Sources of data on lifestyle risk factors in local populations

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An executive summary of this report is available separately and can be accessed from the APHO website www.pho.org.uk

1. Introduction

Choosing Health[1], echoing points made in Derek Wanless' report *Securing Good Health for the Whole Population*[2], highlighted the need for better, more timely surveillance of health and lifestyle. The subsequent Government action plan *Delivering Choosing Health*[3] specifically included an action "to develop appropriate systems for recording lifestyle measures".

While lifestyle surveillance systems are broadly in place to monitor progress towards goals and targets at national level, this is far from being true at local level. A national expert working group was established in Summer 2005 to identify appropriate systems for local-level monitoring of childhood obesity. It is anticipated that guidance for local organisations will be produced in 2006. Progress has also been made on identifying and implementing methods for local level monitoring of physical activity and participation in sport. However, similar option appraisals have yet to be undertaken for other aspects of lifestyle such as smoking, diet and alcohol consumption.

This report aims to contribute to thinking in this field by providing:
- Brief overviews of potentially useful sources of local-level lifestyle data (Section 4).
- Brief option appraisals for local-level surveillance of smoking, obesity, diet, physical activity, alcohol consumption and multiple risk factors (Section 5).
- Pointers for local organisations to solutions to their local lifestyle information needs.
- Pointers to ways in which lifestyle data information systems could be improved for the benefit of local users.

The report focuses on local-level lifestyle information challenges and solutions *in England*. Extending this work to identify how other countries in the UK, Europe and beyond have addressed similar problems would be useful but was felt to be beyond the scope of the present report.

Given the ongoing development of primary care data, commercial datasets and other systems, the report should be regarded as providing a snapshot at one point in time (Autumn 2005) of a constantly developing scene.

2. Policy context

A number of current Government strategies and policies highlight the importance of lifestyle factors as determinants of health and identify actions and targets to improve health through lifestyle change. For example, *Choosing Health*[1] highlights the need for action to:
- Reduce the number of people who smoke.
- Reduce obesity.
- Increase exercise.
- Improve diet and nutrition.
- Encourage and support sensible drinking.

The Department of Health's Public Service Agreement (PSA)[4] includes specific targets for 2010 to reduce adult smoking to 21% and 26% amongst manual groups and stop the yearly increase in obesity amongst under 11s. The latter is a joint target with the Department for Education and Skills and the Department for Culture, Media and Sport who have a further shared PSA target to increase the proportion of school children who spend a minimum of two hours each week on high quality sport to 75% by 2006 and 85% in 2008[5].

National policy goals and targets are mirrored in policy guidance and targets for the public sector at local level. For example in:
- NHS Local Delivery Plan guidance[6].
- Comprehensive Performance Assessment framework for local authorities[7].
- Guidance on Local Area Agreements (LAAs)[8].

3. The need for better lifestyle risk factor data at local level
At local level there are both general and specific needs.

Local authorities (LAs), primary care trusts (PCTs) and other organisations need local lifestyle data at a population level for planning, targeting and evaluating local services and initiatives aimed at improving health and reducing health inequalities through lifestyle change. Data are needed both at LA/PCT-level and at sub-LA/sub-PCT (e.g. neighbourhood or GP practice) level for e.g.:
- Comparison with other LAs/PCTs.
- Within-area comparisons to identify inequalities between population sub-groups differing by e.g. age, gender, ethnicity, area of residence.
- Analysis of trends over time and progress towards local targets.
- Measuring the outcomes and impacts of services on service users.

More specifically, local public sector organisations are being challenged to provide their respective Government departments with evidence of their performance in improving the lifestyle of local communities. For example:
- Reporting obligations of PCTs and SHAs re smoking and obesity as part of monitoring of Local Delivery Plans.
- Agreeing local targets and monitoring systems to qualify for LAA pump priming grants and reward elements.

To date, the Government departments concerned have provided only partial guidance on solutions to these challenges.

4. Potential sources of local-level lifestyle data
The sources reviewed in this section have all recently been used as sources of local-level lifestyle data. They are:
- National surveys.
- Synthetic estimates derived from national surveys.
- Local surveys* (including regional surveys).
- NHS primary care data.
- Datasets offered by commercial organisations.

Information is provided to assist readers in identifying the advantages and limitations of each source for particular local applications.

There may be further alternative sources of lifestyle surveillance data. This review does not aim or claim to be comprehensive.

* The term "local surveys" potentially embraces a wide range of different types of survey including: censuses and sample surveys; postal, phone and interview surveys; surveys which include clinical measurements; surveys in different settings - schools, NHS settings, streets, workplaces, etc,

4.1. National surveys

Introduction
In England there are a number of ongoing and occasional surveys which are being used for lifestyle surveillance at national level. These include: the Health Survey for England (HSfE[9]); the General Household Survey[10]; the National Diet and Nutrition Survey (NDNS[11]); National Travel Survey (NTS[12]); and the Survey of Drug Use, Smoking and Drinking Among Young People in England[13]. Some are designed with a view to providing national-level prevalence statistics only. Some have larger sample sizes or are undertaken on a more frequent basis accruing sufficient data to provide sub-national statistics, for example relating to government office regions or strategic health authority areas. Few allow disaggregation below regional level.

One national survey which is sufficiently large to provide meaningful data at local level is the Sport England Active People Survey[14], which started in 2005, and which aims to determine how many people take part in sport and physical activity, what kind of activity they undertake and where they undertake it. This survey will sample at least 1,000 people in every LA area in England, around 1 in 20 households, and a total sample of around 350,000 people over a year (see also Section 5.3).

Lifestyle data collection methods used in these major national surveys are often regarded as "gold standard" methods and, given that the national-level statistics provide potentially valuable benchmarks for local areas, there are potential advantages to using identical methods locally. Historically, however, it would appear that this option has rarely been pursued.

Local boosts of national surveys
This section describes how, in some areas, local boosts of the HSfE have been commissioned or are planned. A local boost means oversampling of the national survey at a local level to increase the sample size to generate more robust local results. An example of this approach is given below for the Health Survey for England.

The Health Survey for England
The HSfE was instituted in 1991 and is used to collect information on health and related behaviour annually. Each year around 16,000 adults and children in selected households are eligible for inclusion. In some years there is a focus on particular population groups such as children, older people and minority ethnic groups. It is proposed that HSfE 2006 will included a larger sample of children - around 2,000 'core' and 6,000 'boost' children. To enable this to be funded, the adult sample will be halved to around 8,000 individuals.

The HSfE is commissioned by the Health and Social Care Information Centre (HSCIC) and carried out by the Joint Survey Unit of the National Centre for Social Research (NatCen) and the Department of Epidemiology and Public Health at University College London (UCL). Data collection is undertaken throughout a calendar year to avoid seasonal effects. Cleaning of the data commences immediately at the end of the collection period and can take up to 3 months. NatCen and UCL carry out analysis of these data with results in report format available from the HSCIC 12 months after the end of the collection period. The full (anonymised) datasets from the HSfE are available from the UK Data Archive at Essex University[15].

Examples of local boosts
NatCen/UCL offer a full or partial boost survey service to regional and local organisations. Examples are described below.

1. Camden and Islington

In 1999, a local boost survey of residents of the (erstwhile) Camden & Islington (C&I) Health Authority was conducted alongside the main HSfE. The adult sample size for C&I was just under 2,000 respondents (response rate 60%) and the questionnaire coverage and survey procedures were identical to the main HSfE 1999 survey.

2. Merseyside.

A recent Merseyside HSfE boost covered six LA areas: Knowsley, Liverpool, St. Helens, Sefton, Wirral and Halton. Fieldwork was undertaken over the period October 2003 to October 2004. 655 households participated. The survey yielded 1113 individual interviews with adults and additional physical measurements including measurements from blood samples from more than half of participants. A report on the survey was published in October 2005[16].

