



Early Life Factors and Obesity

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Early Life and Obesity

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Obesity & Health Conference 2006

Acknowledgements

- Peter Bundred
- Dexter Canoy
- Tim Cole
- Peter Clayton
- Denise Kitchiner
- Gareth Stratton
- NHS colleagues

Presentation

- Contemporary trends in children's
 - BMI
 - Comparison with birth-weight
 - Social and spatial distribution
 - Associations with growth
 - Tracking
 - Cardio-respiratory endurance

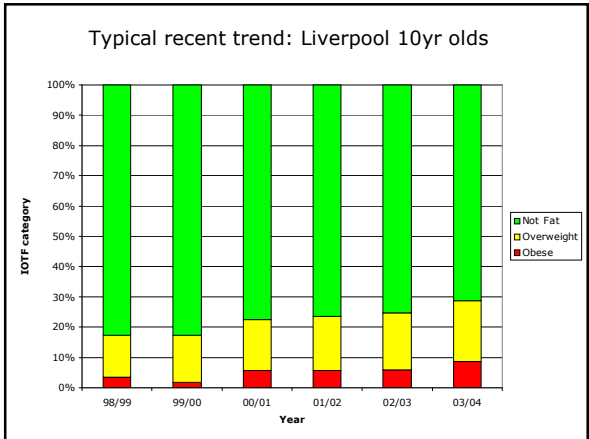
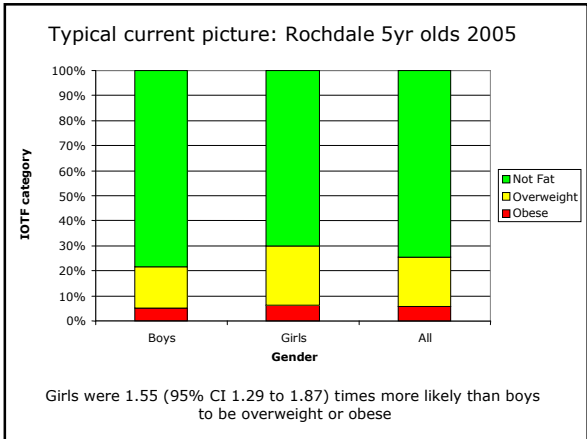
Signals from routine data

- Large samples
 - Approx. 30-75% coverage of population
- Data quality varies
 - Health visiting and school sources
 - Careful cleaning & interpretation
 - Corroborate findings across localities

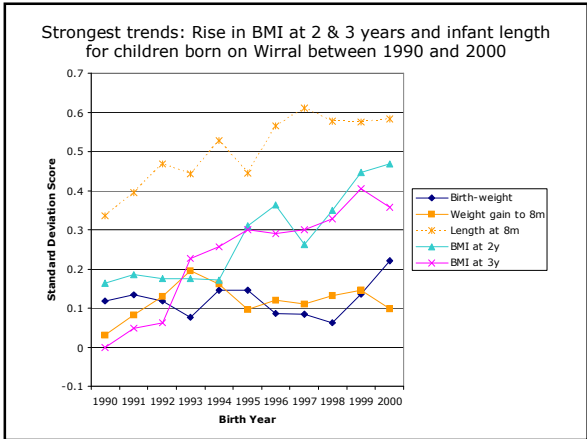
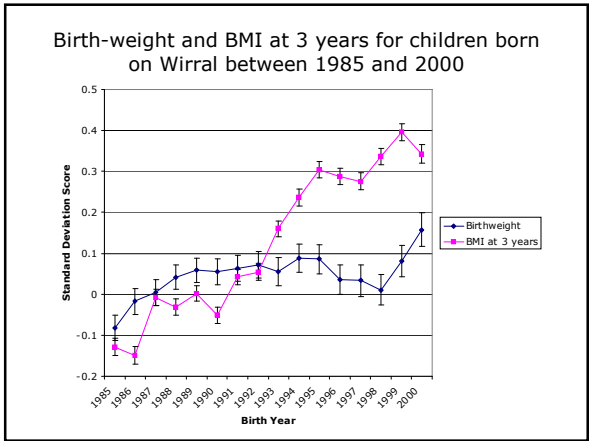
Status Quo:

The prevalence of child obesity is high, and continues to grow...

