mentioned by one group. It was also cited as being of a different magnitude and thus worthy of support above and beyond this Diamond Nine process.

Next steps

6.11 We welcome comments on these notes and corrections where we have omitted things or interpreted the issues incorrectly. We will use the workshop discussions to guide us as we write up the next iteration of the SA report.

6.12 Please send comments on this document to Ben Cave at ben.cave@caveconsult.co.uk by Monday the 14th August 2006.

Small group discussions

Comments from group facilitated by Ben Cave, BCA

6.13 A question was raised about the decision of the SA/SEA to focus only on the significant effects of the alterations. Jane Carlsen explained that the original London Plan went through a full SA and Examination in Public. This SA/SEA focuses on the alterations. The SA might identify areas where the alterations have had knock-on effects on policies which are currently unchanged.

6.14 When considering how to rank the nine significant effects the group stated that the public health impacts of climate change are enormous and of a different magnitude, both geographical and temporal, to many of the other changes under consideration. The group strongly supported the initiatives on climate change but has not prioritised them, in this exercise, as they appear to be secure, and central to the alterations.

6.15 There was a discussion about the difference between the economic development agenda and the skills, worklessness and child poverty agenda. Economic development was ranked higher in the diamond nine as the group felt that this was a more clearly spatial policy. Each is linked to the other.

6.16 A spatial plan guides change. Some polices will be spatial and some will be aspatial.

6.17 The group felt that it was positive to include an objective on health inequalities. There was concern that it was not clear which policies in the altered Plan require health inequalities to be addressed. If health is a cross-cutting issue then the objective on health inequalities should have been in the original Plan. Its inclusion now suggests that a wider review needs to take place.

6.18 The group wanted health inequalities to be more explicitly addressed throughout the Plan: the group acknowledged the difficulties of doing this.

- How should this be shown? The matrix approach, used in the original London Plan, was felt to be too complicated and not to add much.
- Targets and indicators were recommended – especially targets.
- Need to find a way to make policies geographically specific.

6.19 Economic development: extract maximum social benefit from economic development. This term was favoured over worklessness and skills as it is more spatial. Jobs, and facilities and infrastructure for jobs, need to be provided where there is most need. We need to support the supply side and not the demand side of the equation. In Outer London there is a gap between provision and need.

6.20 Housing: provision of affordable housing. Again important to extract maximum possible social benefit.

6.21 What is the definition of affordable housing?

- Note: Policy 3A.6 (p57) provides a definition of affordable housing. This policy has been updated: intermediate housing is now defined as being affordable by households on incomes of less than £49,000. The previous limit was £40,000.

6.22 There are two stages of development: construction and operation. Operation brings the benefits – usually to a larger and wider population. Construction: localised adverse effects.

6.23 The London Plan is implemented by local authorities through their Local Development Frameworks.

Diamond Nine

Significant health impact	Notes
1. Reducing health inequalities	tackling social exclusion
2. Economic development	
3. Housing	
4. Worklessness, skills and child poverty	
5. Increasing physical activity	
6. Olympics legacy	
7. Ensuring access to modern health facilities embedded in a social infrastructure	Mitigating the impact of major developments *eg* Olympics construction Impact of wider development
8. Mental health	Accessible open spaces for all: younger and older and disabled Londoners – link to mental health
9. Airport development	

Comments from group facilitated by Nannerl Herriot, RPHG, DH

6.24 Olympics and Paralympics. There was a discussion about how although Olympic were recognised as a good thing there would be disruption to local communities (who are also some of most deprived) for the next 5 to 6 years.

6.25 Challenge of economic growth the impacts on communities and issues of how growth is distributed; if it is not managed it can increase inequalities.

6.26 Need to build social capital in new and existing development

6.27 Integrating infrastructure for new and existing communities through development

6.28 Housing (affordable/healthy/resource efficient) and mixed use developments

6.29 Land-use issues (regeneration/redevelopment/contaminated land/noise)

6.30 Addressing 'health deserts' – areas of deprivation and poor health without access to services and facilities. Identifying areas that are bad for health in a range of ways could allow cross sectoral activities to address 'health' issues in targeted areas.

6.31 Issues of play deprivation in London and impacts on health

6.32 Obesity in children – related to poverty and security issues - potential to use green space and play to tackle 'obesity time bomb'.

6.33 Increasing use of green space for health promotion purposes – as Olympic legacy?

6.34 Emphasis on social inclusion and reducing socio-economic inequalities

6.35 Diversity and equalities (i.e. Access to services and reducing health inequalities)

6.36 Transport and accessibility issues

6.37 Transport and related energy/air quality/climate change issues

6.38 Encouraging modal shift in transport and the problem of transport capacity, what happens if there is not capacity to shift people onto other forms of transport?

6.39 General issues relating to climate change need to sort this out because of the long term impacts.

6.40 What to do with waste – health impacts due to environmental contamination from various waste disposal options and transportation of waste

6.41 Safety and security – fear imposes limits on play/interaction/mobility etc

6.42 Safety and security in terms of urban design issues and terrorist threats.

Diamond Nine

Significant health impact	**Notes**
1. Balancing economic growth with 'community growth' to maximise local benefits.	tackling social exclusion
2. Integrating communities (new and existing) in development to maintain social capital.	Planning infra-structure so that it is a tool for improving health, locating schools/hospitals/green space etc.
3. Climate change	key driver in all policies, needs to be mainstreamed.
4. Energy	health implications not always understood as part of the rationale for introducing efficiency measures
5. Waste	important to make the link between waste and health to help reduce the amounts produced.
6. Transport	accessibility to services, capacity, mobility.
7. Security – terrorist threats and local fear of crime	Mitigating the impact of major developments *eg* Olympics construction Impact of development
8. Harnessing the potential of green spaces for improving both physical and mental health.	Accessible open spaces for all: younger and older and disabled Londoners – link to mental health
9. Olympics and Paralympics	link to all the above. Legacy effects for community facilities, use of green space, encouraging sports and exercise etc.

Recommendations

6.43 Generally support addition of objectives 2 and 4 – but would like to see greater emphasis on community benefit throughout the plan.

6.44 Suggest a way to measure community benefit – other than putting a price on social infrastructure/community facilities – some kind of community satisfaction measure? Need to have a target that can be used to monitor the impact of the plan and the big issue of whether it is benefiting community.

6.45 Action on monitoring development and growth to enhance community benefit.

6.46 Commitment or reference to integrating new and existing communities – social infrastructure (serving both communities) specifically within objective and policy could be an effective way to achieve this integration?

6.47 Reference to use of S106 funds to support community development (e.g. investing in community development trusts, which can e.g. do local community development activity).

Comments from group facilitated by Nicky Conway, FfF

6.48 Access

- Physical, economic and locational access which leads to social access/acceptability.
- Better access to housing, jobs, health services, transport, environmental benefits and open space.
- Reduce travel times to work (and the environmental impacts/modal shift)
- Improve physical opportunities for all Londoners e.g. disabled and sensually impaired as well as physically able particularly through making walking and cycling a pleasant and safe experience.
- Need for wider access beyond town centres.
- Equitable access, ensure interplay of housing, transport, jobs and location to prevent exclusion and proximity to homes

6.49 Health Inequalities

- Strengthen commitment to monitoring inequalities and link back to evidence base and emerging strategies.
- Lifestyle issues e.g. food access, alcohol misuse and gambling.
- Need monitoring and strengthening of application.
- Protect against administration change.
- Suspect too economically driven.