3. Planned London boost

Of the national annual HSfE sample of 16,000 people, usually around 15% are London residents. In 2003, for example, there were 850 men and 1,060 women interviewed in London. Agencies in London are proposing to commission a boost sample above and beyond this with costs shared among key partners. As proposed, the survey will be sufficiently large to generate London-wide, SHA and (with more limited precision) PCT-level data and would allow sub-group analyses (e.g. by ethnic group, age, social class) for London and SHA areas. An average sample size of around 200 adults and 55 children per each of London's 31 PCTs is proposed. For adults this will mean that a difference of 11% will be detectable between PCT and London average prevalence of a given lifestyle characteristic if the latter prevalence is around 25%.

The sections below highlight some of the advantages and disadvantages of this approach to local level lifestyle surveillance and provide an indication of costs.

Advantages
- *Flexibility of geographical coverage*. Potentially there should be a high degree of flexibility for commissioners of local boosts to specify the areas/populations to be surveyed.
- *Flexibility to specify gender & age coverage*. Standard data collection processes are available for all age/gender groups: adults aged 16 and over, children aged 2-15 and infants aged 0-1.
- *Robust methodology.* Gold standard, well-established data collection methods.
- *Comparability with national, regional and other benchmarks*. PCTs and LAs will be able to compare their own populations against these benchmarks.

Limitations/Disadvantages
- *Lack of local historical trend data.* National benchmark data are available dating back to 1991. However, only those areas which have previously commissioned local boosts will have the capacity for historical comparisons.
- *Uncertainties re future follow-up surveys.* While trend data can potentially be obtained by repeat surveys, this will require local commitment, funding and a planned survey programme and may depend upon the future availability of the service provided by NatCen/UCL.
- *Surveys can disenfranchise those who have difficulty with written or spoken English.* It is possible to have questionnaires translated into other languages, although this adds to the costs.

If repeated, local boosts of national surveys provide a basis for monitoring progress towards child obesity and other lifestyle-related targets, although the sensitivity to reliably detect small changes

at PCT level will be limited unless relatively large boosts are commissioned or data are aggregated over longer time periods.

Cost
Costs of local HSfE boosts vary depending on, for example, the chosen sample size and whether or not a full or partial HSfE dataset is commissioned. Surveys can be with or without nurse visits. The proposed London boost will rely on the approach which is used in the Welsh Health Survey where interviewers conduct a brief household questionnaire and then leave a self completion questionnaire for each household member. Costs also depend on the extent of local resources which are deployed for survey management and administration and data analysis.

The Mersyside boost described above cost around £150,000 - around £130 per participant. The proposed London boost will cost about £390,000 for data collection and cleaning - around £35-40 per participant. The lower per-participant costs of the London survey reflect the fact that the survey will collect a more modest dataset, will not include laboratory tests, and will, in part, be analysed by London Health Observatory staff.

4.2 Synthetic estimates derived from national surveys

Introduction
The prevalence of lifestyle risk factors in local populations and sub-groups within local populations is generally best measured directly using local data. However, if no local data are available it may be possible to generate estimates by the judicious extrapolation of robust prevalence figures for England or the UK as a whole or for other comparable local populations.

The crudest approach (which in some circumstances may be sufficient and appropriate) would be to assume that local prevalence is the same as national prevalence. However, given the importance of factors such as age, gender, ethnicity and social class as predictors of the lifestyle risk factors in populations, these should be taken into account if at all possible in generating local estimates. There may be other important population characteristics, known or unknown, which may be relevant. Judgement will need to be exercised as to whether the population from which estimates are derived and the local population to which they are applied are sufficiently similar.

In recent years, academic and other groups have developed statistical modelling techniques to generate estimates of lifestyle risk factor prevalence in local populations. Estimates from such modelling or "attribution" methods are sometimes referred to as "synthetic estimates".

Methodological development work in recent years on lifestyle synthetic estimates[17-19] and a range of other population characteristics has been followed by publication of estimates of smoking prevalence in wards and PCTs in England[20] and, most recently, by publication by the Department of Health (DH) of a wider range of lifestyle data for English wards and PCTs[21].

This methodology is potentially very flexible and synthetic estimates could in principle be generated from a range of national surveys covering a range of different aspects of lifestyle and for any geographical areas for which relevant demographic data are available, e.g. LAs, parliamentary constituencies, strategic health authorities, etc. However, those wishing to generate their own synthetic estimates will require a degree of technical knowledge and skill proportionate to the required level of sophistication of the product.

This section relates only to nationally-available synthetic estimates and focuses on the dataset from the DH-sponsored project mentioned above.

DH Synthetic estimates
The synthetic estimates of lifestyle published by DH include estimates of five different aspects of lifestyle at ward and PCT geographic level:
- Current smoking (adults aged 16+)
- Obesity (adults aged 16+)
- Binge drinking (adults aged 16+)
- Consumption of 5 or more portions of fruit and vegetables a day (adults aged 16+)
- Consumption of 3 or more portions of fruit and vegetables day (children aged 5 to 15)

They are based on pooled data for three years of the HSfE from 2000 to 2002 and a set of area-level covariates from around the same period including data from the 2001 Census.

The synthetic estimate spreadsheets and associated metadata can be viewed on the Neighbourhood Statistics website (Health and Care Domain) and can be readily downloaded along with a user guide and background information[21]. The estimates are published with 95%

Confidence Intervals (CIs). A further field identifies those areas that have estimates significantly above, below or similar to the National (England) estimate.

The project included a validation stage in which the synthetic estimates were compared with direct estimates for the Health Survey for England from 2000-2002 at the SHA level, estimates from a number of local surveys and (in the case of smoking) with the estimates from an earlier synthetic estimation project[20]. The results indicated that the synthetic estimates at PCT and ward level were generally robust.

Examples of local use
Ward level smoking prevalence estimates have been used in health equity audits of smoking cessation services in the East Midlands[22].

Advantages
- *Comprehensive geographical coverage*. The DH synthetic estimates relate to all wards (2003 Census Area Statistics wards) and PCT geographic areas in England allowing comparative analysis between areas. They can be used to give an indication of the likely prevalence in an area and thus an indication of where to target resources. They can be used to examine likely prevalences in disadvantaged areas as compared with other areas.
- *Ease of access.* The estimates are in the public domain and are immediately accessible to users.

Limitations/disadvantages
- *Limits to precision.* As with other estimates, synthetic estimates are likely to have errors associated with them. Confidence Intervals (CIs) reflect the uncertainty in the modelling process. In the DH synthetic estimate dataset the CIs are wider for some estimates (e.g. fruit and vegetable consumption in children) than others. The precision of the estimates tends to decrease (and the width of confidence intervals increase) as the population size decreases. Thus CIs are generally wider for wards than for PCTs. In the development stages of the DH project, it was recognised that prevalence estimates for Census Output Areas would not be robust.
- *Lack of flexibility*. From the users' point of view there is little or no flexibility - users cannot specify their particular local requirements. For example, while the methodology can, in principle, be applied to males, females and different age groups separately and an almost unlimited range of geographies, the currently available dataset relates to persons in wards and PCT areas.
- *Lack of sensitivity to local lifestyle interventions.* Synthetic estimates are based on a model and represent the *expected* prevalence of lifestyle behaviour for an area, given the demographic and social characteristics of that area. They do not take account of any additional local factors that may have influenced lifestyle in the local population (e.g. local health improvement initiatives). The estimates should therefore not be used to monitor performance or change over time. To interpret the estimates it is recommended that users adopt statements such as "given the characteristics of the local population we would expect a prevalence of approximately x% within PCT X".

Cost
Synthetic estimates from the DH and earlier projects[17;20;21] are in the public domain and free to users. Data on the production costs are not readily available.

4.3 Local Surveys (including regional surveys)

Introduction
Local health and lifestyle surveys are usually conducted using cross-sectional survey research where a sample of residents are asked to complete a self-completion postal questionnaire. Commonly the objectives of such surveys have been to:
- Allow a population-based, rather than a patient-based, approach to planning
- Provide direction for health promotion activity
- Provide information for targeting local health needs, planning interventions and addressing inequality
- Monitor local performance towards national targets
- Provide data for the evaluation of local projects and health and lifestyle programmes.