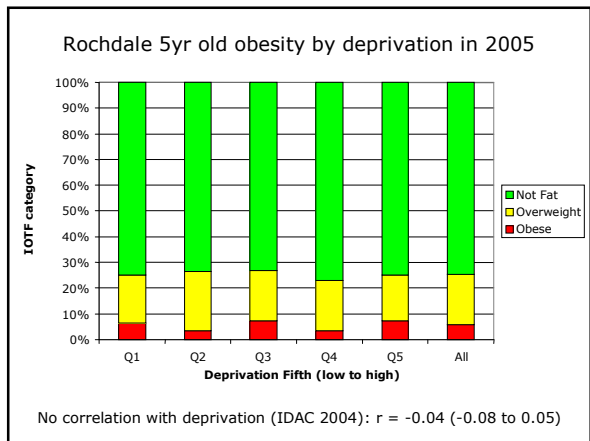
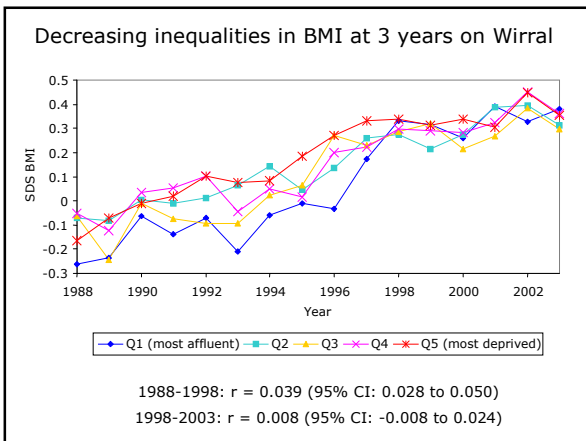
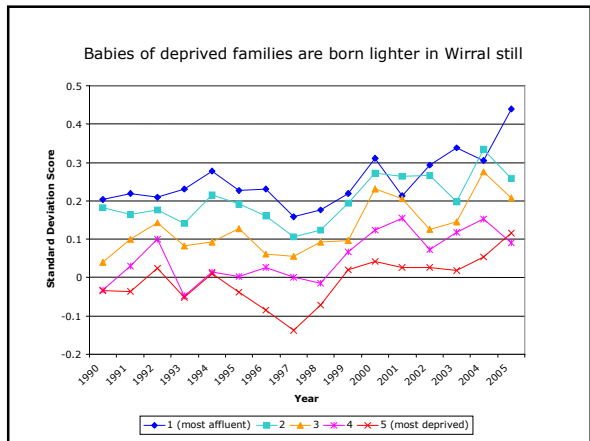
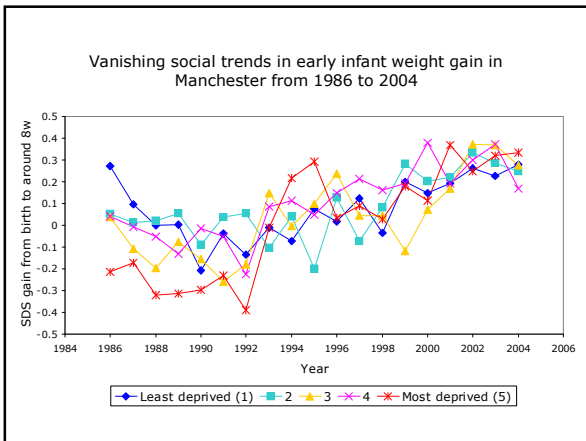
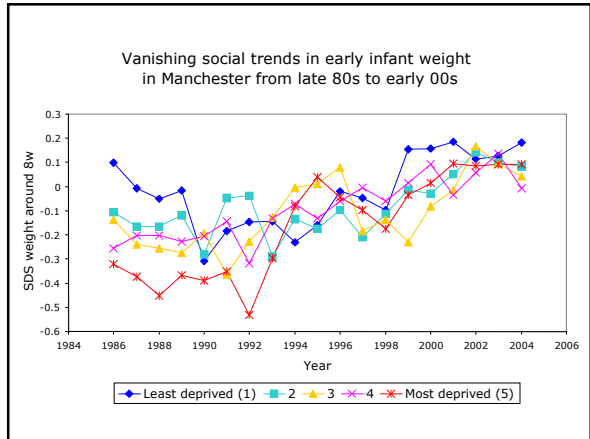
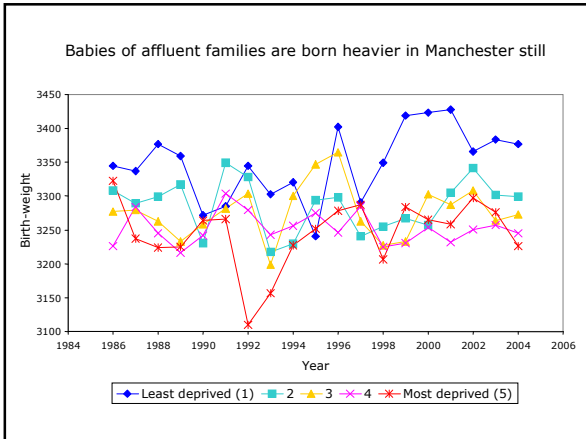