6.50 Implementation

- Extend the reach of the Plan beyond boroughs to maximise its influence and through:
- planning processes and decisions; use of and access to evidence; interaction with other GLA plans (address through other strategies such as health inequalities, housing and transport etc and need to ensure that it directly influences them especially those coming up for review)
- Should have clear set of implementation principles (use planning as enabling rather than restrictive device)
- Always link back to ongoing work and knowledge base.
- Use signposting methods to further support
- Create LP implementation helpline! Too much supporting documentation won't get used, need direct help.
- Make targets public to inspire people to actually meet them (as alternative to extending requirement of boroughs to other public bodies as unlikely to have powers to do this)
- High levels of community engagement/spirit essential (engage them in reviewing impact on inequalities, LDFs etc). Inspire, which won't necessarily happen through formal processes
- Positive messages and proactive showcasing of what can be done.
- Local influence for strategies and use of neighbourhood examples.
- influence those who are investing in new infrastructure e.g. NHS and other developers,
- proactively engage them to take on board policies
- Should encourage establishment of a multi-disciplinary task force of agencies and communities where carbon reduction is the main focus of joint working
- LDFs key vehicle

- Build on the local planning mechanisms to develop means of ensuring delivery at sub-regional framework

6.51 Affordable and accessible workspace

- Ensure community provision e.g. thing often holding back community arts is lack of workspace
- Sustainable local zones
- Adequate childcare

6.52 Crime and Community

- Address the fear of crime – this is what prevents people from participating more than crime itself
- Links back to sufficient access to key services and open space and therefore tackle exclusion
- Link to health, evidence base and needs of diverse groups.
- HIA recommendations, bringing excluded groups back in. Direct impact on access to opportunities and services.

6.53 Improving streetscape design

- such as pedestrianisation, street clutter. This should apply to existing as well as new areas.
- Safety and security must be addressed.
- Mixed use key, not just concentrations eg. clubs and should be cross-generational (town centres often home of the young, especially at night). Local shops should exist as well as supermarkets. Apply mixed use to localities e.g. high streets not just applying to town centres.

6.54 Environmental inequalities

- Issues of air quality, liveability and environmental equity

6.55 Olympics

- Will LP be published in time to really influence Olympics?
- Should acknowledge much wider impact it will have on infrastructure/facilities across London, not just Lea Valley e.g. social housing
- Opportunity to look positively at Lea Valley
- Use as test case for how other developments could take place
- Olympics site as test base for LP and as a source of evidence about what works.
- What happens to the spaces left from dismantling?
- LP targets and proposals to be considered in development
- Need to ensure flexible future use of site buildings from development

6.56 What about the flood plain?

Comments from group facilitated by Grant Pettitt, GLA

6.57 Important to address health inequalities across the region – need accessible health care for all

6.58 As a term health inequalities is not specific enough though

6.59 The main issues that the group thought were important with regards to health were: housing (affordable and density), open space and play space, fear of crime, access, social infrastructure, employment, health inequalities and objectives

6.60 It was thought that it was important to have explicit objectives around health and health inequalities and then have targets to address those objectives

6.61 There were concerns over how to deliver 'healthy housing' and what the term actually meant

6.62 There is a great need to consider teenagers in the London Plan and facilities need to be provided for them e.g. concrete skate parks, as at the moment they seem to be omitted from the plan. Otherwise they will just reclaim public space and conflicts could arise

6.63 It is also important that play spaces accommodate all age ranges therefore different sorts of facilities have to be provided to suit different needs

6.64 Need more informal spaces for children of all ages to play in – the built environment does not accommodate children, its to car orientated

6.65 It is important to look at issues in an integrated way e.g. housing

6.66 However there is a danger that these new mixed use developments could turn into the slums of the future

6.67 Access should be considered as it helps reduce social exclusion

6.68 Affordability is important in relation to housing

6.69 Link between planning and the market

6.70 The plan encourages people to live where they work, however this does not always work – decentralisation is key and has been shown to work in other countries

6.71 It was pointed out that new towns for commuters were built in the UK, but were not overly successful

6.72 Could have different centres though in the suburbs e.g. major metropolitan centres and encourage more people to live there

6.73 Performance indicators and monitoring are vital in measuring the success of the plan – links to recommendations that can be made

6.74 Planning for leisure is an important issue, as the number of bars can affect the level of crime and disorder

6.75 Joint working is important to deliver the policies outlined in the plan

6.76 Affordable housing is important but need to ensure that it goes to the right people which at present is not always happening

6.77 Need to ensure affordable housing is as good as other housing

6.78 Housing association should be encouraged to ask for larger units – need more planning obligations to ensure this happens

6.79 Mayor will get more housing powers soon – be able to make more of a difference

6.80 The public sector needs to be able to buy into the London Plan – needs to link with LDFs

Diamond Nine

Priority	Comments
1	Health inequalities - mental health, crime and disorder, inter-relationship
1	Health and health inequality - target/measure: different levels
1	Health and health inequality - objective: regionally, sub-regionally, borough, neighbourhood
1	Health inequality - housing/homelessness, waste, Olympics, trees and woodlands
2/3	Design - integrated design principles driven by virtuous cycles. If choose one - housing standards, mixed communities, mixed affordability
2/3	Design - interrelationships between infrastructures, transport, housing development
2/3	Housing - providing affordable housing (promotes social inclusion & positive health benefits); mixed housing developments (aspirational and affordable); housing strategy for first time buyers
2/3	Housing - affordable living: unable to keep cool in summer and warm in winter - link to climate change
2/3	Housing - improvements in quality, housing mix to meet the needs of population, meeting needs of homeless & overcrowded households, providing affordable housing

Priority	Comments
4/5/6	Housing - overcrowding esp council & RSL, disproportionate impact on BME communities, low income, homeless (health and education effects); polarisation (impact on health inequalities); development of new units and increased density - amenities (shops, transport, youth facilities, leisure opportunities, space etc) to ensure sustainability
4/5/6	Housing density may result in mote high rise developments. It is questionable whether these meet the needs of families e.g. opportunity for physical activity/play
4/5/6	Play space - need for 'concrete' play spaces for skateboaders/BMX riders; build in facilities to learn about risk (not design out risk completely)
4/5/6	Play space - the requirement for play strategies from LAs have potential to impact on physical activity and social cohesion; concerns that in high density developments the range of play opportunities will not cover a range of age groups and needs. Also maintenance & security issues.
4/5/6	Access to services - health, transport, education; access to amenities - open spaces, shops (esp. food). Housing alone will not satisfy the health and wellbeing needs of the population
4/5/6	Food access/retail - support actions in the Plan that cover food access - workers/farmers markets; convenience shopping; situating retail in town centres; associated improvements to transport
4/5/6	Social networking affected by poor infrastructure - access to transport , cycle paths/footpaths, play areas for children/teenagers
4/5/6	Social infrastructure - supporting and creating communities; meeting basic needs for health care etc; providing access to services; reducing inequalities
4/5/6	Access - improving mobility of the population; reducing barriers to travel; improve affordability; increasing modal choice (transport)
7/8	Physical activity - linked to sedentary lifestyles, obesity, CVD; promote more sustainable forms of transport; promote use of green and open space; safe 'aesthetic' environments (design, security)
7/8	Open space encourages physical activity; play space for children; can aid integration in an area (local meeting point for communities); place for people to relax and de-stress; safety issues important
7/8	Fear of crime/insecurity - impacts on mental wellbeing; increases social isolation; increases perception of crime
7/8	Employment - hotels, hospitality and business services growth - potential impact of increasing inequalities through low pay and longer working hours

Workshop participants

6.81 40 people from 27 organisations attended the workshop. They are listed below in alphabetical order.