Surveys are often set up to provide some form of baseline for the local area, the intention being to repeat the survey after (for example) two years. Repeating local surveys can generate valuable local trend data but requires local commitment, funding and a planned survey programme. Whilst this is not always achieved, there are some good examples of regular surveys, for example, the Oxford Healthy Lifestyle Survey was first conducted between 1985 and 1988, and has been repeated in 1991-2 and 1997. Although usually cross-sectional, there are examples where local surveys have included a longitudinal element (for example, the West Midlands Asian Lifestyle Survey 2001).

Traditionally, samples have been selected from the patient register (Exeter database) or using the electoral register. Some local surveys commissioned by PCTs, LAs or LSPs have largely been delivered by in-house staff. Some are outsourced to universities or research companies.

Examples
The variety and heterogeneity of local health and lifestyle surveys undertaken around the country (see e.g. SEPHO Lifestyle Survey Toolkit[23]) reflects the inherent flexibility of this approach to collecting lifestyle data.

For example, geographical coverage may be:
- One LA or one PCT area (for example, the survey conducted by Bradford PCT in 2005).
- A PCT area with boosts to include local priority areas (for example the 2002 Southern Derbyshire Health Survey which included three Neighbourhood Renewal Areas).
- A number of PCTs in a county (for example, the Kent and Medway Health and Lifestyle Survey 2001 included 9 PCTs in the HA area).
- Several counties (for example, the Oxford Healthy Lifestyle Survey covered the four counties of Berkshire, Buckinghamshire, Northamptonshire and Oxfordshire).
- A region (for example the West Midlands Regional Lifestyle Survey 2005)

While surveys are often undertaken to provide indicators of lifestyle in the adult population of an area, surveys can also be designed to focus on particular age and gender groups. A case in point is a series of surveys in South-East Northumberland, where, initially, Blyth Valley LSP commissioned a survey of 11-24 year olds, later to be followed by similar surveys of the two neighbouring LAs, Castle Morpeth and Wansbeck. By using common measures, this has now provided a dataset of over 3,000 young people in South-East Northumberland.

The Schools Health Education Unit (www.sheu.org.uk) is an independent organisation offering a range of survey-related services to those working with children. A key component of SHEU's service is the Health Related Behaviour Questionnaire (HRBQ[24]) which has now been

administered in hundreds of schools in England. The survey uses common questions and so provides comparability between schools and areas, and a means of monitoring progress towards targets. Collated surveys have provided time series data for several topics over a 10-year period. However, the questions used in SHEU surveys are not always the same as questions used in benchmark national surveys (e.g. HSfE) which can cause difficulties in generating comparable indicators and comparing populations.

The West Midlands Regional Lifestyle Survey has been a joint venture between the West Midlands PHO and West Midlands Regional Observatory. Funding for the survey was provided by a range of partners including PCTs and LAs with additional funding from the European Social Fund. The fieldwork for the study was undertaken by the market research company BMG Research. From inception to completion the survey took nearly two years. The self-administered questionnaire asked a range of questions on health status, health behaviours and the wider determinants of health including education, employment, housing and access to services. The response rate was 33%. Despite this shortcoming the sample profile did not deviate significantly from the Census 2001. Early applications of the survey data include health equity profiling, with survey data being used to generate smoking prevalence estimates for groups differing in terms of ethnicity and deprivation. Due to the relatively low overall response rate (33%) and small numbers of respondents in some PCTs, especially among Black and Minority Ethnic (BME) groups, it has only been possible to produce regional prevalence estimates in some instances.

Advantages
The main comparative advantage of local surveys as an approach to obtaining local lifestyle data is *flexibility*. Thus, for example:
- Appropriate questionnaire design can allow coverage of a wide range of different aspects of health and lifestyle. It is relatively easy to accommodate new measures or indicators as necessary (as government priorities change). Data collection can, for example, be tailored to the nuances of LAAs.
- Examples above illustrate the flexibility to customise local surveys to focus on particular geographies and population groups. It is possible to target 'hard-to-reach groups' e.g. BME groups, single parent families, residents in priority or high deprivation areas, etc.
- Data can potentially be generated at small area level, e.g. ward level, provided the survey sample size is large enough.
- In addition to 'hard measures', surveys can also provide more subjective data, for example: measures of satisfaction with the neighbourhood; measures of 'social capital'; and measures of quality of life.

Other advantages include the potential for:
- *Timeliness*. A survey report can be available within 3 months of data collection.
- *Comparability with national benchmarks* through appropriate design and choice of questions.

Limitations/disadvantages
- *Possibility of sampling bias* may result from the sampling frame used. For example, GP registers are often seen as the gold standard but exclude some residents – some sub-groups are less likely to register than others.
- *Possibility of response bias*, particularly where postal surveys are used. Some sub-groups of the population are better responders than others, e.g. people from more affluent areas are more likely to respond than those from disadvantaged areas. This response bias can be alleviated to some extent by weighting the survey data (post-stratification).
- *Possibility of poor response rates.* Factors affecting response rates have been identified and can be addressed in survey design[25].

- *Lack of standardisation of questions and derived indicators*. The establishment of clearer government targets is now making this simpler, but more critical.
- *Uncertain reliability and validity of questions*. While "question banks" are available which include reliable and validated questions[e.g.26], these are not always used.
- *Credibility of self-report data*. Local surveys using self-completion questionnaires produce 'claimed' or 'self-reported' data. Question wording, the recall period and characteristics of respondents (health status, mood, age) affect the validity of self-reported data.

Attention to some key issues could markedly improve the effectiveness and utility of local lifestyle surveys. These include use of standard questions with established validity and reliability and (where surveys are repeated) ensuring methodological consistency over time, for example in sampling frames and processes as well as wording of questions.

Cost

Costs can vary enormously depending on e.g. sample sizes and the mode of data collection (phone, postal questionnaire, interview, etc). Outlay will also depend on whether some of the work can be undertaken by in-house administrators and information analysts or whether it is necessary to commission the entire process from an external organisation. Examples of costs are shown below:

1. Southern Derbyshire Health and Lifestyle Survey 2002. The survey used a postal questionnaire with two reminders. Approximately 9,300 questionnaires were returned. PCT-based analysts were responsible for planning, analysis and report writing. Printing, questionnaire distribution and data entry were outsourced at a cost of around £3 per completed questionnaire.
2. In the 2003 Blyth Valley LSP Survey of 11-24 year olds, questionnaires were administered through a process of 'moderated self-completion' where a team of young people were employed and trained to administer the questionnaire. Support to the respondent was provided (by the moderator) where necessary using an agreed set of rules and scripts. Data was collected in schools and in a wide range of other venues used by young people. The whole process was outsourced to a specialist research company. Total cost including design, training and employment of moderators, administration, data entry, analysis and reporting was approximately £12 per completed questionnaire. Several of the young people employed as moderators went on to continuous employment with the research company (one of the objectives of the project).
3. The total cost of the West Midlands Regional Lifestyle Survey (shared across a number of partner organisations) was around £500,000. With over 56,000 completed questionnaires this corresponds to around £8.80 per questionnaire.

The West Midlands Regional Lifestyle Survey demonstrates that economies of scale can be achieved if neighbouring LAs/PCTs/Local Strategic Partnerships (LSPs) pool resources to undertake a combined survey for their areas. This does, of course, require additional coordination work which can sometimes be difficult and time-consuming.

Collaboration between agencies, e.g. LAs and PCTs, in an area on a lifestyle survey with shared ownership of the challenges which are inevitably highlighted in the survey results can potentially help to cement local joint-working on the lifestyle agenda. This has been achieved in some areas through an effective LSP.

