Health Inequalities in Greater Manchester

GM Directors of Public Health Group
3rd Annual Report 2009
Foreword

Jan Hutchinson
Director of Public Health, Bolton
Chair of the GM Directors of Public Health Group

In 2006 the Audit Commission challenged all statutory and voluntary sector partners in Greater Manchester to demonstrate stronger leadership and commitment to addressing the long-standing challenges of population health and health inequalities in Greater Manchester (GM). In 2008, the Audit Commission reported on their follow up review that progress had been made beyond which they had reasonably expected, and that such progress in a short space of time was a “remarkable achievement”.

The report cited evidence of leadership in the prioritisation of population health in PCT strategic plans and collaborative investment proposals, in the establishment of the GM Health Commission as part of the city region governance arrangements, in the strategic partnerships with GM media, in the establishment of management capacity on public health, and in the new partnerships with the voluntary sector, the hospital sector and the local authorities across Greater Manchester.

For the most part the GM Directors of Public Health group concur that addressing poor population health across Greater Manchester now has a much higher profile. As a group we feel it is not now always necessary to make the case for population health or challenging health inequalities, but increasingly to provide guidance on the intervention required in order to make an impact. Poor population health, and particularly the corrosive effect of relatively poor health linked to socio-economic deprivation across Greater Manchester, is generally recognised to be a key factor in so many other agendas, like economic development, social cohesion, and the ability of the NHS to fund future health care.

The first GM Directors of Public Health Joint Annual Report in 2007 provided evidence on the health of the population in Greater Manchester and identified a number of direct causes of the relatively poor health and wide health inequalities across the conurbation.

The second GM Directors of Public Health Joint Annual Report in 2008 recognised the emerging importance of the GM City Region organisational architecture and described the interventions that each of the 7 GM commissions could make as a contribution to health inequalities.

This, the 2009 Annual Report, is the 3rd report and comes at an exciting time:

- A national review of health inequalities in England (the Marmot Review) due to report in early 2010
- A World Health Organisation Regions for Health Conference in Greater Manchester in November 2009 on wellbeing and sustainable economic growth
- A World Health Organisation Health Promoting Hospital Network Conference to be held in Manchester in April 2010
- The publication of the Greater Manchester Strategy as part of the Statutory City Region arrangements, with the recognition of health inequality as a priority in the quest for sustainable economic growth
- Concerted work from all partners to deliver the 2010 health inequality targets.
We were particularly pleased to have secured, on behalf of the GM Health Commission, a keynote presentation from Sir Michael Marmot in September 2009. In this report we have reflected key themes of his presentation on the first phase of his work on health inequalities in England and placed them within the ongoing GM work and context.

This report therefore has the following components:

1. Graphs providing an updated overview of population health and health inequalities.
2. Information on the lifestyle determinants of poor population health
4. Emerging priorities from Sir Michael Marmot’s Review of Health Inequalities in England
5. A brief review of the priorities in the GM City Region Strategy and the extent to which they are reflective of the interventions required to address health inequalities.
6. The recently endorsed GM Public Health Network Research framework – the need to focus on identifying interventions that will work in GM, and work with partners to translate such interventions into practice on a large scale. Through such endeavour health inequalities in GM will be reduced.
7. Recommendations on priority action to tackle health inequalities that the GM DPH group will advocate.

This Annual Report also comes at a time of great uncertainty, in particular the consequences of the recession on the health and well being of individuals and communities, particularly where the deepest hit is likely to be felt in areas already vulnerable and suffering the greatest health inequality. There is also uncertainty about the extent to which investment in ill health prevention and all of the medium and long term benefit involved is at risk in a time of challenge to public sector finances.

The GM Directors of Public Health group have endeavoured to make clear their recommendations to challenge deep seated and ingrained health inequalities, and the poor average population health across Greater Manchester.

We hope you find this report useful and we welcome comments. I am indebted to all those individuals who have contributed to the report, particularly Will Blandamer, Director of the GM Public Health Network.

Jan Hutchinson
Director of Public Health, Bolton
Chair of the GM Directors of Public Health Group
1. Population Health and Health Inequalities in Greater Manchester

With thanks to Tom Hennel
Population Health Analyst – Government Office North West

In each of the previous two annual reports we have updated a core set of graphs that describe population health in GM. These are repeated here again and updated to include the period 2005-2007. It should be noted there have been significant improvements in average population health - average life expectancy continues to rise and significant progress is being made addressing premature mortality associated with coronary heart disease and cancer (for example). However inequalities are relative measures and despite progress in some areas, Greater Manchester continues to have lower life expectancy than other areas in England, and in many areas the rate of improvement is not sufficient to make up the historic gap.

Charts 1 and 2 - Life Expectancy at Birth by borough, for male and female

Charts 3 and 4 – Cause of Death for the gap between life expectancy in Greater Manchester and the rest of England, for males and females.

An analysis of the premature mortality statistics by life cohort revealed that:
• For those people born between 1925 – 1945: CHD and cancer death rates are decreasing in Greater Manchester, but not as rapidly for males as average national improvement
• For those people born between 1945 – 1965: Death rates from CHD and cancer are improving faster in Greater Manchester, than nationally
• For those people born between 1965 – 1985: Alcohol-attributed death rates are increasing nationally, and even more rapidly in Greater Manchester.
• For those people born between 1985 – 2005: A large reduction in death rates in Greater Manchester – predominantly due to a greatly reduced risk of death from accidental overdose. Absolute male death rates in Greater Manchester are now lower than the national average
• For those infants born since 2005: Male mortality rates under one year of age have improved in Greater Manchester faster than nationally.
Chart 5 - Internal gaps in premature mortality in the under 75s in GM for both males and females (to 2006).

This chart highlights the changes in the gap in life expectancy for the under 75s for males and females between the borough average and the most deprived fifth of local neighbourhoods. It suggests for some boroughs the internal inequality is actually increasing.