Andrew Attfield .... Barts and the London NHS Trust
Robert Barr .... South West London
Ian Basnett .... North East London
Neil Blackshaw .... NHS Healthy Urban Development Unit
Peter Carey .... London Borough of Camden
Jane Carlsen .... Greater London Authority
Lucinda Carter .... London Development Agency
Ben Cave .... Ben Cave Associates
Roger Chapman .... Government Office for London
Jane Connor .... LB Newham
Nicky Conway .... Forum for the Future
Amanda Cranston .... South West London
Helen Davies .... Health Policy
Alison Dickens .... Haringey Civic Centre
Muge Dindjer .... Greater London Authority
Jenny Douse .... Redbridge PCT
Peter Durrans .... Sport England
Evelyn Gloyn .... London Borough of Ealing
Paul Gocke .... London Development Centre
Nannerl Herriott .... Public Health Group
Robie Kamanyire .... Health Protection Agency
John Levy .... North West London
Caroline Lowdell .... North West London
Estella Makumbi .... LB Ealing
Frances Mapstone .... Policy Support Unit, Greater London Authority
Catherine Max .... London Health Commission
Rebecca Morgan .... Ben Cave Associates
Jonathon O'Sullivan .... Islington PCT
Grant Pettit .... Greater London Authority
Paul Plant .... Public Health Group
Ian Sandford .... Islington PCT
Aideen Silke .... London Development Agency
Sharon Smith .... CIEH London Regional Policy Officer
Rebecca Smith .... Greater London Authority
Drew Stevenson (attended part only) .... Greater London Authority
Emma Synnott .... London Sustainable Development Commission
David Taylor .... Greater London Authority
Dr Ute Navidi .... London Play
Justin Varney .... Public Health Group
Rhiannon Walters .... Walters Public Health

Summary of Diamond Nine

	BC	NH	NC	GP
1	Reducing health inequalities	Balancing economic growth with 'community growth' to maximise local benefits.	Access	Health inequalities - mental health, crime and disorder, inter-relationship
2	Economic development	Integrating communities (new and existing) in development to maintain social capital. Planning infra-structure so that it is a tool for improving health, locating schools/hospitals/green space etc.	Health Inequalities	Health and health inequality - target/measure: different levels
3	Housing	Climate change – key driver in all policies, needs to be mainstreamed.	Implementation	Health and health inequality - objective: regionally, sub-regionally, borough, neighbourhood
4	Worklessness, skills and child poverty	Energy ☺– health implications not always understood as part of the rationale for introducing efficiency measures.	Affordable and accessible workspace	Health inequality - housing/homelessness, waste, Olympics, trees and woodlands Design - integrated design principles driven by virtuous cycles. If choose one - housing standards, mixed communities, mixed affordability
5	Increasing physical activity	Waste – important to make the link between waste and health to help reduce the amounts produced.	Crime and Community	Design - interrelationships between infrastructures, transport, housing development Housing - providing affordable housing (promotes social inclusion & positive health benefits); mixed housing developments (aspirational and affordable); housing strategy for first time buyers
6	Olympics legacy	Transport – accessibility to services, capacity, mobility.	Improving street scope design	Housing - affordable living: unable to keep cool in summer and warm in winter - link to climate change
7	Ensuring access to modern health	Security – (terrorist threats and local fear of	Environmental inequalities	Housing - improvements in quality,

	BC	NH	NC	GP
	facilities embedded in a social infrastructure	crime).		housing mix to meet the needs of population, meeting needs of homeless & overcrowded households, providing affordable housing Housing - overcrowding esp council & RSL, disproportionate impact on BME communities, low income, homeless (health and education effects); polarisation (impact on health inequalities); development of new units and increased density - amenities (shops, transport, youth facilities, leisure opportunities, space etc) to ensure sustainability
8	Mental health	Harnessing the potential of green spaces for improving both physical and mental health.	Olympics	Housing density may result in mote high rise developments. It is questionable whether these meet the needs of families e.g. opportunity for physical activity/play Play space - need for 'concrete' play spaces for skateboaders/BMX riders; build in facilities to learn about risk (not design out risk completely)
9	Airport development	Olympics and Paralympics – link to all the above. Legacy effects for community facilities, use of green space, encouraging sports and exercise etc.	What about the flood plain?	Play space - the requirement for play strategies from LAs have potential to impact on physical activity and social cohesion; concerns that in high density developments the range of play opportunities will not cover a range of age groups and needs. Also maintenance & security

	BC	NH	NC	GP
				issues. Access to services - health, transport, education; access to amenities - open spaces, shops (esp. food). Housing alone will not satisfy the health and wellbeing needs of the population

Evaluation responses

	What did you find most useful about the workshop?	What would you change about the workshop?	Was there anything missing from the discussion?	Is there anything you would like to add as a final point …
1.	Opportunity to engage with this part of the process. Fairly wide range of attendees _ _ health.	Papers were very good. _ and signposting to the amendments themselves would have been helpful.	Time to do it properly	Hope this has more effect that the SRDF process.
2.	Chance to hear what the delegates considered were priorities.	Somewhat artificial _ of the diamond 9 which resulted in a _ _ _ _perhaps	Contextual _ on _ of London Plan and its significance for LDFs etc	No.
3.	Discussing and prioritising the key issues.	More space.	No.	No.
4.	Opportunity to discuss complex issues in a round table format.	Engagement does rely on a sophisticated understanding of planning. Show presentation on how Boroughs use LP may be helpful.	No.	Coffee could be improved. Help to those who want to translate their issues into planning speak.
5.	Opportunity to consider health issues within the plan.	More focus, perhaps on major changes in the plan.	_ with a huge plan.	No.
6.	Discussion in small group about identifying key health issues and recommendations.	Background paper summarising main health sections in the current plan.	No.	No.
7.	The discussion of the different _ of the groups views as to what is important.	Nothing.	No.	No.
8.	Discussion and debate.	Possibly more time for discussion and recommendations.	Voluntary sector representation as proxy for community voice.	Briefing papers sections on equality and diversity failed to mention disability, sexual orientation, gender, identity and faith.
9.	Consideration of specific recommendations gave tangible meaning to discussion.	Not sure if prioritisation is the right approach in this instance – lower priority issues still need emphasis in the plan.	No.	Can think more about removing/ substituting rather than just adding to the plan.

	What did you find most useful about the workshop?	What would you change about the workshop?	Was there anything missing from the discussion?	Is there anything you would like to add as a final point …
10	Being with mixed audience – learning different views/ angles.	A more precise briefing before the day indicating what would be required of us.	No.	No.
11	Discussion with other stakeholders.	Given the scale of the plan, possibly some more direction on key areas to discuss.	No.	No.
12	Ability to exchange ideas and concepts with other professionals and produce integrated responses.	Greater time for discussion and ability to examine key concepts in more detail.	Same.	No.
13	Discussion with colleagues and better understanding of the London Plan.	More time for more detailed discussion.	Good understanding of changes.	Useful to explain planning issues with to non-planners.
14	Overview of London Plan, better understanding of its strategic intent.	Offer lunch.	No.	No.
15	Having to think about issues in a more challenging environment: other peoples views.	Nothing.	Different groups had varying focus on the issues involved – although many similar themes came out at the end. Stronger focus on the recommendations part.	No.
16	Opportunity to think through health impacts.	Larger room.	Lot to take in even with summaries. Useful breakdown. Initial presentations could focus more on specific health impacts to stimulate discussion.	No.
17	The group discussions.	Perhaps the groups could have shared the range of work rather than all addressing everything.	No.	No.
18	The mixed background/ perspectives of participants.	More time.	Disability – no visibly disabled people participating.	Monitoring and indicators are key to making this happen.
19	Group working.	Improve quality of coffee – its disgusting.	No.	Thanks for good work.
20	Focussed consideration of the health issues for the plan.	Discussion in the wider group of the issues identified.	Consideration of the fit for purpose of the actual policies – however perhaps not appropriate within the scope of this SEA.	Diamond 9 worked better than I expected.

	What did you find most useful about the workshop?	What would you change about the workshop?	Was there anything missing from the discussion?	Is there anything you would like to add as a final point …
21	Diamond 9 approach to focussing on priorities.	I think it went well – so nothing.	A greater understanding of the mayors prioritisation of health issues.	n/a.
22	Understanding more about the proposed further alterations.	Encouraging participants to do more background preparation.	No.	Very difficult to properly cover all issues in a very short space of time.

7. References and notes

1. Porter R. London: a social history. London: Hamish Hamilton; 1994

2. Greater London Authority. The London Plan. 2004. London, GLA. Available at www.london.gov.uk

3. Greater London Authority. Draft Further Alterations to the London Plan. 2006. Available at http://www.london.gov.uk/mayor/strategies/sds/further-alts/docs.jsp

4. HM Government of Great Britain. Planning and Compulsory Purchase Act. 2004. Available at www.hmso.gov.uk/acts/acts2004/20040005.htm

5. European Parliament and the Council of the European Union. Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment. Official Journal of the European Communities 2001;L19730-37.