4.4 NHS primary care data

Introduction
The primary care setting in which lifestyle surveillance data are often collected is the GP Practice. Historically, lifestyle data on individual patients will occasionally have been captured in paper records (e.g. the "Lloyd George Envelope") during or following consultations with GPs and practice nurses. The further development of the use of IT in consultations, the development of Read codes and the development and implementation of clinical guidelines and NSFs has been followed by increasingly systematic lifestyle data recording, particularly in patients with diabetes, coronary heart disease and other conditions where lifestyle data may be particularly relevant and useful for planning care. Practice systems are now capable of capturing lifestyle surveillance data in a consistent way using Read codes. New patient checks provide practices with an opportunity to collect lifestyle data on (healthy) patients they might otherwise only see on rare occasions.

Tools have also been developed to access the data in practice systems. For example:
- *QMAS* is a national system that automatically retrieves GP practice data on a routine monthly basis. It is a system designed to support the payments process associated with the Quality and Outcomes Framework (QOF) of new General Medical Services contract that came into force in April 2004[27]. Although the lifestyle data currently captured is limited, the system does currently provide an indication of the smoking prevalence of patients who are being treated by practices for coronary heart disease, strokes or transient ischaemic attacks, hypertension, diabetes mellitus, COPD, and asthma. Whilst it is not able to give an indication of overall smoking prevalence in a practice population, it does give an indication of the number of patients for whom a smoking status has ever been recorded.
- *MIQUEST* is a common query language that all GP practice systems should be able to run. At the moment it is possibly the only means by which lifestyle data could potentially be accessed on a nationwide scale but it does have its disadvantages. In practice there will always be gaps (see below). Also, GP practices can and do refuse access to their clinical systems to collect data.

Examples of use
The QMAS data from the end of March 2005 for Norfolk, Suffolk and Cambridgeshire SHA in the Eastern region suggests that around 12% of patients being treated by practices in the region for coronary heart disease currently smoke, and around 85% of all patients aged from 15 to 75 registered with practices in the region have a smoking status record.

Advantages
- *Standardised national systems*. QOF/QMAS has been rolled out nationwide (England). While the system is not mandatory, the large majority of practices in England are participating in the scheme. A small number of Personal Medical Services (PMS) practices have agreed local arrangements to determine QOF payments. Some elements of QOF achievement may not have been entered into QMAS by the practices and PCTs concerned.
- *Potential source of data on patients in all age and gender groups* – although clinicians may be disinclined to ask certain lifestyle questions where answers might not be relied upon, e.g. asking minors attending with a parent whether they smoke.
- *Ongoing data collection* allowing the accrual of historical lifestyle data about individuals over time. Although for patients who move practices these time series might be disrupted – a patient's new practice will focus on those aspects of his/her health record with a bearing on his/her current or future health care.

- *Established coding systems*. Read codes exist to record smoking status, obesity, body mass index, level of exercise, dietary information and alcohol consumption of patients. Regarding alcohol consumption, for example, it is possible to Read code the average daily consumption (in units) of a patient as well as flagging them as a "Teetotaller" or "Binge Drinker". There are, however, different versions of Read codes and this poses problems when combining and comparing data between practices.

Limitations/disadvantages
- *Selective focus on particular patient groups*.
    - Up-to-date lifestyle data will generally not exist for patients who have not visited their practice recently. Nor will it be available for people who are not registered with a practice at all. The latter group are often disadvantaged and may have relatively poor health and relatively risky lifestyles.
    - In contrast, up-to-date lifestyle data are more likely to be available for patients who suffer from particular chronic conditions and who attend practices regularly for check ups, providing clinicians with more opportunities to gather such data.
- *Variability between practices in the completeness and quality of lifestyle data recording*. Historically and currently practices differ in terms of e.g. level of IT support, staffing levels and staff competencies and attitudes to data collection and incentive schemes, all of which will affect whether or not a practice records lifestyle data well.
- *Potential for variability in application of codes*. In some cases the available Read codes make the recording of lifestyle data rather subjective and open to interpretation. For example:
    - Do clinicians reliably and reproducibly distinguish between a person who "enjoys light exercise" and a person who "enjoys moderate exercise"?
    - Given the abundance of Read codes relating to diet (examples include "diet high in polyunsaturates" and "eats junk food") are patients' dietary habits recorded consistently by different clinicians?
    - Do clinicians always rely on what they are told by their patients?
- *Lack of a geographical focus*. The systems relate to practice populations (i.e. registered patients) rather than geographical populations making it difficult to extrapolate to e.g. populations of wards or other geographical areas of interest. Ward level data is unlikely to be obtainable as PCTs are unable to collect patients' postcodes or any other identifiable information using MIQUEST (although it is technically possible to do so).
- *Challenges stemming from the heterogeneity of clinical systems in practices*. PCTs are obliged to provide local primary care data on smoking and obesity as part of NHS Local Delivery Plan (LDP) monitoring arrangements. MIQUEST queries were commissioned and made available to PCTs by the DH to facilitate this. However, technical problems have been experienced with the application of these to some clinical systems and it remains to be seen whether, and to what extent, MIQUEST queries will be used to collect the required LDP data on an ongoing basis.

Cost
Assuming the primary care IT infrastructure is in place, the main costs to PCTs are in terms of staff time to extract, collate and analyse the data from practices using e.g. MIQUEST queries. This can be complex, time consuming, labour intensive work and can therefore be costly.

Future Development
A future version of QMAS may collect more detailed data than the current version but the extent of lifestyle data available will depend on whether GMS contract targets (QOF targets) linked to the collection of lifestyle data are negotiated in any future GMS contract.

4.5 Datasets offered by commercial organisations

Introduction
A number of commercial organisations use consumer surveys for marketing purposes which capture lifestyle elements. As the surveys are based on individual responses, they can be used to provide direct estimates of lifestyle data at low geographic levels.

Survey methodologies vary and may be postal questionnaires, face to face interviews or telephone interviews. The scope and topics covered by these surveys vary but some include questions on the purchase or consumption of tobacco, food and drinks. Generally, consumer surveys are based on a large sample and, although response rates tend to be low, they can obtain good geographic coverage. In addition, low response groups may be intentionally over-sampled and data are often modelled or weighted to allow for non-response by certain sectors of the population. Some organisations work in partnership with an academic institution (e.g. GeoMedics and University of Portsmouth's Institute for the Geography of Health) in order to achieve this.

Data are often sold as part of a package which includes a geo-demographic segmentation tool. These tools are produced primarily for targeting marketing for commercial sectors and have been used by NHS organisations e.g. to target health promotion publicity. They could be used to identify small areas where there is a high probability of finding high levels of a particular risk factor based on other survey variables.

A number of organisations are beginning to use data relating to shopping habits collected via shop loyalty cards. For example, Dunhumby are currently working with the DH Health Insight Unit to analyse food shopping patterns at household or postcode level.

Commercial organisations able to supply data include CACI, GeoMedics, Acxiom (formally Claritas), Experian Ltd. and others.

Example
Acxiom offer estimates of smoking prevalence derived from the National Shoppers Survey, a survey carried out by the company three times a year. The 2002 January survey included a series of questions on smoking which included brand and frequency questions. The total sample was 750,000 people within the UK. The National Shoppers Survey is not specifically developed to support research and does not use a stratified random sampling frame. As a result, the survey responses do have an inherent bias, generally towards older households and do not include those aged under 18. However, Acxiom attempt to minimise these biases through a weighting process aimed at ensuring that the aggregated data counts are more representative of resident populations at every level of geography.

Preparation of a SEPHO report on smoking in the South East region required local-level smoking prevalence estimates. At the time, the DH synthetic estimates dataset (Section 4.2) had yet to be released. SEPHO obtained prevalence estimates at LA level from Acxiom who were able to provide details of their methodologies, including the weighting process based on Acxiom population estimates. SEPHO have now published their report which draws on these estimates[28]. The analysis shows the mean smoking prevalence for the South East is 21%. This is somewhat lower than the estimated prevalence from both the General Household Survey and the Health Survey for England, of 27% of men and 24% of women during 2001-2003. This may be due in part to the reference population of the two national surveys which is those aged 16 years and over rather than 18 years and over. The Acxiom data do show a close correlation with synthetic

estimates and local survey data where they exist. Although presented at LA level in the report the data are also available at sub-LA level.