Charts 6 and 7 – Progress towards delivering the 2010 target for the gap in life expectancy

These charts show the progress made towards delivering the national target for health inequalities in 2010. For males the chart indicates that Greater Manchester is on course to meeting the life expectancy gap target. For females the chart indicates a downward trend but the most recent figures are above the trajectory for the projected target.
2. Lifestyle Factors in Poor Population Health in Greater Manchester

Across Greater Manchester poor lifestyle behaviours are a major cause of relatively poor health and many of these lifestyle factors correlate to socio-economic deprivation. Previous GM Directors of Public Health Annual Reports have highlighted the importance of three particular lifestyle factors that can cause poor health: alcohol, obesity and smoking. Charts 3 and 4 above showed the causes of premature mortality. Of particular concern is the increasing contribution to premature mortality from digestive disease much of which can be explained by increased alcohol use.

Chart 8 and 9 – Alcohol Related Admissions in Greater Manchester
Alcohol Related Hospital Admissions in Greater Manchester compared to North West and the English average.
Chart 10 – Hazardous Drinking Estimates for Local Authorities in GM.

Estimates of hazardous drinking in Greater Manchester for 2003-05 were higher than the England and North West averages. Patterns of hazardous, harmful and binge drinking can be complex. For example, Stockport is relatively affluent when compared to other GM boroughs but has the highest level of hazardous drinking in Greater Manchester and the fourth highest in the North West. However harmful drinking and binge drinking is lower in Stockport than in the relatively poorer areas of Manchester and Salford. Binge and harmful drinking estimates for Greater Manchester are significantly worse than the England and North West averages. Manchester has the highest estimates of binge drinking in the North West and the second highest in England. Manchester also has the highest prevalence of harmful drinking (9%) in the North West.

*Mid-2005 synthetic estimate of the proportion (%) of the population aged 16 years and over who report hazardous and harmful drinking. Binge drinking figures are for 2003-2005.

Further detailed information on key indicators of alcohol use and harm are produced on a quarterly basis for the GM Public Health Network by the North West Public Health Observatory and are available at www.gmphnetwork.org.uk/alcohol. The graphs above are derived from the May 2009 Quarterly Indicators Report.

Chart 11 – Childhood Obesity Prevalence by PCT based on 2006/07 NCMP data

For children the reported prevalence of obesity at a national level was 9.9% in Reception and 17.5% in Year 6. Chart 11 shows this prevalence and proportions for GM PCTs.

<table>
<thead>
<tr>
<th>PCT</th>
<th>Reception Year</th>
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<th>Year 6</th>
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<tr>
<td></td>
<td>Prevalence %</td>
<td>No.measured</td>
<td>Prevalence %</td>
<td>No.measured</td>
</tr>
<tr>
<td>Ashton leigh &amp; Wigan</td>
<td>10.3</td>
<td>2980</td>
<td>16.9</td>
<td>2696</td>
</tr>
<tr>
<td>Bolton</td>
<td>10.7</td>
<td>2751</td>
<td>17.9</td>
<td>2798</td>
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<tr>
<td>Bury</td>
<td>9.8</td>
<td>1799</td>
<td>15.1</td>
<td>1611</td>
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<tr>
<td>Manchester</td>
<td>11.5</td>
<td>4135</td>
<td>22.8</td>
<td>3893</td>
</tr>
<tr>
<td>Oldham</td>
<td>9.4</td>
<td>2607</td>
<td>16.2</td>
<td>2571</td>
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<tr>
<td>Salford</td>
<td>11.7</td>
<td>1943</td>
<td>21.1</td>
<td>2037</td>
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<tr>
<td>Stockport</td>
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<td>2435</td>
<td>13.8</td>
<td>2185</td>
</tr>
<tr>
<td>Tameside &amp; Glossop</td>
<td>9.3</td>
<td>2103</td>
<td>15.1</td>
<td>1788</td>
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<tr>
<td>Trafford</td>
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<td>Rochdale</td>
<td>11.7</td>
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</tr>
</tbody>
</table>

A more detailed analysis of obesity prevalence across Greater Manchester can be found at www.gmphnetwork.org.uk/obesity

Chart 12 - Lifestyle factor – smoking

Smoking is the single most important preventable cause of illness and death. There is a strong association between deprivation and the prevalence of smoking. There are measures that can be targeted to reduce the association between deprivation and the rate of smoking. Cheap cigarettes are a particular danger and the main source of cheap cigarettes is contraband. As well as being cheap, contraband cigarettes seem to be even more dangerous, with a higher dose of carcinogens, than those legally purchased.

The GM Directors of Public Health group commissioned, on behalf of the GM Health Commission, a substantial survey on smoking prevalence in Greater Manchester in 2007 and 2008, from the North West Public Health Observatory. Key facts were the following:

- The proportion of adults in Greater Manchester who currently smoke is 21.5%. This figure is similar to the 2007 average for the North West region (22.5%)

- 23.2% of Greater Manchester adults are ex-smokers and 55.2% are non-smokers

- The majority of those that categorise themselves as current smokers in Greater Manchester smoke daily (87.4%). The remaining current smokers were occasional smokers.
Of interest from a health inequalities perspective is the proportion of adults who currently smoke by index of multiple deprivation 2007.

Smoking prevalence in Greater Manchester has a positive relationship with deprivation: smoking prevalence increases as deprivation increases. More adults in the most deprived quintile are current smokers (27.6%) than adults in any other quintile. Compared with adults in the least deprived quintile those in the most deprived areas are approximately 1.9 times more likely to be current smokers.
3. Health Inequalities

Acknowledgement – With grateful thanks to Sir Michael Marmot for permission to use these slides.