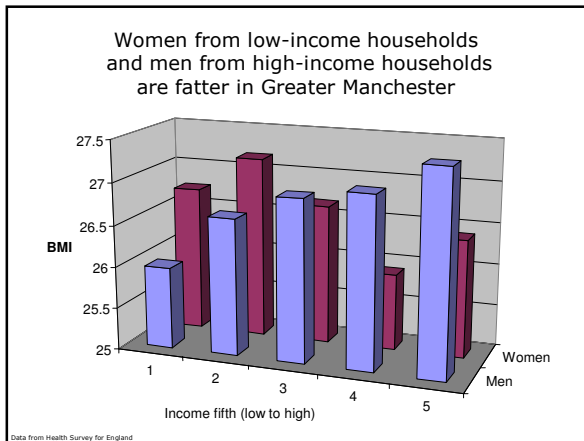
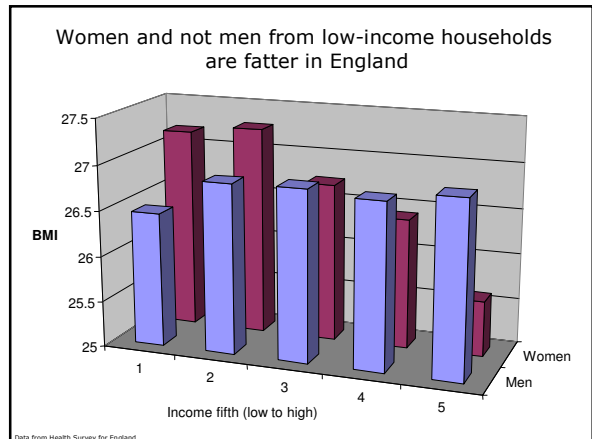
At what age do signs of the obesity epidemic appear?



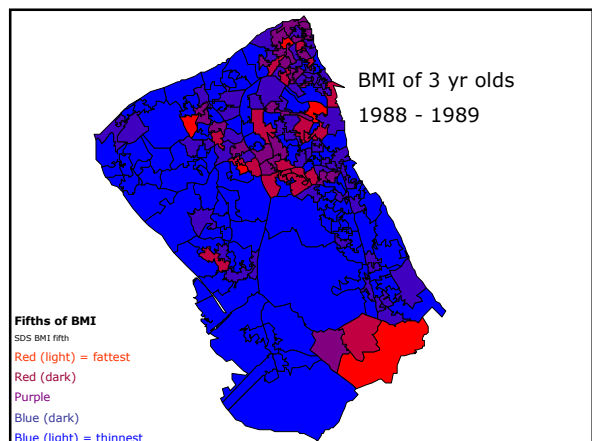
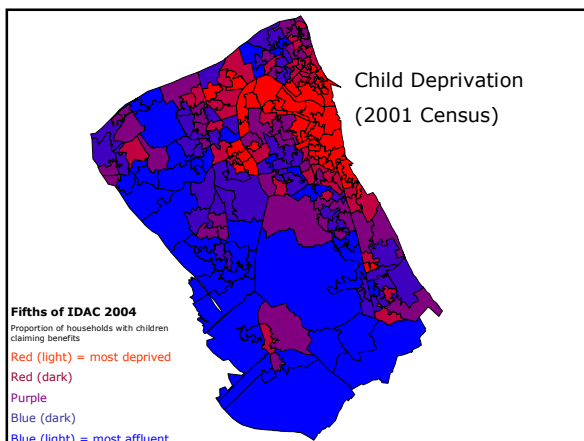
Are some social groups affected more than others?