The licence agreement between SEPHO and Acxiom does not allow SEPHO to share the data with other organisations in the South East although a consortium purchase may be possible for the future. The 2003 and 2004 datasets are available and this raises the possibility of using these data to monitor trends over time.

Advantages
- Commercial data is readily available to bridge the lifestyle information gap for low geographic levels.
- Generally, the datasets cover the whole country allowing comparison between areas.
- Large sample sizes mean that there is often good coverage at local level. Where lifestyle prevalence estimates are based directly on individual responses from residents of an area there is potential for direct measurement of change over time, something which is not possible using synthetic estimation methods (Section 4.2).
- It may be possible to negotiate consortium purchases of datasets which considerably reduce the cost per organisation.

Limitations/disadvantages
- Stratified, random sampling frames tend not to be used and poor response rates give rise to the strong possibility of sampling and response bias. Over-sampling does not compensate for any systematic differences between respondents and non-respondents.
- Some of the modelling approaches used by the commercial sector may be quite complex and are not always transparent. Companies may not release their precise methods for reasons of commercial confidentiality. There may be concerns, therefore, regarding the representativeness of the data and robustness at small area level.
- Companies may not be able to provide *direct* estimates of lifestyle data for small areas. Purchasers need to be aware that datasets generated using synthetic estimates cannot be used to measure change over time.
- Some of the lifestyle measures offered have been extrapolated or modelled from other collected items e.g. smoking/alcohol use extrapolated from expenditure data. This approach requires a number of unsubstantiated assumptions and adds uncertainty to the validity of the data offered. Individual expenditure on goods such as food and drink does not necessarily reflect individual consumption if, for example, the purchases are for households.
- Data based on shop loyalty cards potentially exclude low income groups.
- Reporting bias – as with any survey, question wording, recall and characteristics of the respondents will affect the validity of self-reported data.
- Not all datasets take account of ethnicity.

Cost
Purchasing commercial datasets can be expensive for individual organisations. Data may be more expensive than it appears at first sight as each cross-tabulation may be regarded as a separate variable. If population prevalence estimates are required, some companies request the additional purchase of population denominator data. Multiple licences may need to be purchased in order for PHOs to pass data on to other organisations within their regions (e.g. PCTs). Economies of scale can be achieved through consortium purchasing arrangements - both within and across regions. For example, the cost of purchasing one variable may be as much as £4,000 for first year of purchase (although this may be reduced for subsequent year's data) for each licence. A

consortium purchase across all PHOs for the same example dataset could be reduced to £3500 per PHO for 3 years.

5. Suitability of different sources for meeting different lifestyle information needs

Aspects of lifestyle covered here include smoking, obesity, physical activity, diet, alcohol consumption/binge drinking, and multiple risk factors. In each case there is a recognition that the information needs and solutions may be different for adults and children.

Information will typically be needed for:
- Comparison with other LAs/PCTs.
- Within-area comparisons to identify inequalities between population sub-groups differing by e.g. age, gender, ethnicity, area of residence.
- Analysis of trends over time and progress towards local targets.
- Measuring outcomes and impacts of services on service users.

The following sections indicate which data sources potentially provide solutions to these different information needs.

5.1 Smoking

Policy Context
Smoking accounts for around 20% of deaths in England every year. It is an important determinant of inequalities in health as the prevalence of smoking in socio-economically disadvantaged groups tends to be higher than the national average. Key Government policy statements on smoking are set out in *Smoking Kills*[29] and *Choosing Health*[1].

The DH's national (PSA) target is to "reduce adult smoking rates (from 26% in 2002) to 21% or less by 2010, with a reduction in prevalence among routine and manual groups (from 31% in 2002) to 26% or less"[4]. *Smoking Kills* also included a target to "reduce smoking among children from 13% to 9% or less by the year 2010; with a fall to 11% by the year 2005"[29]. There is a further target to reduce smoking in pregnancy.

Choosing Health advocates a range of interventions to achieve these targets including restricting tobacco advertising, reducing tobacco sales and promoting smoke free environments.

Local Information Needs
Generic information needs relating to smoking are outlined in Section 3. While there are currently no mandatory population-level smoking prevalence reduction targets for PCTs or LAs, PCTs are required to set targets for local smoking cessation services in terms of the numbers of service users who have stopped smoking four weeks after setting a quit date.

Suitability of different sources for meeting local needs
The table below and accompanying notes summarise the suitability of different sources of local data on smoking in relation to different applications. The assessment reflects the *current* state of development of each source. Suitability and availability may improve as systems are developed further. Section 4 of this report highlights some of the advantages and limitations of data from each source *in general terms* and these also need to be borne in mind in identifying which is the best source for a given application.

Application	Source				
	Local boosts of national surveys	Synthetic estimates	Local surveys	Primary care data	Datasets from commercial organisations
Comparison with national and regional benchmarks and with other LAs/PCTs	a	d	a,f	h	k
Analysis of within-area inequalities by age, gender, ethnicity and area of residence.	b	e		h,i	k
Monitoring trends over time and progress towards local targets	c		g	h	l
Measuring/auditing outcomes of particular services/initiatives				,j	

colour coding: suitable; possibly suitable; unsuitable or unavailable

Notes.
a. See Section 4.1. Comparison with other LAs/PCTs will be limited to those which also opt for the same approach.
b. Very large boosts would be needed to obtain reliable data at small area (e.g. ward) level or for specific age, sex and/or ethnic groups making this option prohibitively expensive.
c. There may be uncertainties re the forward programme for a particular survey and whether the facility for local boosts will remain available. Local influence over the development of a national survey may be limited.
d. Synthetic estimations of smoking prevalence at PCT level are in the public domain (see section 4.2 for further detail). It is possible to derive estimates of smoking prevalence at LA level from ward-level estimates.
e. Ward level synthetic estimates of smoking prevalence are available (see section 4.2 for further detail) but the data from this source does not currently allow analysis by age, gender and ethnicity. It should be noted that the ward-level estimates generally have wide CIs. For example, lowest and highest ward smoking prevalence estimates (and 95% CI) in one London borough are 23.1% (13.0-37.6%) and 42.6% (26.0-61.0%).
f. The "gold standard" methods used in national surveys may not be locally practicable or affordable.
g. Historical data will be unavailable in most areas. Commitment to a forward programme of surveys will be required.
h. The completeness and quality of primary care data on smoking is currently inadequate for population level surveillance (see Section 4.4).
i. Continuing deficiencies in the capture of data on patients' ethnicity is a further limitation.
j. Suitable for examining outcomes of NHS interventions, e.g. using record linkage of patient-based data. Less suitable for non-NHS interventions.
k. Awaiting further information on smoking prevalence data from commercial providers. Some organisations use modelled household expenditure data to obtain small area estimates. Estimating smoking prevalence from household expenditure data requires assumptions regarding e.g. number of smokers per household; tobacco consumption per smoker; level of purchase of cheaper substitutes such as smuggled cigarettes and hand-rolled tobacco. While adjustments can be made for these factors, even where the underlying data are robust, this approach to estimating smoking prevalence may require too many assumptions to be reliable.
l. Measurement of change over time in a local area will only be possible if the dataset provides direct estimates based on individual responses from local residents rather than synthetic estimates derived from modelling.

5.2 Obesity

Policy Context
The importance of obesity is highlighted in several recent Government policy documents. Currently, the main national target (a PSA target shared by DH, DfES and DCMS) is "to halt the year-on-year rise in obesity among children under 11 by 2010, within the context of a broader strategy to tackle obesity"[4].

Choosing Health and the accompanying food and health and physical activity action plans *Choosing a Better Diet*[30] and *Choosing Activity*[31] propose a wide range of actions which should help to address the rising prevalence of obesity, particularly amongst children. Some of these actions are highlighted in Sections 5.3 and 5.4 below.

Measuring obesity
The clinical definition of obesity is based on the body mass index (BMI), defined as

$$\text{BMI} = \frac{\text{body mass in kg}}{(\text{height in metres})^2}$$

There are alternative indicators of body composition-related health risk, for example, waist circumference, skin-fold thickness, etc. However, BMI is by far the most commonly used and arguably the easiest to measure routinely.