Reference: http://www.ucl.ac.uk/gheg/marmotreview/consultation/Marmot_Review_First_Phase_Report

Health inequality refers to the difference in health status or distribution of health determinants in different population groups. Health inequalities are often considered only in terms of a comparison of the health status of the poorest in society (for example the lowest 20%) and the rest. However it should be noted that health inequalities are best considered as a gradient in health status – generally the more affluent one is the better health one will have.

In November 2008 Sir Michael Marmot was invited by the Secretary of State for Health to provide advice on the future development of a health inequalities strategy in England post 2010. The review was intended to take into account the best global evidence appropriate to England from the WHO Commission on the Social Determinants of Health. The Review is due to be reported to the DH by the end of 2009 and the final report will be published in 2010. The report focuses on what can be achieved in the short to medium and longer term to reduce health inequality. In particular it looks at the evidence for effective interventions, the conversion of the evidence into practice and the identification of objectives and measures for assessing health inequalities.

The first phase report provides a description of core characteristics of health inequalities in England. In summary these are:

1. “For the period 1971-2005, although life expectancy has increased across the social spectrum, the gradient in life expectancy for men and women between social groups (for example between manual and non-manual) has persisted with some widening taking place in the 1980s and 1990s” (p10)

2. “While regional gradients in mortality are small for the most advantaged, they widen across the social gradient becoming greatest for the most disadvantaged.” (p11)

3. “For the period 2005-07 compared to 2004-06 there was a slight narrowing of the infant mortality gap, little change in the gap in male life expectancy and a widening gap in female life expectancy” (p13)

4. “Mortality and morbidity and mental health follow a social gradient. The higher up the social hierarchy an individual is, the lower their risk of all health and premature death and vice versa. The causes of the diseases that represent the major disease burden in England are well understood. These include smoking, obesity, excess alcohol consumption, unhealthy diets and lack of exercise” (p14)

5. “Inequalities in social determinants closely relate to health inequalities – the more unequal income distribution, educational outcomes, housing quality are for instance, the more unequal health is” (p17)

Sir Michael Marmot’s presentation in September 2009 to an extended meeting of the GM Health Commission provided a number of interesting graphs that illustrate the importance of tackling the health inequality agenda.
Employment is a key determinant of health. Chart 14 shows not only the gradient in health outcome between social classes, but also the large difference in mortality between those employed and not employed in 1981.

There is no reason to believe that unemployment today is any less toxic. Indeed the 2008 GM Directors of Public Health Report noted the growing evidence about the role work can play in preventing premature death, improving health and reducing social exclusion and the importance of good quality work in enhancing positive mental health and well-being. An evidence review conducted by the NHS
Health Development Agency in 2005 (now National Institute for Health and Clinical Excellence) found:
- Positive correlations between mortality and unemployment for all age groups. It has been estimated that each 1% increase in unemployment sustained for five years produces in the 5th year
  - a 1.9% increase in total mortality,
  - a 4.3% increase in male mental hospital admissions,
  - a 2.3% increase in female mental hospital admissions,
  - a 4% increase in prison admissions,
  - a 4.1% increase in suicide and
  - a 5.7% increase in homicide
- An estimated 20% excess risk of death for men actively seeking work;
- An association between unemployment and death from cardiovascular disease;
- A doubling of the rate of hospital admissions for heart disease and high blood pressure in the anticipation and termination phase of factory closure;
- A positive association between unemployed people and a higher prevalence of common mental disorders.

Sir Michael also discussed the importance of early years in determining future life experience. The following graph shows that children who at 22 months had low cognitive development and were in circumstances of low socio-economic status retain low cognitive development. By contrast children with low cognitive development at 22 months but who were in high socio-economic circumstances soon progress and by approximately 7 years of age overtake those with high early cognitive development who were in circumstances of low socio-economic status. It was argued that we are failing children that are most in need unless this issue is addressed.

Chart 16 - Inequality in Early Cognitive Development of British Children in the 1970 Cohort, 22 months to 10 years

An important point to stress is the corrosive nature of inequality on the mental wellbeing of populations. The fact that inequality itself is bad for health makes reducing inequality everyone’s business. Put simply, feeling that you are low down in a pile is itself an additional stress that can occur not only at the bottom but also in the middle and towards the top.

“Mental health is a fundamental element of the resilience, health assets, capabilities and positive adaptation that enable people both to cope with adversity and to reach their full potential and humanity. Mental health is also the key to understanding the impact of inequalities on health and other outcomes. It is abundantly clear that the chronic stress of struggling with material disadvantage is intensified to a very considerable degree by doing so in more unequal societies. An extensive body of research confirms the relationship between inequality and poorer outcomes, a relationship, which is evident at every position on the social hierarchy and is not confined to developed nations. The emotional and cognitive effects of high levels of social status differentiation are profound and far-reaching: greater inequality heightens status competition and status insecurity across all income groups and among both adults and children. It is the distribution of economic and social resources that explains health and other outcomes in the vast majority of studies. The importance of the social and psychological dimensions of material deprivation is gaining greater recognition in the international literature on poverty and informs current efforts to develop indicators that capture the missing dimensions of poverty.

For this reason, levels of mental distress among communities need to be understood less in terms of individual pathology and more as a response to relative deprivation and social injustice, which erode the emotional, spiritual and intellectual resources essential to psychological wellbeing.”

“Mental Health, Resilience and Health Inequalities” – World Health Organisation, Europe - 2009

The GM Directors of Public Health Report in 2007 highlighted the importance of mental health as a determinant of physical health. For example low job control, characteristic of those in relative deprivation is associated with higher levels of mental ill-health and coronary heart disease. Health surveys reviewing low job control ask questions such as:
- Do you have a choice in deciding how you do your job?
- Do you have a choice in deciding what you do at work?
- Others take decisions concerning my work
- I have a good deal of say in decisions about work
- I have a say in my work speed
- My working time is flexible
- I can decide when to take a break
- I have a say in choosing with whom I work
- I have a good deal of say in planning my work environment
Various aspects of well being have been shown to be associated with physical health. Evidence is particularly strong for the following:

- A positive impact on mortality from strong social support networks
- A harmful impact, especially on heart disease, of working under pressure to deadlines
- Lower mortality in those who have considerable autonomy in their work
- Lower mortality in those of higher social status
- Increased sickness and mortality during processes of change affecting fundamental areas of life identity. This lasts from the time that change first starts to be anticipated until the individual is settled back into a secure new role. It applies to both positive and negative life changes but the impact of negative life changes is greater.