6. Forum for the Future and Ben Cave Associates Ltd. Sustainability Appraisal of the Draft Further Alterations to the London Plan. Non-technical summary. 2006. Greater London Authority. Available at http://www.london.gov.uk/mayor/strategies/sds/further-alts/docs.jsp

7. Forum for the Future and Ben Cave Associates Ltd. Sustainability Appraisal of the Draft Further Alterations to the London Plan. 2006. Greater London Authority. Available at http://www.london.gov.uk/mayor/strategies/sds/further-alts/docs.jsp

8. 'Meeting the spatial needs of London's diverse communities' is due to be published in draft in Autumn 2006 and in full in 2007. See www.london.gov.uk/mayor/strategies/sds/spg.jsp for more information.

9. Greater London Authority. Health Issues Best Practice Guidance: improving health through planning. The London Plan (Spatial Development Strategy for London) Consultation Draft. 2006. Available at www.london.gov,uk

10. Cave, B. and Bond, A. Health heroes of Greenville. Health improvement and health protection in SEA: leaflet prepared for IAIA 2006 in Stavanger, Norway. 2006. Brighton, UK, Ben Cave Associates Ltd. Available at www.caveconsult.co.uk

11. Greater London Authority. Draft Further Alterations to the London Plan (Spatial Development Strategy for Greater London). 2006. London. Available at www.london.gov.uk

12. Barer, R., Fitzpatrick, J., and Traoré, C. Health in London: review of the London Health Strategy high-level indicators. Davies, H., Findlay, G., Jacobson, B., Hobart, V., Ariyanayagam, S., Cameron, M., and Cave, B. 2004 update. Focus on the health of London's Black and ethnic minority communities. A report prepared on behalf of the London Health Commission by the Greater London Authority in partnership with the London Health Observatory. 2004. London. Available at www.london.gov.uk

13. Roberts, H. and McNeish, D. Health in London: review of the London Health Strategy high-level indicators. Pettitt, G., Fellows, C., Fitzpatrick, J., Ricketts, J., Davies, H., Findlay, G., Williams, D., and Wilson, G. 2005 update. Focus on the health of children and young people. A report prepared on behalf of the London Health Commission by the Greater London Authority in partnership with the London Health Observatory. 2005. London.

14. Mindell, J., Fitzpatrick, J., and Seljmani, F. Health inequalities in London: life expectancy and mortality 1998-2002. 2004. London, London Health Observatory. Available at www.lho.org.uk

15. Kawachi I, Berkman L. Social cohesion, social capital and health. In: Berkman L, Kawachi I, editors. Social Epidemiology. New York: Oxford University Press; 2000.

16. Navarro V, Muntaner C, BorrellC, Benach J, Quiroga A, Rodríguez-Sanz M et al. Politics and health outcomes. Lancet 2006(September):1-5.

17. Department of Health. Choosing Health: Making Healthier Choices Easier. 2004. London, Department of Health.

18. Entec UK Ltd. and Ben Cave Associates Ltd. Sustainability Appraisal of the London Plan (First Review) Entec January 2005. Scoping report. 2005. London.

19. ERM. Integrated impact assessment (IIA) to the London's Sub-Regional Development

Frameworks. 2005. Greater London Authority and London Health Commission.

20. London Sustainable Development Commission. A sustainable development framework for London. 2005. London. Available at www.london.gov.uk/mayor/sustainable-development/susdevcomm_framework.jsp

21. London Development Agency. Better food for London. The Mayor's draft food strategy. 2005. Mayor of London, London Food. Available at www.london.gov.uk

22. London Health Commission. Health impact assessment: draft biodiversity strategy. Cameron, M. and Cave, B. 2001. London Health Commission and the Environment Committee of the Assembly. 10-1-2003. Available at http://www.london.gov.uk/approot/mayor/health_commision/health_index.jsp#hia

23. Seymour, L. Nature and psychological well-being. No.533. 2003. Peterborough, English Nature. English Nature Research Reports. Available at www.english-nature.org.uk/pubs/publication/PDF/533.pdf

24. Davis, A. et al. Making the case: improving health through transport. 2005. London, Health Development Agency. Available at www.nice.org.uk

25. Humpel N, Owen N, Leslie E. Environmental factors associated with adults' participation in physical activity: a review. American Journal of Preventative Medicine 2002;22:188-99.

26. NHS Healthy Urban Development Unit. Watch out for health. A Healthy Sustainable Communities spatial planning self appraisal checklist for London. 2005. Available at www.healthyurbandevelopment.nhs.uk

27. Coote A. Delayed reaction. The Guardian 2006.

28. Department of Health. Climate change and health in the UK. 2001. London. Available at www.dh.gov.uk

29. World Health Organisation, World Meteorological Organization, and United Nations Environment Programme. Climate change and human health - risks and responses. 2003. France, WHO. Available at www.who.int

30. NHS Estates and Department of Health. Sustainable development: environmental strategy for the National Health Service. for the Department of Health. 2005. The Stationery Office. Available at www.dh.gov.uk

31. King's Fund. Claiming the health dividend: unlocking the benefits of NHS spending. London: King's Fund; 2002

32. Sustainable Development Commission. Contribution to the Public Health Consultation - Choosing Health? 2004. Available at www.sd-commission.org.uk

33. see Energy and emissions. Energy Saving Trust www.est.org.uk/housingbuildings/localauthorities/information/faqs/index.cfm?ty=1&category_id=8

34. Greater London Authority. Reviewing the London Plan. Statement of intent from the Mayor. 2005. London. Available at www.london.gov.uk/mayor/strategies/sds/docs/review-dec05.pdf

35. Bartley M, Ferrie J, Montgomery S M. Living in a high unemployment economy: understanding the health consequences. In: G MMaWR, editor. Social Determinants of Health. 1999. p. 51-81.

36. Benzeval M. The self-reported health status of lone parents. Social Science and Medicine 1998; 46:1337-53.

37. Brenner M H. Work is Good for You: New Research Employment, Unemployment and Public Health. 2002. Brussels, The European Commission, Employment and Social Affairs.

38. Department for Work and Pensions. Health, work and well-being - Caring for our future. 2005. London, TSO.

39. Department for Work and Pensions. A New Deal for Welfare: Empowering People to Work. 2006. London, DWP.

40. Wilkinson R G. The Impact of Inequality: how to make sick societies healthier. Routledge; 2005

41. Wilkinson R G, Pickett K E. Income inequality and health: a review and explanation of the evidence. Social Science and Medicine 32767.

42. Kivimäki M, Vahtera J, Virtanen M, et al 211. Temporary employment and risk of overall and cause-specific mortality. American Journal of Epidemiology 2003.

43. Metcalfe C, Davey Smith G, Sterne J A S, et al. Frequent job change and associated health. Social Science and Medicine 2003;56:1-15.

44. Ferrie J E, Shipley M J, Standsfeld S A, et al. Effects of chronic job insecurity and change of job security on self-reported health, minor psychiatry morbidity, psychological measures, and health related

behaviours in British civil servants: the Whitehall II study. Journal of Epidemiology Community Health 2002;56:450-4.

45. Benavides F G, Delclos G L. Flexible employment and health inequalities: A flexible labour market could contribute to increasing health inequalities and should be a priority on the public health policy agenda. Journal of Epidemiology and Community Health 2005;59(9):719.

46. Benavides F G, Benach J, Muntaner C, Delclos G L, Catot N, Amable M. Occupational injury: what are the mechanisms? Associations between temporary employment and occupational injury: what are the mechanisms? Occupational Environmental Medicine 2006;63:416-21.

47. Greater London Authority. On the Cards: The proposals for new casinos in London. 2005. The Economic Development, Culture, Sport and Tourism Committee, GLA. Available at www.london.gov.uk

48. Ortiz J L and Corcoran S P. California's gaming propositions: how has the expansion of gaming rights affected local communities? www.csus.edu/mcnair/03-04.htm forthcoming. 2004.

49. Graetz B. Health consequences of employment and unemployment: longitudinal evidence for young men and women. Soc.Sci.Med. 1993;36(6):715-24.

50. Greater London Authority. Connecting London. DRAFT 060419 MMB Version Comparison Doc of Chapter 3C version 4. 2006. Review of London Plan.