In adults, a BMI of 20–25 kg/m^2 is considered 'normal', 25–30 kg/m^2 is termed 'overweight' and those with a BMI over 30 kg/m^2 are classed as 'obese'. However, these thresholds do not necessarily translate identically to comparative levels of health risk in all sub-groups of the adult population. Thus, for example, in certain Asian populations a given BMI equates to a higher percentage of body fat than the same BMI in a white European population[32]. In these populations, the risks of type II diabetes and cardiovascular disease increase at a BMI below the standard cut-off value of 25 kg/m^2.

The definition of childhood obesity is necessarily different, reflecting the fact that the body composition of a "normal" child changes markedly through infancy, pre-school and school years and into late teenage years. Two age- and sex-specific schemes are commonly used as a basis for definition and both are based on BMI[33]:

- *National BMI percentiles.* Data collected between 1978 and 1990 from 11 British surveys has been used to produce reference curves for different age groups. Overweight and obesity are defined as exceeding the 85th and 95th percentiles on these reference curves.
- *International classification.* This classification is based on BMI reference data from six different countries around the world (over 190,000 subjects in total aged 0-25 from UK, Brazil, Hong Kong, The Netherlands, Singapore, and the United States). The BMI percentile curves that pass through the values of 25 and 30 kg/m2 (standard adult cut-off points for overweight and obesity, respectively) at age 18 were smoothed for each national dataset and then averaged. The averaged curves were then used to provide age and sex-specific BMI cut-off points for children and adolescents aged 2-18.

A further issue relating to the measurement of BMI is the reliability of self-reported height and weight. BMI distributions derived from self-reported height and weight data in local surveys in the South East and East Midlands regions tend to be different (typically with fewer extreme values and lower average BMI) when compared with BMI distributions from regional data from the HSfE based on actual height and weight measurements.

Local Information Needs
Generic information needs relating to obesity are outlined in Section 3.

As part of accountability processes within the NHS, PCTs and SHAs are required to collect and submit data on obesity status (proportion with a BMI over 30) among people aged 15 to 75 years, as recorded in GP records. This is a new requirement. At present, only a minority of practices/PCTs are able to submit this data and completeness and quality is likely to be generally poor (see Section 4.4). A further requirement - to collect and submit data on the prevalence of obesity among children aged 5 to 10 years - has been deferred until 2006-07 or later, pending agreement on definitions of age, obesity, record source, timeframe and population base. Work by a national expert group to agree this necessary detail is underway and a variety of approaches are being considered. Reporting may be based on a sample of children and is more likely to be conducted in schools rather than in primary care.

Suitability of different sources for meeting local needs
The table below and accompanying notes summarise the suitability of different sources of local data on obesity in relation to different applications. The assessment reflects the *current* state of development of each source. Suitability and availability may improve as systems are developed further. Section 4 of this report highlights some of the advantages and limitations of data from each source *in general terms* and these also need to be borne in mind in identifying which is the best source for a given application.

Application	Source				
	Local boosts of national surveys	Synthetic estimates	Local surveys	Primary care data	Datasets from commercial organisations
Comparison with national and regional benchmarks and with other LAs/PCTs	a	d	a,f	h	k
Analysis of within-area inequalities by age, gender, ethnicity and area of residence.	b	e		h,i	k
Monitoring trends over time and progress towards local targets	c		g	h	
Measuring/auditing outcomes of particular services/initiatives				,j	

colour coding: suitable; possibly suitable; unsuitable or unavailable

Notes.
a. See Section 4.1. Comparison with other LAs/PCTs will be limited to those which also opt for the same approach.
b. Very large boosts would be needed to obtain reliable data at small area (e.g. ward) level or for specific age, sex and/or ethnic groups making this option prohibitively expensive.
c. There may be uncertainties re the forward programme for a particular survey and whether the facility for local boosts will remain available. Local influence over the development of a national survey may be limited.
d. Synthetic estimations of the prevalence of obesity in adults (but not children) at PCT level are in the public domain (see section 4.2 for further detail).
e. CAS Ward level synthetic estimates of obesity prevalence in adults are available (see section 4.2 for further detail) but the data from this source does not allow analysis by age, gender and ethnicity. LA level estimates can be derived from ward-level data.
f. The "gold standard" methods used in national surveys are based on actual measurements using calibrated scales and made by trained field workers. It may not be practicable or affordable to replicate this in local surveys. In most previous local surveys self-reported height and weight has been used as a basis for computing BMI and classifying people.
g. Historical data will be unavailable in most areas. Commitment to a forward programme of surveys will be required.
h. The completeness and quality of primary care data on obesity is currently inadequate for population level surveillance (see Section 4.4) and the QPID (prevalence) dataset does not currently include this data.
i. Continuing deficiencies in the capture of data on patients' ethnicity is a further limitation.
j. Suitable for examining outcomes of NHS interventions, e.g. using record linkage of patient-based data. Less suitable for non-NHS interventions.
k. Awaiting further information on obesity prevalence data from commercial providers. It seems unlikely that any such products can offer improvements on synthetic estimates from national surveys in terms of validity or value-for-money. SEPHO has explored the usefulness of data from Acxiom (National Shoppers' Survey) but has not purchased obesity data. SEPHO considers estimates at LA-level to be of reasonable quality, although the price tag is currently a barrier.

5.3 Physical Activity

Policy Context
Choosing Health[1] and the accompanying physical activity action plan *Choosing Activity*[31] together with *Game Plan[34]*, the strategy for delivering the Government's sport and physical activity objectives, detail plans to increase physical activity in children and adults in England. Other relevant national strategies include those for PE, School Sport and Club Links and the DfT Walking and Cycling Action Plan.

A PSA target, shared by DfES and DCMS is to "increase the uptake of sport by 5 to 16 year olds so that the percentage of school children in England who spend a minimum of two hours each week on high quality PE and school sport increases from 25% in 2002 to 75% by 2006 and to 85% by 2008 (at least 75% in each School Sport Partnership by 2008)[5]".

Game Plan includes a further target to "increase the percentage of the population who are reasonably active (taking at least 30 minutes of moderate exercise five times a week) from 30% to 50% in 2011 and 70% by 2020". There is also a target to "increase the take-up of cultural and sporting opportunities by adults and young people aged 16+ from priority groups (women, black and ethnic minorities, lower socio-economic groups and those with physical or mental disabilities) by (a) increasing by 3% the number who participate in active sports at least 12 times a year and (b) increasing by 3% the number who engage in at least 30 minutes of moderate-intensity-level sport, at least three times a week".

One of the major drivers for the promotion of physical activity in England is the consensus on the importance of addressing the growing prevalence of obesity.

Measuring Physical Activity
There are a number of relevant dimensions of physical activity and participation in sport and exercise and a range of possible approaches to measurement, some of which have been employed in the national surveys used to monitor progress towards national-level objectives and targets. For example:

- *The Health Survey for England* (HSfE[9]). This is the best source of regularly collected national-level data on physical activity. Each year, the HSfE focuses on a particular health issue, with core topics which are repeated each year. Physical activity is considered a special topic so is not included every year. To date physical activity has been included in the questionnaire in 1994, 1998 and 2003. Unfortunately, changes to the questionnaire used in the HSfE have meant that trends are difficult to assess. For further information on the HSfE see Section 4.1.
- *The Time Use Survey*[9;35]. The 2000 Time Use Survey investigated how individuals in the UK spend their time. Respondents completed an individual questionnaire describing activities including leisure activities and housework. One-day diaries were also used to collect more detailed activity information including type and duration. People in work or full-time education were additionally asked to complete a one-week worksheet describing time spent on these activities.
- *Taking Part*[36]. This new National Survey of Culture, Leisure and Sport went live in July 2005. The survey is a joint initiative between Sport England, the Department for Culture Media and Sport, Arts Council England, English Heritage and The Museums, Libraries and Archives Council. It aims to gather robust information on participation and non-participation in culture, leisure and sport activities. It comprises in-house interviews with adults (with a

boost sample of black and minority ethnic groups). In addition to information on levels of participation and attendance at sporting and cultural facilities, the survey will collect information on what helps or hinders people from taking part. The survey will be conducted on a rolling basis over the next three years.