There is also evidence, although not quite as strong for:

- A beneficial effect on health of aesthetically attractive surroundings and greenspace
- A beneficial effect of striving for a challenging and meaningful goal
- A beneficial effect of a strong personal identity
- An adverse effect of threats hanging over people

On this last point the nature of the contract status, and the extent to which job security is provided correlates closely with mental health and well being. Sir Michael Marmot provided this chart in evidence.

**Chart 17 – Prevalence of Poor Mental Health related to work contract status (in Spain)**

Source: Artazcoz et al 2005
Social mobility

Social position is not fixed and not everyone in a deprived group has poor health. Some are able to become upwardly mobile and some are resilient to the stresses and pressures of deprivation. However the ability to move in an upward direction again displays the characteristics of a gradient. This might best be exemplified by the following:

"Those who suffer poor health as children or as adults are less likely to be upwardly mobile; those who start life in a low social class are more likely to experience poor health. A child from the lowest social class is more likely to be: born too early, be born small; have a mother who smokes and grow up to be a smoker him/herself, die or be injured in a childhood accident, become a young parent, suffer chronic illness in adulthood and eventually to die several years earlier than his/her better off peers. Poor health impacts on educational attainment, employment and income thereby further decreasing the likelihood of a child born into poverty attaining upward mobility”

" Report from the Independent Commission on social mobility” – January 2009

Summary

This brief chapter on health inequalities has provided some insight into the complex relationship between deprivation and poor health. It has drawn on the Sir Michael Marmot Review of Health Inequalities for England and Wales by highlighting that health inequalities do not just limit the life and well being of the very poorest.

“The poor health of the poor, the social gradient in health within countries and the marked health inequities between countries are caused by the unequal distribution of power, income, goods and services… their access to health care, schools and education, their conditions of work and leisure, their homes communities, towns or cities, and their chances of leading a flourishing life”

For Sir Michael Marmot, the persistent health inequalities in our country are a matter of social justice:

"(The) toxic combination of bad policies, economics, and politics is, in large measure responsible for the fact that a majority of people in the world do not enjoy the good health that is biologically possible…Social injustice is killing people on a grand scale.”

4. Actions to Tackle Health Inequalities – Emerging Priorities from the Marmot Review

Will Blandamer
Director – GM Public Health Network

The first phase of the Marmot Review of Health Inequalities in England was published in June 2009. It reflected the work of 9 task groups, each associated with a clear determinant of health inequalities, and each requested to review the evidence for actions most likely to be effective in reducing health inequalities. The review has distilled the output of these task groups to identify a number of strategic themes.

Although these themes are yet to be prioritised, and the report finalised, they are helpful in providing guidance and a framework in which to consider how best to address long standing health inequalities in GM. These themes also help identify the opportunities to reduce health inequalities through the GM City Region Strategy (Chapter 5).

Emerging theme 1 – Reducing material inequalities
Key issue – “the evidence makes it clear that, at lower levels of income, people simply do not have enough to meet societal standards for healthy living” (p33)

Proposals include:
- reduction in wage and salary differentials (including between men and women and between ethnic groups as well as between socio-economic groups)
- more progressive tax structures
- Simplification of benefits to ensure greater take up
- a focus on low growth more sustainable economy based on lower but more equal incomes

Emerging theme 2 – Enhancing potential
Key issue – “by gaining appropriate knowledge and skills, the potential that individuals have to exert control over their everyday lives and their life course is enhanced” (p33)

Proposals include:
- The importance of early child development and education, reinforced through family, pre-school and school
- The reinforcement of such early development through the life course, including employment opportunities and health literacy
- The importance of “good work” and continued education as a determinant of adult well being
Emerging theme 3 - Empowerment: Enhancing social and community capital
Key issue – “There are many communities and social networks to which individuals may belong over their life course. The extent of their participation in these, and the added control over their lives that this brings, has the potential to contribute to their psycho-social wellbeing and as a result to other health outcomes” (p34)

Proposals include;
- Build community capital at a local level
- Public sector policy and services owned by those most affected and are shaped by their experience

Emerging theme 4 – Sustainability of neighbourhoods, transport and food systems
Key issue – “creating a physical environment in which people can live healthy lives, with a greater sense of wellbeing” (p34)

Proposals include:
- Limit the feeling of exclusion of children and elderly in particular from public places
- Safe and accessible green space, requiring the restoration of an appropriate balance between people and vehicles
- Reduction of traffic speeds to promote walking and active living
- Make healthier and more sustainable food choices available to low income groups,
- Promote physical activity
- Improve maternal and baby nutrition
- Tackle poor or inadequately heated/insulated housing
- Action on homelessness

Emerging theme 5 – Quality and flexibility of work and security of employment
Key issue – “work is central to the lives of people for a large part of their life course” – “participation and empowerment at work and in the choice of work play a significant role in an individuals well being” (p35)

Proposals include
- Fairer employment by providing greater job security
- Greater flexibility to facilitate the recruitment and retention of vulnerable groups
- Simplification of the benefits system to remove disincentives
- A better work life balance for those in work to reduce workplace stress and to make it easier for some groups to be in suitable work
- Promoting availability of “good work” – “participation, control, reward and enforcing protection of workers from physical and psycho-social hazards (e.g. poor management practices, bullying)” (p36)