51. Robinson DL. Helmet laws and health. Injury Prevention 1998;4:170-2.

52. Roberts I, Li L, Barker M. Trends in intentional injury deaths in children and teenagers (1980-1995). Journal of Public Health Medicine 1998;20(4):463-6.

53. Select Committee. Health. Third report. 2004. United Kingdom Parliament. Available at www.parliament.the-stationery-office.co.uk

54. Hillman M, Adams J, Whitelegg J. One false move: a study of children's independent mobility. London: Policy Studies Institute; 1990

55. see Transport - facts and figures http://www.london.gov.uk/mayor/transport/facts-and-figures.jsp#cars

56. Transport for London. London Travel Report. 2005. Available at www.tfl.gov.uk

57. Commission for Integrated Transport. European Best Practice Focus on World Cities. Factsheets - no.6. 2005. Available at www.cfit.gov.uk

58. see English Partnerships "Car Parking: what works where" (2006) and Manual for Streets www.manualforstreets.org.uk

59. Greater London Authority. Crazy paving: the environmental importance of London's front gardens. 2005. London, Environment Committee. Available at www.london.gov.uk

60. Wanless, D. et al. Securing our future health: taking a long-term view. Final Report. 2002. Health Trends Review team at HM Treasury. Available at http://www.hm-treasury.gov.uk/wanless

61. Minton, A. What kind of world are we building? The privatisation of public space. 2006. Royal Institute of Chartered Surveyors. Available at www.rics.org

62. Andranovich G, Burbank M, Heying CH. Olympic cities: lessons learned from mega-event politics. Journal of Urban Affairs 2001;23(2):113-31.

63. Planning Resource. 16th June 2006. www.planningresource.co.uk

64. Best Practice Guidance on health issues in UDPs. Final publication due in 2007. See http://www.london.gov.uk/mayor/strategies/sds/bpg.jsp for more information.

65. 'Meeting the spatial needs of London's diverse communities' is due to be published in draft in Spring 2006 and in full in 2007. See www.london.gov.uk/mayor/strategies/sds/spg.jsp for more information.

66. 'Meeting the spatial needs of London's diverse communities' is due to be published in draft in Autumn 2006 and in full in 2007. See www.london.gov.uk/mayor/strategies/sds/spg.jsp for more information.

67. Macintyre S. Evidence based policy making. British Medical Journal 2003;326(7379):5-6.

68. Thomson H, Hoskins, Pettircrew M, Ogilvie D, Craig N, Quinn T et al. Evaluating the health effects of social interventions. British Medical Journal 2004;328:282-5.

69. Curtis S, Cave B, Coutts A P. Is urban regeneration good for health? Perceptions and theories of the health impacts of urban change. Environment and Planning C: Government and Policy 2001;20(517-534).

70. Benzeval M, Judge K. Income and Health: the time dimension. Social Science and Medicine 2001;52:1371-90.

71. Shaw M, Davey-Smith G, Dorling D. Health inequalities and New Labour: how the promises compare with real progress. British Medical Journal 2005;330:1016-21.

72. Vinokur A D, Schul Y, Vuori J, Price R H. Two years after job loss: long term impact of the JOBS programme on reemployment and mental health. Journal of Occupational Health Psychology 2000;5(1):32-47.

73. Vuori J, Silvonen J, Vinokur A D, Price R H ". The Tyohon Job Search Program in Finland: benefits for the unemployed with risk of depression or discouragement. Journal of Occupational Health Psychology 2002;7(1):5-19.

74. Cave, B., Molyneux, P., and Coutts, A. Healthy sustainable communities: what works. 2004. Milton Keynes and South Midlands Health and Social Care Group. Available at www.mksm.nhs.uk

75. Watkiss, P. et al. Informing traffic health impact assessment in London. 1-141. 2000. London, AEA Technology and NHS Executive London. Available at http://www.doh.gov.uk/london

76. Cave, B. Rapid review of health evidence for 'Towards the London Plan ... initial proposals for the Mayor's Spatial Development Strategy'. SDS Background paper. 2002. Greater London Authority, London Health Commission and London Health Observatory. Available at http://www.london.gov.uk/approot/mayor/health/docs/health_review.pdf

77. Cave, B. et al. Health impact assessment for regeneration projects. Volume II: Selected evidence base. 2001. London, East London and the City Health Action Zone and Queen Mary, University of London . 27-1-2003. Available at http://www.geog.qmul.ac.uk/health/guide.html

78. Acheson, D. et al. Independent inquiry into inequalities in health: report. 1-164. 1998. London, The Stationery Office.

79. Cave, B. and Coutts, A. Health evidence base for the Mayor's draft Cultural Strategy. 2002. Greater London Authority, Lambeth, Southwark & Lewisham Health Authority. Available at http://www.londonshealth.gov.uk/pdf/culture.pdf

80. Coutts, A. and Cave, B. Crime and fear of crime and health: a rapid review. 2002. London, West Ham and Plaistow New Deal for Communities.

81. Cave, B. and Coutts, A. Kings Cross development and determinants of health. review prepared for Camden PCT. 2003.

82. Wilkinson RG, Marmot M. Social determinants of health: the solid facts. 2nd editioned. Denmark: World Health Organization; 2003. Available at www.who.dk/document/e81384.pdf

83. Contributors to the Cochrane Collaboration and the Campbell Collaboration. Evidence from systematic reviews of research relevant to implementing the "wider public health" agenda. 2000. NHS Centre for Reviews and Dissemination. Available at http://www.york.ac.uk/inst/crd/wph.htm

84. Egan M, Petticrew M, Ogilvie D, Hamilton V. New roads and human health: a systematic review. American Journal of Public Health 2003;93(9):1463-71.

85. Enviros Consulting Ltd et al. Review of environmental and health effects of waste management: municipal solid waste and similar wastes. 2004. Department for Environment, Food and Rural Affairs. Available at www.defra.gov.uk

86. Stansfeld, S. A. et al. Rapid review on noise and health for London. A review to support the development of the Mayor of London's Ambient Noise Strategy. 2001. Department of Psychiatry, Department of Geography, St Bartholomew's and the Royal London School of Medicine and Dentistry, Queen Mary, University of London.

87. Berglund, B., Lindvall, T., and Schwela, D. H. Guidelines for community noise. 1999. World Health Organisation. Available at http://whqlibdoc.who.int/hq/1999/a68672.pdf

88. World Health Organisation. Occupational and community noise. Fact Sheet No 258. 2001. WHO. Available at www.who.int/inf-fs/en/fact258.html

89. Department of Health. Choosing health: making healthier choices easier. CM 6374. 2004. Available at www.dh.gov.uk

90. Thomson H, Hoskins R, Petticrew M, Ogilvie D, Craig N, Quinn T et al. Evaluating the health effects of social interventions. British Medical Journal 2004;328:282-5.

91. Whitehead M, Burström B, Diderichsen F. Social policies and the pathways to inequalities in health: a comparitive analysis of lone mothers in Britain and Sweden. Soc.Sci.Med. 2000;50:255-70.

92. Thomson H, Atkinson R, Petticrew M, Kearns A. Do urban regeneration

programmes improve public health and reduce health inequalities? A synthesis of the evidence from UK policy and practice (1980-2004). Journal of Epidemiology and Community Health 2006;60(2):108-15.

93. Curtis S, Cave B, Coutts A. Is urban regeneration good for health? Perceptions and theories of the health impacts of urban change. Environment and Planning C: Government and Policy 2002;20(4):517-34.

94. Macintyre S, Ellaway A. Neighborhoods and health: an overview. In: Kawachi I, Berkman L, editors. Neighborhoods and Health. Oxford: Oxford University Press; 2003. p. 20-42.

95. Westerlund H, Theorell T, Bergström A. Psychophysiological effects of temporary alternative employment. Social Science and Medicine 2001;52(3):405-15.

96. Atkinson R, Thomson H KA, Petticrew M. Giving urban policy its 'medical': assessing the place of health in area-based regeneration. Policy & Politics 2006;34(1):5-26.

97. Kuo F E, Sullivan W C. Environment and crime in the inner city: Does vegetation reduce crime? Environment and Behavior 2001;33(3):343-67.