- The *Active People Survey*[14] has also recently been commissioned by Sport England. The survey will collect data on sport and physical activity participation rates among priority groups. At least 1,000 people in every LA area in England will be questioned with a total sample of some 350,000 over the course of one year. The Active People Survey will be repeated in three years time so that progress can be measured
- The *National Travel Survey*[37] investigates personal travel habits in Great Britain, including distance walked and cycled (excluding walking and cycling as leisure activities), access to a car and use of public transport. The survey includes an interview and a week-long travel diary.
- *National Diet and Nutrition Survey*[11], conducted in 1986/7 and 2000/01 has also included physical activity assessment.

Validated tools for assessing levels of physical activity in individuals and populations include:
- The short questionnaire used in the European Prospective Investigation of Cancer (EPIC) study[38].
- The questionnaire designed by Godin and Shephard in Canada[39].
- The short International Physical Activity Questionnaire (IPAQ) designed for international comparisons[40].
- A short questionnaire developed in the Netherlands by Baecke et al[41].

Choosing Activity[31] confirmed that DH is continuing to pilot a physical activity questionnaire for use within Primary Care. This is based on a questionnaire which has been validated within a number of PCTs. This will be a valuable tool for primary care assessment of physical activity as it will be standardised across the NHS.

There are currently no instruments validated for use in children.

Local Information Needs
Generic information needs relating to physical activity are outlined in Section 3.

Some LAAs feature physical activity. Local "stretch" targets may be couched in terms of the proportion of people participating in recommended levels of physical activity (e.g. for adults, the proportion participating in 5 sessions of 30 minutes of moderate activity per week).

The proposed new framework for Comprehensive Performance Assessment (Audit Commission assessment of LAs) currently has participation in sport (3x30 mins per week) as a performance indicator as part of its culture section. This indicator reflects the contribution that sport can make to the overall physical activity target of five 30 minute sessions per week. Changes in the indicator at LA level will be monitored through the Active People Survey (see above).

Many LAs are agreeing local service level agreements with Government (DCMS) with a focus on physical activity. These enable LAs to claim additional Government funding if they are successful in reaching pre-determined levels of physical activity in their local population.

Suitability of different sources for meeting local needs
The table below and accompanying notes summarise the suitability of different sources of local data on physical activity in relation to different applications. The assessment reflects the *current* state of development of each source. Suitability and availability may improve as systems are developed further. Section 4 of this report highlights some of the advantages and limitations of data from each source *in general terms* and these also need to be borne in mind in identifying which is the best source for a given application.

	Source				
Application	Local boosts of national surveys	Synthetic estimates	Local surveys	Primary care data	Datasets from commercial organisations
Comparison with national and regional benchmarks and with other LAs/PCTs	a	d	a,e	g	j
Analysis of within-area inequalities by age, gender, ethnicity and area of residence.	b			g,h	j
Monitoring trends over time and progress towards local targets	c		f		
Measuring/auditing outcomes of particular services/initiatives				i	

colour coding: suitable; possibly suitable; unsuitable or unavailable

Notes.
a. See Section 4.1. Comparison with other LAs/PCTs will be limited to those which also opt for the same approach.
b. Very large boosts would be needed to obtain reliable data at small area (e.g. ward) level or for specific age, sex and/or ethnic groups making this option prohibitively expensive.
c. LA-level sample sizes in the Active People Survey will be large enough to provide local data that can be used to monitor trends over time and progress towards local targets.
d. Synthetic estimates of patterns of physical activity in local populations are not yet available.
e. It may not be practicable or affordable to replicate "gold standard" methods used in national surveys in local surveys.
f. Historical data will be unavailable in most areas. Commitment to a forward programme of surveys will be required.
g. Primary care data on physical activity will be extremely patchy.
h. Continuing deficiencies in the capture of data on patients' ethnicity is a further limitation.
i. In future, using validated instruments such as the primary care physical activity questionnaire described above and perhaps employing record linkage, it should be possible to design quality studies to examine outcomes of NHS interventions. This approach may be less suitable for non-NHS interventions. It has been estimated that there are over 600 'Exercise Referral' programmes in the UK, referring patients to some form of physical activity facility or programme. These are likely to assess physical activity in some way, e.g. as part of recruitment to the programme, but this work is variable in quality.
j. SEPHO has explored the usefulness of data from Acxiom (National Shoppers' Survey) but has not purchased physical activity data.

5.4 Diet

Policy Context
Choosing a Better Diet[30], the national Food and Health Action Plan published in March 2005, sets out the Government's aims, objectives and proposed actions relating to dietary improvement and reducing the prevalence of diet-related disease and obesity. Objectives are to:
- Increase average fruit and vegetable consumption to at least five portions per day.
- Increase average fibre consumption to 18g per day.
- Reduce average salt intake to 6g per day by 2010.
- Reduce contribution of saturated fat intake to food energy to 11%.
- Maintain contribution of total fat intake to food energy at 35%.
- Reduce contribution of added sugar to 11% of food energy.

One of the major drivers for improving diet in England is the consensus on the importance of addressing the growing prevalence of obesity.

Tackling Health Inequalities Programme for Action[42] focuses on the importance for disease prevention of increasing fruit and vegetable consumption and highlights the fact that consumption is lowest in low-income groups. One of the national headline indicators for this programme is the proportion of people consuming five or more portions of fruit and vegetables per day in the lowest quintile of household income distribution (also included in the UK Government's Sustainable Development Strategy indicator set).

There are further national objectives and targets related to breastfeeding - another important aspect of diet and lifestyle but one which is not featured in this report.

Choosing a Better Diet[30] sets out a wide range of actions aimed at improving diet/nutrition in England. These include: developing food labeling to be more consistent and to show better nutritional information; restricting advertisement and promotion of high fat/salt/sugar foods to children through various media (e.g. television, packaging, vending machines) and introducing a cross-government campaign to raise awareness of the health risks of obesity and how it can be prevented through diet and exercise.

Local Information Needs
Generic drivers for the collection of local lifestyle data including diet are described in Section 3 of this report. There are currently no specific mandatory dietary improvement targets for the NHS or LAs at local level. However, recent guidance on LAAs[8] indicates that initiatives to improve dietary outcomes can be included within LAAs. This will require negotiation and agreement on targets and indicators. Work is in progress on an LAA Indicator Library, which provisionally includes indicators of fruit and vegetable consumption in both adults and children. As yet, the respective indicator definitions and data sources have not been specified.

Measuring diet
The intake of some nutrients, such as protein and fat, and the overall balance of a person's diet (e.g. whether or not it is consistent with the Balance of Good Health[43] and whether energy intake and energy expenditure are broadly in balance) are notoriously difficult to assess.

In contrast, measuring a person's fruit and vegetable consumption is somewhat easier and, perhaps for this reason, local dietary surveillance in the UK in recent years has been oriented to

this. A key research question is the extent to which increasing the average intake of fruit and vegetables results in progress towards addressing the other five DH objectives.

Dietary measurement methods include:

- Weighed and estimated dietary records, e.g. diaries.
- Recall methods.
- Food Frequency Questionnaires.
- Analysis of nutrient levels in blood and urine (e.g. for salt consumption).

Some of these methods, for example, 7-day diet diaries are very labour intensive for subjects and costly for analysts/researchers.

Examples of UK-based research studies which use one or more of these methods include:

- The Norfolk arm of the European Prospective Investigation into Cancer[44].
- The Avon Longitudinal Study of Parents and Children[45].
- Profiling Health Behaviours in Scotland using the Health Education Population Survey 1996-99 dataset[46].

Simpler, more pragmatic variants have been employed in recent national evaluations of pilot dietary improvement programmes:

- The FACET questionnaire[47] has been used recently in the national evaluation of local five-a-day initiatives[48].
- The CADET tool for dietary assessment in children has been used in the evaluation of the National School Fruit Scheme[49].