Emerging theme 6 – protecting vulnerable groups
Key issue – “special measures are taken to ensure that social justice is not denied to individuals who are either temporarily or permanently the most vulnerable in society”, where vulnerable groups include those with mental illness, disability or chronic illness, some ethnic minorities, asylum seekers, long term unemployed, homeless people, those on low incomes. (p36)

Proposals include
- Protection of vulnerable workers, including measures to keep the vulnerable in work or to reintegrate into work
- Minimum income for healthy living – strengthen the income of those in the poorest paid jobs
- Vulnerable groups to have adequate support to meet basic living standards
- The provision of adequate preventative and treatment services for those in some way vulnerable, in particular targeted smoking reduction programmes and the identification and management of cancer, diabetes and cardio vascular disease

Emerging theme 7 – public sector performance and responsibility
Key issue – “the capacity of public services to address inequity, disadvantage and the needs of vulnerable groups” (p37)

Proposals include
- Improving the morale, coherence, skills and autonomy of those on the front line
- The corporate responsibility of the public sector (particularly the health service)- the use of employment and purchasing power to benefit the local communities.

Emerging theme 8 - Strengthening the approach to evidence based policy
Key Issue – the need to strengthen the evaluation of costs and effectiveness of specific interventions

Emerging Theme 9 – Strengthening Universal preventative activity on health
Key issue – “While there is a focus on “targeting vulnerable groups or on devoting progressively more resources on groups with increasing levels of disadvantage, there was a recognition that universal preventative activity on health does impact on inequality”

Proposals include:
1. Minimum unit price for alcohol
2. Lowering the legal limit for blood alcohol
3. Early childhood interventions
4. Early prevention and treatment of childhood mental health problems
Cross Cutting Themes

In addition to the emerging themes above and proposed interventions, the first phase report also noted a number of cross cutting challenges which are of interest given the cross agency working in the City region. Briefly the key issues are:

1. Poor health is not just associated with extreme disadvantage, and good health associated with advantage but there is a gradient in health with a progressive reduction in health status from the most advantaged to the most disadvantaged. This has implications for targeted as opposed to “universal” interventions, and the difference between demand for health services and unexpressed need for health services.

2. Definitions of health inequality are often expressed in terms of life expectancy, which does not give sufficient weight to the importance of well being.

3. The role of resilience – what are the combination of personal and community factors that allow an individual to be healthier than their peers and how can we intervene to create greater resilience.

4. The role of public services – people further down the social gradient are more likely to have complex needs that have to be met through multiple agencies working together with shared objectives

5. Prioritising recommendations – an appreciation of the political and financial choices that must be made if health inequalities are to be addressed

6. The role of regulation – an understanding of the both the strength of government regulation (“many of the most effective advances in public health have come from regulation, such as sanitation, food hygiene, control of asbestos, compulsory seatbelts and smoking limitations” (p51) but also the potential for unintended consequences impacting across the social gradient

The overview of the Marmot review is based on the outputs from the review at the first stage. When the Review is complete and available at the beginning of 2010, the GM Directors of Public Health Group will recommend that the GM Health Commission undertake a stock take of progress and prioritisation of programmes across Greater Manchester in the context of the evidence based interventions to address the health inequalities that have been identified.

5. The GM City Region Strategy and Health Inequalities

Will Blandamer  
Director – GM Public Health Network

The GM Strategy (GMS) (July 2009 – www.agna.gov.uk) is an ambitious blueprint to realise and maximise productivity and prosperity, for the benefit of all, in the City region. The GMS is essentially an economic development strategy for Greater Manchester that aims to be sustainable and is founded on the robust evidence base provided by the Manchester Independent Economic Review. This concluded that Greater Manchester had the capacity to become an economic powerhouse if it could address its long term causes of low productivity.

Although the GMS is driven primarily by principles of economic development, that does not undermine its significance and potential for reducing health inequalities. The Marmot Review shows and describes how interventions to address health inequalities are rooted in economic growth and employment opportunities. The GMS reflects this by recognising four principles that link economic development in the City region and health:

1. Improving the health of the population is essential for achieving the economic ambition for the City region
   - “creating a healthier city is vital” (p9)
   - “A large number of people on the margins of employability and opportunity is not just an affront to our belief in a city where all can find prosperity, it is also a signal of basic economic failure” (p9)
   - “From the early years onwards we need to pioneer the skills that make people employable, like effective communication, team –working and managing in difficult social situations. We also need to give people belief, optimism and resilience and to increase their level of citizenship” (p9)

2. The benefits of economic growth must be felt by all
   - “the prosperity we seek to build is for everyone: all out citizens, in all our places” (p2)

3. Inequality is in itself a barrier to economic growth
   - “Our 2020 strategy reinforces that enduring deprivation, lack of opportunity and a deficit of basic skills are not simply an anathema to a progressive modern city region, they limit our aspirations: they will hold us back economically as well as socially” (p2)

4. Socio-economic inequality is a cause in itself of health inequality
   - “If we succeed in bringing prosperity to the many, then it will have a direct benefit on the economic future of the city and will make the city a far more attractive proposition for the talented ‘creative class’ that we seek to attract. The greater the levels of poverty, the greater the levels of ill-health, which has a direct and negative impact in economic terms. More equal societies have lower levels of crime, making them better places to live and work. Finally, the more unequal the distribution of wealth, the less effective a city can be. Wealth distributed more broadly leads to higher levels of utility – of happiness – than wealth focused around the few.” (p9)
These key principles for improving the health of everyone in a fair way whilst seeking sustainable economic growth underpin the GMS and are entirely in accord with the evidence from the Marmot Review.