98. Kaplan S. Mental fatigue and the designed environment. In: Harvey J, Henning D, editors. Public Environments. Washington DC: Environmental Design Research Association; 1987. p. 55-60.

99. Kweon B S, Sullivan W C, et al. Green common spaces and the social integration of inner city adults. Environment and Behavior 1998;30(6):832-58.

100. Sommer R. Personal space: the behavioral basis of design. New Jersey: Prentice Hall; 1966

101. Fawell J, Nieuwenhuijsen M. Contaminants in drinking water. British Medical Bulletin 2003;68:199-208.

102. Goodfellow, F., Ouki, S. K., and Murray, V. Permeation of organic chemicals through plastic water supply pipes. CIWEM . 2001.

103. Frumkin H. Urban sprawl and public health. Public Health Reports 2001;117.

104. Savitch HV. How suburban sprawl shapes human well-being. Journal of Urban Health 2003;80(590):607.

105. Curriero FC, Patz JA, Rose JB, Lele S. The association between extreme precipitation and waterborne disease outbreaks in the United States. American Journal of Public Health 2001;91(8):1194-9.

106. Environment Agency. Environment Agency strategy for flood risk management. 2003/4 - 2007/8, version 1.2. 2003. Available at www.environment-agency.gov.uk/commondata/105385/frm_strategy_v1.2_573731.pdf

107. Office of Science and Technology. Future flooding. Executive summary. 2004. Flood and coastal defence project of the Foresight programme. Available at www.foresight.gov.uk/servlet/Controller/ver=2674/userid=2/Executive_Summary.pdf

108. Flood Hazard Research Centre. The health effects of floods: the easter 1998 floods in England. No 3/99. 1999. Flood Hazard Research Centre Article Series.

109. Sustain and Elm Farm Research Centre. Eating oil: food in a changing climate. 2001.

110. COMEAP. The health effects of air pollutants. COMEAP advice. 2000. Committee on the Medical Effects of Air Pollutants. Available at http://www.doh.gov.uk/comeap/statementsreports/healtheffects.htm

111. Anderson W. Energy and health: rapid review of the evidence. 2003. London, London Health Commission.

112. Wilkinson P, et al. Housing and winter death: epidemiological evidence. In: Rudge J, Nicol F, editors. Cutting the cost of cold. London: FN Spon; 2000.

113. Williams J M, others. Hospital energy performance: New indicators for UK National Health Service estate. Services Engineering Research and Technology 1999;20(1):9-12.

114. COMEAP. The quantification of the effects of air pollution on health in the United Kingdom. 1998. Committee on the Medical Effects of Air Pollutants. Available at http://www.doh.gov.uk/comeap/statementsreports/airpol7.htm

115. Molyneux P, Kemp V, and Coutts A. Health and Housing. 2006. London, NHS Changeagent Team.

116. CABE. Better neighbourhoods: making higher densities work. 2005. London, CABE. Available at http://www.cabe.org.uk/data/pdfs/BetterNeighbourhoods_Densities.pdf

117. Witten K, McCreanor T, Kearns R, Ramasubramanian. The impacts of a school closure on neighbourhood social cohesion: narratives from Invercargill, New Zealand. Health & Place 2001;7:307-17.

118. Evans, G. and Shaw, P. A study into the impact of Lottery Good Cause spending in the UK. draft final report. 2001. Centre for Leisure and Tourism Studies, University of North London for the Department for Culture, Media and Sport.

119. Wilson.W.J. The truly disadvantaged: the inner city, the underclass and public policy. Chicago: University of Chicago: UCP; 1987

120. McCulloch A, Joshi HE. Neighbourhood and family influences on the cognitive ability of children in the British National Child Development Study. Soc.Sci.Med. 2001;53:579-91.

121. Haan, et al. Poverty and health: prospective evidence from the Alameda County Study. American Journal of Epidemiology 1987;125:989-98.

122. Yen IH, Kaplan GA. Neighbourhood social environment and risk of death: multilevel evidence from the Alameda County Study. American Journal of Epidemiology 1999;149:898-907.

123. Atkinson R. Measuring gentrification and displacement in Greater London. Urban Studies 1999;37(1):149-65.

124. Atkinson, R. Gentrification and displacement in London: a theoretical and empirical analysis. Unpublished PhD thesis. 1997. London, University of Greenwich.

125. Thomson H, Petticrew M, Morrison D. Health effects of housing improvement: systematic review of intervention studies. British Medical Journal 2001;323:187-90.

126. Davis, A. Submission to the Inquiry into Inequalities in Health. Input paper: transport and pollution. 1998.

127. Leyden K M. Social capital and the built environment: the importance of walkable neighborhoods. American Journal of Public Health 2003;93(9):1546-51.

128. Saelens B E, Sallis J F, Black J B, Chen D. Neighborhood-based differences in physical activity: an environment scale evaluation. American Journal of Public Health 2003;93(9):1552-8.

129. Humpel N, Owen N, et al. Environmental factors associated with adults' participation in physical activity: a review. American Journal of Preventative Medicine 2002;22:188-99.

130. Putnam R. Bowling alone: the collapse and revival of American community. New York: Simon Schuster; 2000

131. Rogers R, Power A. Cities for a small country. London: Faber and Faber Limited; 2000

132. Watkiss, P. et al. On the move: informing traffic health impact assessment in London. 1-16. 2000. London, NHS Executive London. Available at http://www.doh.gov.uk/london/onthemove.pdf

133. Hedges, B. Adaptations to traffic noise. 1983. London, Social & Community Planning Research.

134. Lassière A. Severance. In: Lassière A, editor. The environmental evaluation of transport plans. London: Department of the Environment; 1976. p. 110-55.

135. Lee TR, Tagg SK, Abbott DJ. Social severance by urban roads and motorways. In: Department of the Environment, editor. Symposium on Environmental Evaluation, Canterbury, 25-27 Sept 1975. London: HMSO; 1976. p. 72-86.

136. Lee TR, Tagg SK. The social severance effects of major urban roads. In: Stringer P, Wenzel H, editors. Transportation planning for a better environment. New York: Plenum Press; 1976. p. 267-81.

137. Allen T. Housing renewal - doesn't it make you sick? Housing Studies 2000;15(3):443-61.

138. Campbell M, Sanderson I, Walton F. Local responses to long term unemployment. York: YPS for the Joseph Rowntree Foundation; 1998. Available at http://www.jrf.org.uk

139. Performance and Innovation Unit. Improving labour market achievements for ethnic minorities in British society. 2001. London, Cabinet Office. Available at http://www.cabinet-office.gov.uk/innovation

140. Dooley D, Prause J, Ham Rowbottom KA. Unemployment and depression: longitudinal relationships. Journal of Health and Social Behavior 2000;41:421-36.

141. Halvorsen K. Impact of re-employment on psychological distress among long-term unemployed. Acta Sociologica 1998;41:227-42.

142. Ezzy D. Unemployment and mental health: a critical review. Soc.Sci.Med. 1993;37(1):41-52.

143. Fryer DM. Unemployment and mental health: hazards and challenges ofpsychology in the community. In: Isaksson K, Hogsedt C, Eriksson C, Theorell T, editors. Health Effects of the

New Labour Market. Kluwer Academic/Plenum Publishers; 2000. p. 11-25.

144. Burchell BJ. The effects of labour market position, job insecurity and unemployment on psychological health. In: Gallie D, Marsh C, Vogler C, editors. Social change and the experience of unemployment. Oxford, New York: OUP; 1994.

145. Winefield AH, Tiggemann M, Winefield HR, Goldney RD. Growing up with unemployment: a longitudinal study of its psychological impact. London: Routledge; 1993

146. Deakin S. Labour market flexibility: a cure for unemployment? Benefits 1995;12:1-5.

147. Peck J, Theodore N. Work first: workfare and the regulation of contingent labour markets. Cambridge Journal of Economics 2000;24:119-38.

148. Martin, R., Nativel, C., and Sunley, P. The local impact of the New Deal: does Geography make a difference? Paper presented at the annual conference of the Institute of British Geographers. 2000. University of Sussex.

