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.