**GMS Strategic Priorities**

The strategic priorities identified in GMS include:

- a radical improvement in the early years experience, particularly in deprived areas and amongst hard to reach groups;
- an increase in the proportion of highly skilled people in GM;
- a programme to attract, retain and nurture the best ‘talent’ available;
- an improvement of life chances for those living in our most deprived areas;
- a significant improvement in transport connectivity;
- a rapid transformation to a low carbon economy;
- an increase in international connectivity, particularly to newly emerging economies;
- digital super-connectivity;
- flexible housing policy which meets market demand and the need for quality and affordable neighbourhoods;
- work to build and improve our ‘sense of place’ and quality of life;
- and effective city region governance.

**Comparison of City Region Strategic priorities with Emergent Marmot themes**

A brief analysis has been conducted of the emergent themes from the first report of the Marmot Review and the GM Strategy. As an overview the City Region Strategy marries up well to many of the themes. The priority afforded to early years interventions, skills and learning through school and post school, the determined focus on tackling the areas of greatest deprivation, the recognition of the role of health as a determinant of economic growth, and the importance of a low carbon economy are resonant with the Marmot Review. Most importantly the GM strategy whilst focussing on growth also emphasises the importance of fairness and everyone having a share in growing prosperity.

There are also specific references in the City Region Strategy to a number of priority issues previously identified by the GM Health Commission, including walking and cycling, breastfeeding, alcohol harm, cancer, fuel poverty and domestic violence.

There are some elements of the GMS that have the potential to exaggerate health inequality in the short term – for example a strategic priority to attract high earners and investors in to the city. These can be recognised as unintended consequences.

There are number of areas where GMS falls short against Marmot recommendations, including issue around job security, benefits maximisation and utilisation and simplification, and clearer identification of some of the most vulnerable groups in GM (e.g. by ethnicity, or homelessness). However it should be recognised that the City Region Strategy did not intend to cover all aspects of GM wide work and GM DPHs will seek confirmation that these areas are being picked up elsewhere.

**Conclusion**

Overall the GM City Region Strategy provides an excellent opportunity to secure multi-agency leadership on addressing intransient and often inter-generational health inequalities in Greater Manchester, and many aspects are closely aligned with the anticipated outcomes of the Marmot Review.

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**6. Testing interventions locally to improve population health and reduce health inequalities**

Dr Soraya Meah – Lead, GM Public Health Practice Unit
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During the past ten years there have been numerous initiatives to reduce health inequalities but Greater Manchester (GM) still has stark health inequalities and on average poorer health than the rest of England. New ways to improve local health and wellbeing are needed but the study evidence base is not very helpful. There is a lack of public health intervention studies and a difficulty in knowing if those interventions shown to produce benefits in the past, in other populations, will be as effective in the present, in GM.

The GM Public Health Practice Unit was tasked by the ten Directors of Public Health in Greater Manchester to develop a vision and strategy for research and evaluation that could be used to improve population health and reduce health inequalities. In autumn 2008 the approach was endorsed by the Directors of Public Health. The approach integrates available research evidence with scientific knowledge, theory and expertise. It can be used to identify and pragmatically test interventions locally to demonstrate they are effective, efficient, and good value for money and is designed to enhance local health and social care policy decision making.

**Understanding population health**

The GM model for research and evaluation is shown in the diagram. This indicates a linear step wise approach from health problem to testing possible solution, but in reality as understanding develops, the steps along the pathway can be revisited. As such the process is dynamic and iterative which reflects the complexity of public health practice.

The first step is to define the health issue and population of interest. Many health problems in GM are easily described but their impact and causation differs across population groups. Clarity of definition at this stage can indicate if whole population or targeted approaches to improving health are required.
Once a problem and population have been defined, the next step is to develop a theoretical understanding. Underpinning this approach is a general conceptual framework about the causation of health and wellbeing developed by Kelly, Stewart, Morgan et al (2009). This framework builds on the Dahlgren and Whitehead (1991) model of health determinants and life course epidemiology described for example by Kuh, Ben-Shlomo, Lynch et al (2003). Health and wellbeing is determined in a dynamic process across an individual’s life time and the impact of a health determinant is mitigated by a person’s physical and mental resilience. Whilst the wider determinants of health act upon individuals that differ, the resulting health outcomes are highly patterned at the group level and shown by epidemiology. This indicates that many health outcomes have similar causal pathways which can be understood.

Developing a theory about causation of a health outcome can be an everyday activity. A simple example is explaining why someone is fat. The general theory is that they must consume more energy than they expend. If more is known a more complete explanatory theory can be described. For example, knowing they drink too much alcohol, often eat take-away food, have given up sport and drive everywhere helps our understanding. It suggests an explanation based around habitual behaviours and lifestyle changes over time. Knowing that they also work in an office, are unhappy with their marriage and have financial difficulties suggests other possible explanations relating to sedentary work, comfort eating and stress. Once more is known a more complete set of theories about possible causation can be developed. This is true both for individuals and populations.

Public health is a multi-disciplinary activity and can draw upon knowledge and theories developed across many fields of human endeavour. Many of these theories are robust and can be used not only to explain but also to develop ways to improve health, for example supply and demand theory (Marshal 1920). By using knowledge from disciplines such as sociology, psychology and economics, theories can be developed to explain the occurrence of health and wellbeing in different GM populations. Over time these theories can be tested for their fit, and usefulness, and can be improved upon. Good theory can lead directly to effective interventions and health improvement.

### Identifying interventions to improve health

The next step in the model is to use theories to identify interventions to improve health. The conceptual framework for health underpinning this model indicates three general ways to interfere with causal mechanisms and improve population health. These are to promote resilience to things detrimental to health, reduce exposure to negative determinants of health and increase exposure to positive determinants of health.

The development of a basic theory about causation allows identification of possible solutions and a focussed search of the literature, to find out if an effective intervention to achieve the wanted goal already exists. Often the literature search will yield disappointing results, but we are not in an intellectual and historical vacuum in which nothing is known until a study has demonstrated effectiveness. When the interventions literature is unhelpful our theories and knowledge can be used to develop interventions that should work.