149. Baker D, North K. Does employment improve the health of lone mothers? Social Science and Medicine 1999;49:121-31.

150. Brown GW, Bifulco A. Motherhood, employment and the development of depression. A replication of a finding? British Journal of Psychiatry 1990;156:169-79.

151. Backett-Milburn K, Cunningham-Burley S, Kemmer D. Caring and providing: lone and partnered working mothers. Family Policy Studies Centre; 2001

152. Brownhill S. Turning the East End into the West End: the lessons and legacies of the London Docklands Development Corporation. In: Imrie R, Thomas H, editors. British urban policy: an evaluation of the Urban Development Corporations. 2 ed. London: SAGE Publications Ltd; 1999. p. 43-63.

153. Bailey N, Turok I. Adjustment to job loss in Britain's major cities. Regional Studies 2000;34(7):631-53.

154. Turok I, Webster D. The New Deal: jeopardised by the geography of unemployment? Local Economy 1998;12(4):309-28.

155. Egan, M. et al. The health impacts of publicly subsidised economic development: a systematic review. Annual Meeting. 2003. Rome, European Public Health Association.

156. Glenn L, Beck R, Burkett G. Effect of a transient, geographically localised economic recovery on community health and income studied with longitudinal household cohort method. Journal of Epidemiology and Community Health 1998;52(11):749-57.

157. Subramanian S V, Kawachi I. Whose health is affected by income inequality? a multilevel interaction analyses of contemporaneous and lagged effects of state income inequality on individual self-rated health in the United States. Health and Place 2006;12(2):141-56.

158. Subramanian S V, Kawachi I. Income inequality and health: what have we learned so far. Epidemiologic Reviews 2004;26:78-91.

159. Cave B and Coutts A. Health evidence base for the Mayor's draft Cultural strategy. 2002. London, London Helth Commission.

160. Putnam R, (NY2. Bowling Alone. New York: Simon and Schuster; 2000

161. Johansson S E, Konlaan BB, et al. Sustaining habits of attending cultural events and maintenance of health: a longitudinal study. Health Promotion International 2001;16(3):229-34.

162. Bygren L O, Konlaan B B, et al. Attendance at cultural events, reading books or periodicals, and making music or singing in a choir as determinants of survival: Swedish interview survey of living conditions. British Medical Journal 1996;313:1677-80.

163. Kawachi I, Berkman L F. Neighborhoods and Health. 2003

164. Yen I H, Kaplan G A. Poverty area residence and changes in physical activity level: evidence from Alameda county. Am J Public Health 1998;88:1709-12.

165. Diez-Roux AV, Nieto F J, Muntaner C, Tyroler H A, Comstock G W, Shahar E et al. Neighborhood environments and coronary heart disease: A multilevel analysis. American Journal of Epidemiology 1997;148:48-63.

166. Sundquist K, Malmstrom M, Johansson S E. Neighbourhood deprivation and incidence of coronary heart disease: a multilevel study of 2.6 million women and men in Sweden. Journal of Epidemiology and Community Health 2004;58:71-7.

167. Stafford M, Martikainen P, Lahelma E, Marmot M. Neighbourhoods and self-rated

health: a comparison of public sector employees in London and Helsinki. Journal of Epidemiology and Community Health 2004;58(9):772-9.

168. Coutts A, Kawachi I. Urban social environment and health. In: Freudenberg N, Galea S, Vlahov D, editors. Cities and the health of the public. Vanderbilt University Press; 2006.

169. Ross C E, Mirowsky J, Pribesh S. Powerlessness and the amplification of threat: neighborhood disadvantage, disorder, and mistrust. American Sociological review 2001;66(4):568-91.

170. Dunn JR. Housing and health inequalities: review and prospects for research. Housing Studies 2000;15(3):341-66.

171. Bonnefoy, X. and others. Review of evidence on housing and health. 2004. Geneva, World Health Organisation.

172. Marmot M. Status Syndrome. London: Bloomsbury; 2005

173. Kaplan R. The nature of the view from home: psychological benefits. Environment and Behavior 2001;33(4):507-42.

174. Browning C R, Cagney K A. Neighborhood structural disadvantage, collective efficacy, and self-rated physical health in an urban setting. Journal of Health and Social Behavoir 2002;43(4):383-99.

175. Cohen DA, Mason K, Bedimo A, Scribner R, Basolo V, Farley TA. Neighborhood physical conditions and health. Am J Public Health 2003;93(3):467-71.

176. Leventhal T, Brooks-Gunn J. Moving to opportunity: an experimental study of neighborhood effects on mental health. American Journal of Public Health 2003;93(9):1576-82.

177. Frank L, Pivo G. Impacts of mixed use and density on utilization of three modes of travel: single-occupant vehicle, transit, walking. Transportation Res Rec 1994;1466:44-52.

178. Cervero R, Radisch C. Travel choice in pedestrian versus automobile oriented neighborhoods. Transport Policy 1996;3:127-41.

179. Friedman B, Gordon S, et al. Effect of neotraditional neighborhood design on travel characteristics. Transportation Res Rec 1994;1466:63-70.

180. Cervero R, Kockelman K. Travel demand and the 3Ds: density, diversity and design. Transportation Res D 1997;3:199–219.

181. Feldman P, Steptoe A. How neighborhoods and physical functioning are related: the roles of neighborhood socioeconomic status, perceived neighborhood strain, and individual health risk factors. Annals of Behavioral Medicine 2004;27:2-91.

182. Molnar B E, Gortmaker S L, et al. Unsafe to play? Neighborhood disorder and lack of safety predict reduced physical activity among urban children and adolescents. American Journal of Health Promotion 2004;18:325-78.

183. Department of Health. Policy Action Team 13. Improving shopping access for people living in deprived neighbourhoods. 1999.

184. Department of Health. Reducing health inequalities: an action report. 1999. London.

185. Wanless, D. Securing good health for the whole population. Final report. 2004. HM Treasury, HMSO. Available at http://www.hm-treasury.gov.uk/consultations_and_legislation/wanless/consult_wanless04_final.cfm

186. Cummins, S. et al. Reducing inequalities in health and diet: the impact of a food retail development-a pilot study. Final report to the Department of Health. 2004. London, Department of Health.

187. White, M. et al. Do "food deserts" exist? A multi-level geographical analysis of the relationship between retail food access, socio-economic position and dietary intake. 2004. London, Food Standards Agency.

188. Wrigley N, Warm D, Margetts B, Whelan A. Assessing the impact of improved retail access on diet in a 'food desert': a preliminary report. Urban Studies 2002;39(11):2061-82.

189. Guy C, Duckett M. Small retailers in an inner city community: a case study of Adamstown, Cardiff. International Journal of Retail and Distribution Management 2003;31(8):401-7.

190. Guy C, Clarke G, Eyre H. Healthy cities: the impact of food retail led regeneration on food access, choice and retail structure change and the growth of food deserts: a case study of Cardiff. International Journal of Retail and Distribution Management 2004;32(2):72-88.

191. Guy C, David G. Measuring physical access to 'healthy foods' in areas of social deprivation: a case study in Cardiff. International Journal of Consumer Studies 2004;28(3):222-34.

192. Morland K, Wing S, Diez Roux A, Poole C. Neighborhood characteristics associated

with the location of food stores and food service places. American Journal of Preventative Medicine 2002;22(1):23-9.

193. LaVeist TA, Wallace JMJr. Health risk and inequitable distribution of liquor stores in African American neighborhood. Soc.Sci.Med. 2004;51(4):613-7.

194. Morrison R S, Wallenstein S, Natale D K, Senzel R S, Huang L L. 'We don't carry that': failure of pharmacies in predominantly nonwhite neighborhoods to stock opioid analgesics. New England Journal of Medicine 2000;6(342):1023-6.

195. Reidpath D D, Burns C, Garrard J, Mahoney M, Townsend M. An ecological study of the relationship between social and environmental determinants of obesity. Health and Place 2002;8:141-5.

196. Morland K, Wing S, Diez Roux A V, Poole C. Neighborhood characteristics associated with the location of food stores and food service places. American Journal of Preventative Medicine 2002;22(1):23-9.