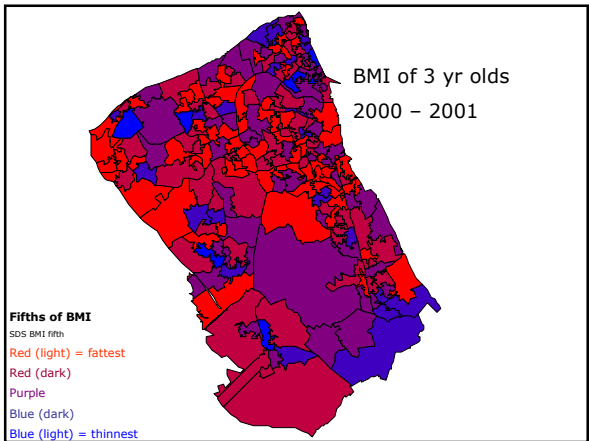
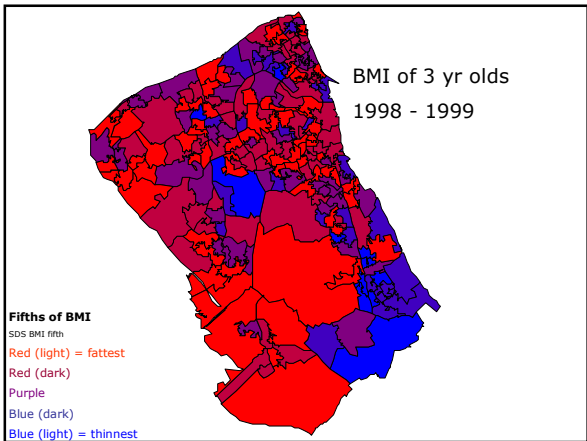
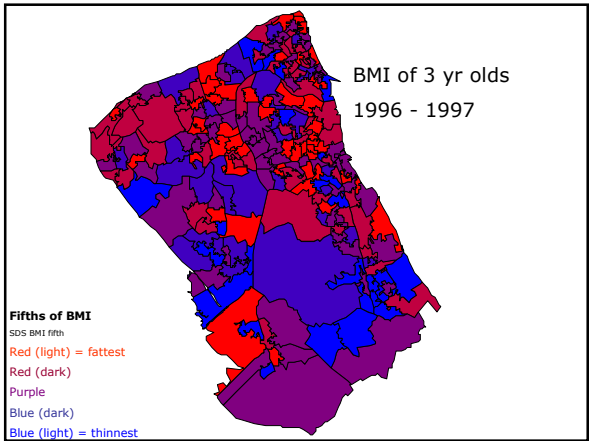
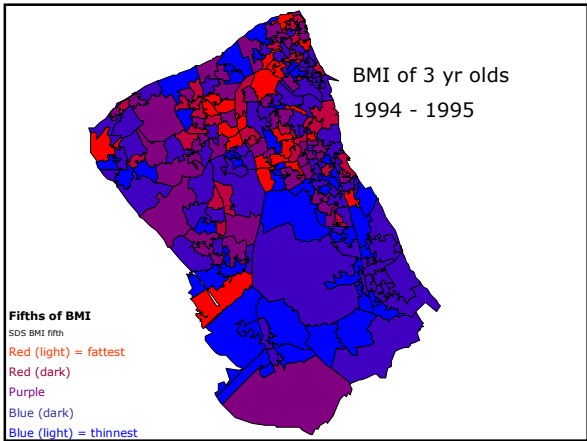
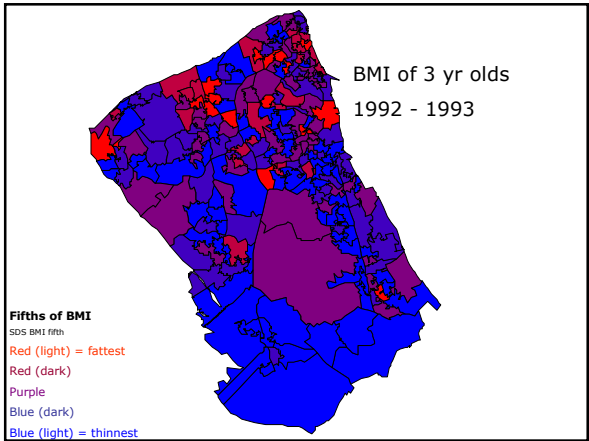
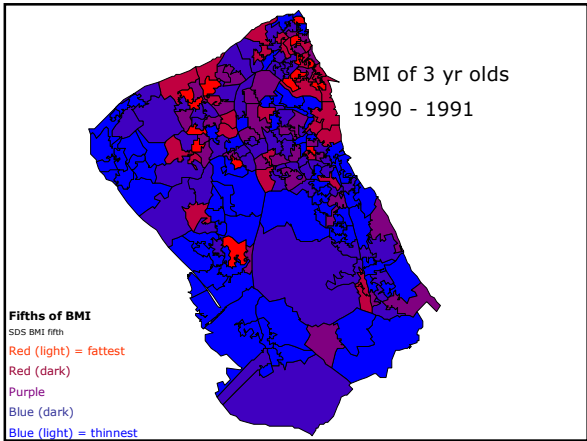