### Testing interventions

The model’s final step is to test possible solutions for their acceptability and cost effectiveness. Often public health interventions aim to protect people against a known harm or get people to adopt behaviours shown by others to be healthy, for example, eating fruit and vegetables. These interventions are usually based on proven theory from the natural sciences and build upon past practice, experience and observation. They nearly always pose little risk of harm to the population. This importantly contrasts with potentially harmful interventions such as new drugs which need convincing data from trials that demonstrate more benefit than harm before using them in the general population.

For most public health interventions the primary concern is not risk of harm, but cost. Often the central hypothesis to test is – Does the intervention produce enough benefits for the cost? If obtaining good value for money in your local population is the central issue then it is appropriate to test the intervention against a particular threshold of good value. This threshold can be derived from a full cost utility analysis that yields QALYs but whilst this can be considered the gold standard it is costly and time consuming to undertake and will often be inappropriate.

What is usually wanted in GM is a pragmatic estimate of cost effectiveness that can be used for local decisions. One way to achieve this is to set values for wanted outcomes based upon current activity, experience and knowledge. These outcomes should be linked to your theories about causation. Consider for example, smoking cessation. There is cast iron evidence that giving up smoking improves health, but what value should we place locally on an adult stopping smoking? If for example, based on current local NHS service provision it costs £500 to get someone who smokes to be smoke free at four weeks, then an intervention that delivers smokers who quit for less cost, can be considered better value.

### Using the model

This year the approach has been used successfully to identify ways to increase breast and cervical screening uptake and in supporting Heywood, Middleton and Rochdale PCT in securing funding from the British Heart Foundation to help them reduce geographical inequalities in heart disease. A next step is to apply the model systematically across a research programme that addresses the public health priorities for GM.
The above approach provides a way forward for innovation in local public health. What is being advocated is that we consider the root causes of local health problems and focus our efforts on what we can do at a local level. This mirrors the public health tradition of understanding the causes of a health problem and undertaking practical action to alter the situation for public good.

References


Jan Hutchinson
Chair, GM Directors of Public Health Group

Work being undertaken by the GM Public Health Network, including the building of partnerships between local councils and PCTs and the wider NHS, and the imminent publication of the Marmot Review, permit and make timely the need to give greater consideration and response to the underlying determinants of health.

Whilst the importance of determinants such as schooling, employment, housing and environment to health was always recognised, our two previous reports focussed mainly on health behaviours. This emphasis recognised that interventions to address lifestyle causes of poor health also helped reduce health inequality because the prevalence of such health limiting behaviour is often higher in the most deprived groups. DPHs will therefore continue to lobby for interventions that address smoking prevalence, obesity and excessive alcohol consumption. In addition the DPH group recognises the challenges of the wider determinants of health, especially during a recession and will promote evidence-based interventions that tackle underlying causes of poor health. Key to our thinking is the need to promote health and wellbeing whilst recognising financial constraints and the need for economic recovery.

Public health interventions have often been considered costly, bad for business or reducing enjoyment of life. This view should and can be challenged head on, for example, car seat belts, vaccinations and smoking cessation services save lives and NHS money: healthy workplace interventions improve health and save employers money through greater productivity and less days off sick. A sensible minimum unit price for alcohol will discourage anti-social drinking at home and on the streets and encourage sensible social drinking in pubs, clubs and restaurants. In addition, many interventions to reduce harmful behaviours have additional benefits that are good for the whole community. For example, up to 1 in 4 cigarettes in deprived communities are contraband – and this influx of illegal tobacco is undermining other efforts to reduce smoking prevalence in the most deprived communities. The criminal gangs that smuggle large numbers of cigarettes into the City region are likely to be the source of other concerns to our communities. Another example is promoting cycling and walking instead of using the car for short journeys, this will reduce congestion (a pre-requisite for economic development), improve air quality and achieve the health benefits from physical activity.

The DPH group will therefore strongly advocate for the following interventions.

1. Because of the rapid growth in hospital related alcohol admissions, and the related societal impact of excessive alcohol consumption, the DPH group strongly supports the introduction of a minimum unit price for alcohol. The GM Health Commission have already endorsed this position in principle and requested a report outlining the opportunity to progress this intervention across the GM City Region.
2. If one third of car journeys under five miles were transferred to foot or cycle it would save as many lives as all other heart disease prevention measures put together. The GM DPH group will strongly support the construction of comprehensive GM wide walking and cycle strategies integral to the work of the city region strategy. The Strategy should include prioritised investment in infrastructure and funded by the equivalent of 10% of the entire Transport Budget for GM in accordance with Sustrans best practice guidance.

3. For road traffic accidents, the death rates for children (0-15) of parents who have never worked or are long term unemployed are 20 times higher for pedestrians and 27 times higher for cyclists than death rates of children of parents in higher managerial or professional occupations. Given this startling health inequality, and the importance of a cultural change to walking and cycling to improve physical activity, the GM DPH group will strongly support the implementation of 20mph zones in side streets and, streets close to schools and will work with the GM Transport Commission and the GM Housing and Planning Commission.

4. A robust 2012 legacy plan to deliver an exponential increase in physical activity generally and participation in sports in particular across Greater Manchester such that the GM share of the national target of 1m extra participants in physical activity and 1million extra participants in sport is exceeded. The GM DPH group will support all relevant partners in GM, including GM Sport, AGMA and other partners to maximise the opportunity of the Olympic games to deliver improved and sustainable physical activity and sport participation rates.

5. Up to 1 in 4 cigarettes in deprived communities are illicit – and such trade does not respect borough boundaries and is undermining other efforts to reduce smoking prevalence in the most deprived communities. The 64 million illicit cigarettes found in a single recent raid in North Manchester did not arrive into the city region without an extensive criminal network likely to be the source of other concerns to our communities. The GM DPH Meeting will advocate for the prioritisation of strategies to address illicit tobacco consumption across Greater Manchester, to include the establishment of a target for seizure of illicit tobacco in GM.