197. LaVeist T A, Wallace J M Jr. Health risk and inequitable distribution of liquor stores in African American neighborhood. Social Science and Medicine 2000;51(4):613-7.

198. Morland K, Wing S, Diez Roux A V. The contextual effect of the local food environment on residents' diets: the atherosclerosis risk in communities study. American Journal of Public Health 2002;92(11):1761-7.

199. Reidpath D D, Burns C, Garrard J, Mahoney M, Townsend M. An ecological study of the relationship between social and environmental determinants of obesity. Health and Place 2002;8:141-45.

200. Lochner K A, Kawachi I, Brennan RT, Buka SL. Social capital and neighborhood mortality rates in Chicago. Social Science and Medicine 2003;56(8):1797-805.

201. Morrison R S, Wallenstein S, Natale D K, Senzel R S, Huang L L. 'We don't carry that': failure of pharmacies in predominantly nonwhite neighborhoods to stock opioid analgesics. New England Journal of Medicine 2000;6(342):1023-6.

202. Burdette H L, Whitaker R C. Neighborhood playgrounds, fast food restaurants, and crime: relationships to overweight in low-income preschool children. Preventative Medicine 2004;38(1):57-63.

203. OECD. The wealth of nations: the role of human and social capital. 2001

204. Coleman J. Social capital in the creation of human capital. American Journal of Sociology 1988;94:S95-S120.

205. Wolfe B, Haveman R. Accounting for the social and non-market benefits of education. In: Helliwell JF, editor. The contribution of human and social capital to sustained economic growth and well-being: International Symposium Report. Human Resources Development Canada and OECD; 2001.

206. Kenkel D. Health behaviour, health knowledge, and schooling. Journal of Political Economy 1991;99(2):287-305.

207. Kawachi I, Kennedy B P, Wilkinson R G. Crime, social disorganisation and relative deprivation. Social Science and Medicine 1999;48:719-31.

208. Kawachi I, Berkman L F. Social cohesion, social capital and health. In: Berkman L F, Kawachi I, editors. Social Epidemiology. New York: Oxford University Press; 2000. p. 174-94.

209. Berkman L F, Glass T A. Social Integration, Networks and Health. In: Berkman L F, Kawachi I, editors. Social Epidemiology. Oxford: OUP; 2000.

210. Klinenberg E. Heat Wave: a social autopsy of disaster in Chicago. Chicago University Press; 2002

211. Cannuscio, C., Block, J., and Kawachi, I. Social capital and successful aging: the role of senior housing. Paper prepared for the 8th Biennial Regenstrief Conference. 2003.

212. Kawachi I, Kim D, Coutts A, Subramanian S V. Reconciling the three accounts of social capital. International Journal of Epidemiology 2004;32(4):682-90.

213. Portes A. Social capital: its origins and applications in modern sociology. Annual Review of Sociology 1998;24:1-24.

214. Stafford M, Marmot M. Neighbourhood deprivation and health: does it affect us all equally? International Journal of Epidemiology 2003;32:357-66.

215. Muntaner C, Lynch J, Smith GD. Social capital, disorganized communities, and the third way: understanding the retreat from structural inequalities in epidemiology and public health. International Journal of Health Services 2002;31(2):213-37.

216. Crutchfield R, Geerken M, Gove W. Crime rates and social integration: The impact of metropolitan mobility. Criminology 1982;20:467-78.

217. Sampson R J. Neighbourhood and crime: The structural determinants of personal victimisation. Journal of Research in Crime and Delinquency 1985;22:7-40.

218. Pease K. A review of street lighting evaluations: crime reduction effects. In: Painter K, Tilley N, editors. Surveillance of public space: CCTV, street lighting and crime prevention. Monsey, NY: Criminal Justice Press; 1999. p. 47-76.

219. Price Waterhouse Coopers. Proposed Regional Casino Development: Economic and Social Impact Assessment. 2006.

220. Joint Committee on the Draft Gambling Bill. Draft Gambling Bill (Regional Casinos). 8-7-2004. London, House of Lords, House of Commons, minutes of evidence, taken before the. Available at www.publications.parliament.uk/pa/jt200304/jtselect/jtregc/uc843-iv/uc84302.htm

221. Volberg R. 'The future of gambling in the United Kingdom: Increasing access creates more problem gamblers'. British Medical Journal 2000;14(4):347 358.

222. Cunningham-Williams R M, Cotter L B, Compton W N, Spitznagel E L. Taking chances problem gamblers and mental health disorders-results from the St Louis Epidemiologic Catchment Area Study. American Journal of Public Health 1998;88:1093-6.

223. Abbott M W. Psychology, health and gambling. In: Curtis B, editor. Gambling in New Zealand. Palmerston North: Dunmore Press; 2002. p. 135-41.

224. Abbot M W. A review of research on aspects of problem gambling, final report. 2004. Auckland, Auckland University of Technology, Gambling Research Centre, Responsibility in Gambling Trust.

225. Welte J W. The relationship of ecological and geographic factors to gambling behaviour and pathology. Journal of Gambling Studies 2004;20(4):405-23.

226. Welte J W, Wieczorek W F, Barnes G M, Tidwell M C O. Multiple Risk Factors for Frequent and Problem Gambling: Individual, Social, and Ecological. Journal of Applied Social Psychology 2006;36(6):1548-68.

227. DeCaria E, Hollander R, Grossman C M, Wong S A, M, Cherkasky S. Diagnosis, neurobiology and treatment of pathological gamblers. Journal of Clinical Psychiatry 1996;57(Suppl. 8):80-3.

228. Paton-Simpson G R, Gruys M A, and Hannifin J B. Problem gambling counselling in New Zealand. 2003. Palmerston North, National Statistics, Problem Gambling Purchasing Agency.

229. Grant J E, Kim S W. Gender differences in pathological gamblers seeking medication treatment. Comprehensive Psychiatry 2002; 43:56-62.

230. Abbott M W and Volberg R A. Taking the Pulse on Gambling and Problem Gambling in New Zealand. 2000. Wellington, Department of Internal Affairs.

231. Christensen M H, Patsdaughter C A, Babington L M. Health care providers' experiences with problem gamblers. Journal of Gambling Studies 2001;17:71-9.

232. Pasternak A V, Fleming M F. Prevalence of gambling disorders in a primary care setting. Archives of Family Medicine 1999;8:515-20.

233. Brent Borough Council. Brent Casino Survey. 2006. London, Brent Borough Council. Available at http://www.brent.gov.uk/consultation.nsf/a744c9abffb0fd8380256e8d004eab68/2d629134df01fd73802571ab00390aca/$FILE/Casino%20Results.doc

234. Hann R G and Nuffield J. Local community impacts of the Charity casinos. 2005. Ontario, Ontario Ministry of Health and Long-term Care.

235. Welte J W, Wieczorek W F, Tidwell M C, Parker J. Gambling participation in the U.S. - results from a national survey. Journal of Gambling Studies 2002;18(4):325.

236. Reith G. Research on the social impacts of gambling. 44. 2006. Scottish Centre for Social Research.

237. EDAW. Social Impact of a Casino in the Wembley Development Area. 2006. London, Brent Borough Council.

238. Hall Aitken. The social and economic impacts of regional casinos. 2006. Glasgow, Hall Aitken, Social and economic regeneration consultants.

239. Costello J E, Compton S N, Keeler G, Angold A. Relationships between poverty and psychopathology. Journal of the American Medical Association 2003;290(15):2023-9.

240. Henley Centre. Economic and Social Impact Study of the Proposed Draft Gambling Bill. 2004.

241. Govoni R, Frisch G R, Rupcich N, Getty J. First Year Impacts of Casino Gambling in a Community. Journal of Gambling Studies 1998;14(4).

242. Fisher S. Measuring the Prevalence of Sector-Specific Problem Gambling: A Study of Casino Patrons. 2000. Plymouth, Centre for Research into the Social Impact of Gambling, University of Plymouth.

243. Arnold G and et al. Towards a Strategy for Addressing Problem Gambling in the UK. 2003. A report to the Gambling Industry Charitable Trust. Available at www.rigt.org.uk/reports_towards_a_strategy.asp

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