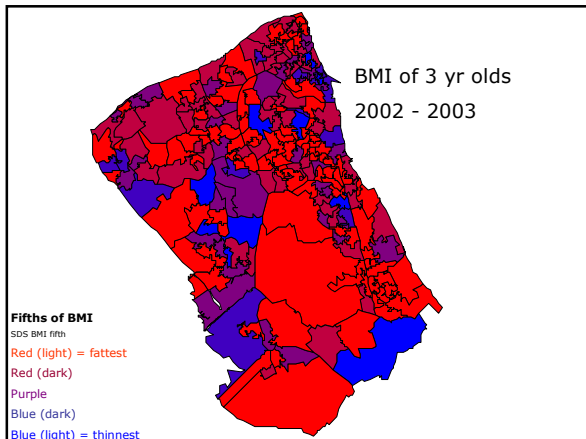
...it is not until late childhood,
and then only in females,
that poverty becomes a risk factor
for obesity...



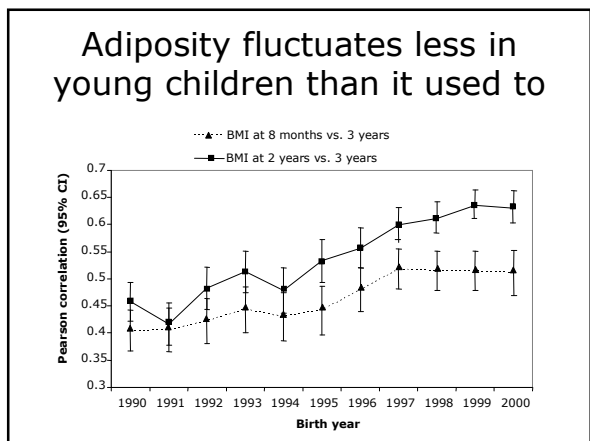
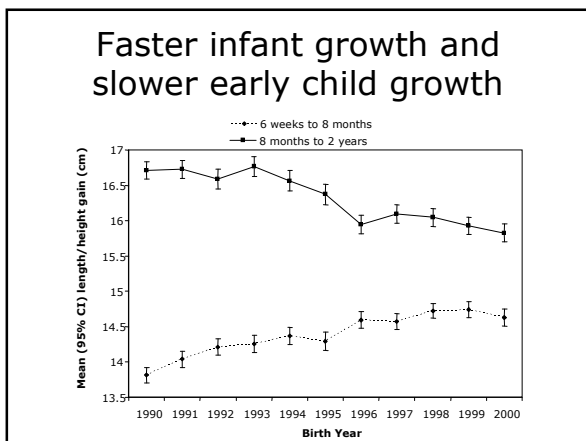
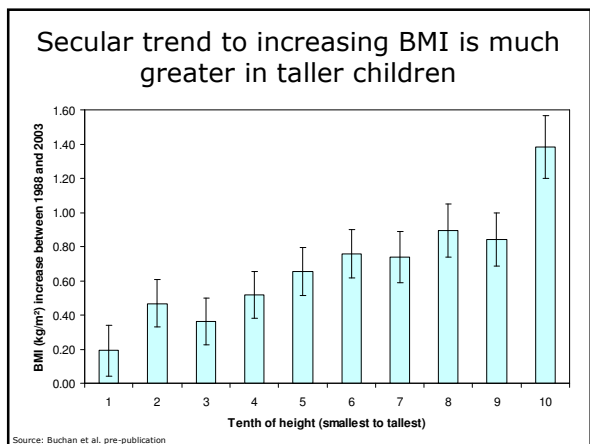
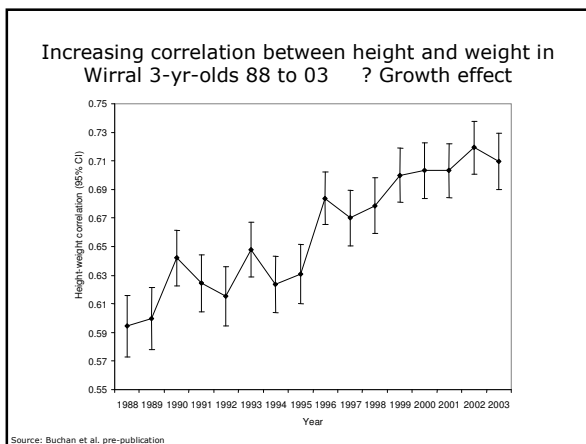
...was there a spatial as well as a social diffusion pattern of obesity across the 1990s?...