6. The GM DPH Group will seek to work with partners to produce a comprehensive plan to improve diet in GM. This will consider interventions such as increasing access to healthy foods, street vendors and vending machines selling healthy foods, healthy food co-operatives, grow your own schemes, pricing to favour healthy options on menus, and provision of free water in public places. Given the strong relationship between obesity and health inequalities, the GM DPH Group will in particular seek to work with the GM Housing and Planning Commission to provide planning controls to fast food outlet planning applications.

7. The GM DPH Group will provide as much support as possible to the GM City Strategy prioritisation of early years interventions and in particular the proposal for a set of entitlements for 0-5 year old children. These should include the following:
   a. Promotion of breastfeeding
   b. Promotion of immunisation and vaccination
   c. Protection and further development of green space for play
   d. A smoke free environment for children

8. Given that the public sector employs a significant proportion of the workforce in Greater Manchester, there is an opportunity to directly address the health and wellbeing of considerable numbers of the population through improved workplace health interventions (and the Boorman review in the NHS (2009) also highlighted the direct correlation between staff health and well being and key performance indicators). The GM DPH group will strongly advocate for the public sector in GM to be an exemplar Healthy Workplace, to include robust and implemented alcohol, tobacco and healthy eating policies, and policies to improve physical activity.

9. In GM in 2007/08 there were 64,000 incidents of domestic violence were reported to GMP in 2007/08 (GMAC) obviously likely to be a significantly under representation of the scale of domestic abuse in Greater Manchester. 50-60% of women mental health service users have experienced domestic violence, and up to 20% will be experiencing current abuse (DH, 2003. One-third of women attending A&E departments for self-harm were domestic violence survivors (Womens Aid). The GM DPH group will work with all partners in GM to see the establishment of a GM Domestic Violence Reduction Strategy.

10. Given the evidence on relationship between quality work and well-being, the GM DPH group will advocate for the prioritisation of “good quality work” exemplified by greater autonomy in all economic development strategy.

11. To make a real difference to our environment and its impact on health the GM DPH group also wants to work closely with the GM Planning and Housing Commission. A range of factors to consider to improve public health have been presented to the GM Chief Planning Officers Group in 2008 and via the GM Directors of Public Health annual report 2008 (see chart 16). Now, with the potential for integrated city region housing and planning and urban regeneration strategies reflecting the economic interdependence of the boroughs, the GM wide Housing and Planning Commission could have a large impact on designing a built environment that helps ensure the health of all into the future.

1. **Encourage active lifestyles**: Protect and enhance facilities that promote physical activity. Consider secure cycle storage in all developments, and ensure adequate facilities for cyclists (e.g. parking, showering, changing) are provided in workplaces; give walking and cycling routes priority over routes for cars; design public buildings so that stairs are as obvious an option as lifts or escalators.

2. **Build opportunities for social interaction**: Create environments with natural social foci where people can meet informally; promote local services, clustered together to encourage mixed-use trips; ensure that people are adequately involved in developments in their area.

3. **Improve housing quality**: Design and orient to maximise natural light, reduce heat loss, and provide views over aesthetically pleasing spaces; design for safety, both in terms of reducing accidents and reducing the risk of crime.

4. **Improve access to work**: In large scale developments, encourage diversity of employment through the creation of new work places; ensure that transport strategies provide equitable access to job opportunities.

5. **Ensure accessibility for all**: Ensure that public transport planning is built into developments from the beginning; follow best practice guidance in design for accessibility; consider the needs of children and older people.

6. **Promote local food production and access to healthy food**: Encourage a diversity of shopping facilities in local centres; when planning recreational open space, consider developing local allotments.

7. **Promote safety and a sense of safety**: Use traffic calming to slow the speed of traffic and give priority to pedestrians and cyclists; design to ensure natural surveillance over public space.

8. **Promote social inclusion**: Provide mixed housing tenures within each area; take care that developments do not drive out those on low incomes by making property or services too expensive; minimise visible distinctions between social and private housing; ensure that people are not excluded because of disability or lack of access to a car.

9. **Improve the quality of the natural environment**: Enhance the quality and quantity of areas of green space, linked by green corridors where possible; ensure that this is accessible throughout settlements; aim for environmental sustainability.

10. **Improve the quality and aesthetics of the built environment**: Promote high quality design and detail; design places to be intuitively understandable; integrate the natural environment into the built environment with trees and other planting schemes.

Appendix I

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Greater Manchester Public Health Network

The Greater Manchester Public Health Network is funded by the GM PCTs and is accountable to the GM PCTs, to AGMA, and to the GM Directors of Public Health Group. Its role is to provide a focal point for collaborative work in Greater Manchester on public health and health inequalities.

The Director of the Network is Will Blandamer, and the following are examples of the key work programmes of the network:

- GM Public Health Practice Unit
- GM Public Health Comms and Marketing Programme
- GM Public Health Workforce Development
- GM Public Health Intelligence Network
- GM Tobacco Alliance
- GM Alcohol Programme
- GM Health Weight Programme
- GM Fuel Poverty
- GM Hep C Strategy (with the HPA)
- GM Cardiac Prevention Strategy (with the cardiac network)
- GM Child Health Inequalities (with the Children’s and young people network)
- GM Health Inequalities programme for acute trusts (with the GM Acute Trust Chief exec forum)
- GM Local Authority health inequalities leads forum (with Manchester Joint Health Unit)
- GM Arts and Health Network

The GM Public Health network has a monthly e-bulletin sent to nearly 400 people across Greater Manchester, containing updates on projects and information on events.

Further information on the GM Public Health Network can be found at www.gmphnetwork.org.uk