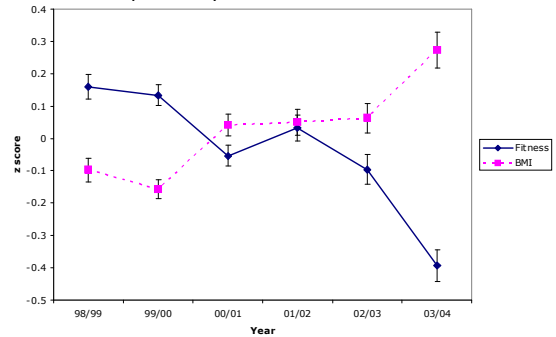


...height and linear growth are socially sensitive, so how did they change with BMI across the 1990s?...



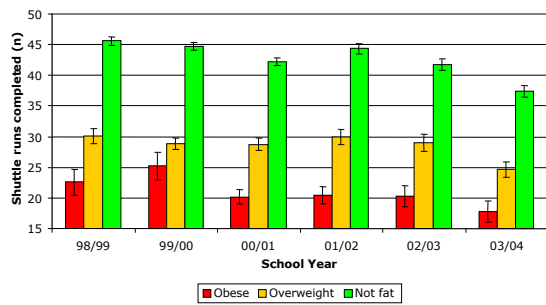
...if fat is sticking more through childhood what is happening to physical fitness?...

Rise in BMI and fall in cardio-respiratory endurance of Liverpool 10 year olds from 1998 to 2004

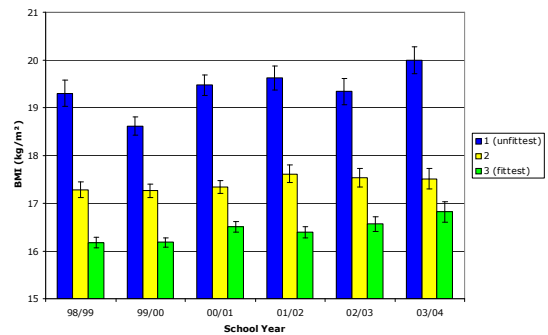


Data from G Stratton, Liverpool Sportline

Cardio-respiratory endurance levels of Liverpool 10 year olds fell in all BMI groups



BMI of Liverpool 10 year olds rose irrespective of cardio-respiratory endurance



Data from G Stratton, Liverpool Sportline

Summary

The obesity epidemic in children:

- Concurred with accelerating infant growth
- Showed a temporo-spatial spread pattern
- Cut through socio-economic groups
- Affected the physically fit and unfit alike

Further work

- Explain the interactions of obesity with:
 - Linear growth
 - Gender
 - Inflammation
- Characterise 'resistance' to the obesity epidemic
- Seek metabolic health biomarkers for risk modification irrespective of BMI
- Pool data to corroborate (noisy) signals from multiple sources - www.obesityatlas.org.uk