In some instances it may be more relevant to measure related characteristics of populations or their environments such as access to food shops, knowledge and attitudes relating to food consumption or alternative outcome measures such as dental decay. This will not, however, identify individuals or at risk groups within a population. Further ideas and information on local practice in dietary outcome measurement may be gleaned from local case studies published on the Food Vision website[50] and in a recent Health Development Agency publication[51].

It would now be useful to focus development work on simple marker questions which would provide indicators of changes of consumption of food types in populations.

Suitability of different sources for meeting local needs

The table below and accompanying notes summarise the suitability of different sources of local data on diet in relation to different applications. The assessment reflects the *current* state of development of each source. Suitability and availability may improve as systems are developed further. Section 4 of this report highlights some of the advantages and limitations of data from each source *in general terms* and these also need to be borne in mind in identifying which is the best source for a given application.

Application	Source				
	Local boosts of national surveys	Synthetic estimates	Local surveys	Primary care data	Datasets from commercial organisations
Comparison with national and regional benchmarks and with other LAs/PCTs	a,b	e	b,g,h	j	m
Analysis of within-area inequalities by age, gender, ethnicity and area of residence.	c	e,f	h	j,k	m
Monitoring trends over time and progress towards local targets	d		h,i		n
Measuring/auditing outcomes of particular services/initiatives			h	l	

colour coding: suitable; possibly suitable; unsuitable or unavailable

Notes.
a. See Section 4.1. The Health Survey for England includes the collection of data on fruit and vegetable consumption. Other surveys used for dietary surveillance at national level include: the National Diet and Nutrition Survey[11]; the Expenditure and Food Survey[52]; the Low-income Diet and Nutrition Survey[53]. It is not clear whether there would be opportunities to commission local boosts of any of the latter surveys.
b. Comparison with other LAs/PCTs will be limited to those which also opt for the same approach.
c. Very large boosts would be needed to obtain reliable data at small area (e.g. ward) level or for specific age, sex and/or ethnic groups making this option prohibitively expensive.
d. There may be uncertainties re the forward programme for a particular national survey and whether the facility for local boosts will remain available. Local influence over the development of a national survey may be limited.
e. Synthetic estimates have recently been published at PCT and ward level of (a) consumption of 5 or more portions of fruit and vegetables a day (adults aged 16+) and (b) consumption of 3 or more portions of fruit and vegetables day (children aged 5 to 15). See Section 4.2 for further details. It is possible to derive estimates at LA level from ward-level estimates.
f. The data from this source does not allow analysis by age, gender and ethnicity. See Section 4.2 for further details.
g. With the possible exception of the approaches to measuring fruit and vegetable consumption used in the Health Survey for England, it may not be practicable or affordable to replicate "gold standard" methods used in national surveys in local surveys.
h. FACET[47], CADET[49] and other validated questionnaires[44;45] provide pragmatic approaches to measuring fruit and vegetable consumption and other aspects of diet using local surveys. Some benchmark data are available.
i. Historical data will be unavailable in most areas. Commitment to a forward programme of surveys will be required.
j. Primary care data on diet will be extremely patchy.
k. Continuing deficiencies in the capture of data on patients' ethnicity is a further limitation.
l. Using validated instruments such as FACET and perhaps employing record linkage, it should be possible to design quality studies to examine outcomes of NHS interventions. This approach may be less suitable for non-NHS interventions.
m. Food expenditure/consumption data are potentially available from a number of commercial organisations including Acxiom and CACI. For further detail see Section 4.5. Further information is awaited on collection methods, validity and cost.
n. Measurement of change over time in a local area will only be possible if the dataset provides direct estimates based on individual responses from local residents rather than synthetic estimates derived from modelling.

5.5 Alcohol

Policy Context
The consumption of excessive quantities of alcohol, and binge drinking in particular, is a major public health problem. Alcohol places a huge burden on health, criminal justice, and social and economic growth and can lead to a number of health and social problems. Alcohol-related disease, mortality and crime are contributing to inequalities, reducing life expectancy, disrupting local communities and hampering efforts for economic growth[54]. Alcohol misuse is also associated with increased risky sexual behaviour, accidents, absenteeism, violence and drug misuse.

The UK government published an alcohol harm reduction strategy for England in 2004[55] with the modest aim of preventing alcohol-related harm increasing any further. Building on this, *Choosing Health*[1] highlights the need for action to encourage and support sensible alcohol consumption, e.g. by:
- Developing a social responsibility scheme for alcohol (on voluntary basis for alcohol producers and retailers).
- Putting information on alcohol containers and in retail outlets.
- Placing responsible drinking messages on alcohol advertisements.
- Ensuring alcohol is not sold to under 18 year olds.

As yet, within the UK, only Scotland has targets for limiting alcohol consumption.

Measuring patterns of alcohol consumption
It can be difficult to obtain reliable information about drinking behaviour. Social surveys frequently record lower levels of alcohol consumption than would be expected from data on alcohol sales. This may partially be due to people under-estimating the amount of alcohol they consume.

There are a range of approaches to measurement, some of which have been employed in the national surveys used to monitor progress towards national-level objectives. See for example surveys of adults and households:
- Health Survey for England[9].
- General Household Survey[10].
- Drinking, adults behaviour and knowledge (part of the ONS Omnibus Survey)[56].
- National Diet and Nutrition Survey[10;11].
- ONS Consumer Trends[57].

See also surveys of children and young people:
- Health Survey for England[9].
- Smoking, Drinking and Drug Use Among Young People in England[13].
- Youth Lifestyle Surveys[e.g. 58].

Further details on national surveys covering alcohol consumption can found in the report Taking Measures: A Situational Analysis of Alcohol in the North West[54].

Commonly-used population measures include:
- The proportion of adults drinking over the recommended daily limit (currently 3 units for women and 4 units for men).
- The proportion of adults drinking over the recommended weekly limit (currently 28 units for men and 21 units for women).
- The proportion of adults drinking on five or more days in a week.

There are a variety of alcohol screening tools available as measures of drinking levels[59]. These include tools such as the Alcohol Use Disorders Identification Test (AUDIT), F.A.S.T screening tool and the Single Alcohol Screening Question (SASQ).

Local Information Needs
Adults
LDP reporting obligations do not require PCTs or SHAs to collect and submit data relating to alcohol treatment. As a result, the majority of commissioners and other interested parties rely upon statistical inference techniques to inform profiles of need rather than through consistent monitoring of activity and performance.

The draft National Service Framework for alcohol treatment systems (Models of Care for Alcohol Misusers)[60] identifies 'monitoring performance and reviewing alcohol treatment services' as a key criterion in the commissioning and provision of evidence-based treatment however there is as yet no national steer on how this should be done.

Young People
The delivery of substance misuse services for young people follow a generic approach that includes alcohol. Treatment services have, from April 2005, been required to collect and submit data to the National Treatment Agency via the National Drug Treatment Monitoring System (NDTMS[61]) for young people up to the age of 18.

Crime
Each local Crime & Disorder Reduction Partnership, Community Safety Partnership or other merged DAAT partnership is required under Home Office PSA to collect and submit data against their locally negotiated profile of target crimes, which often include alcohol-related offences and disorder (Objective 1.1: Reduce crime by 15% and further in high-crime areas, by 2007-2008[62]).

Whilst local measures of alcohol consumption can be relatively difficult and costly to obtain, estimates of alcohol related harm can be calculated by applying existing alcohol attributable fractions to deaths, hospital episodes and crime data. From mortality estimates, the contribution of alcohol to life expectancy could also be calculated. Applying these estimates to other demographics and area-based deprivation measures can provide valuable local indicators of alcohol use and its impact on health and crime.

Suitability of different sources for meeting local needs
The table below and accompanying notes summarise the suitability of different sources of local data on alcohol in relation to different applications. The assessment reflects the *current* state of development of each source. Suitability and availability may improve as systems are developed further. Section 4 of this report highlights some of the advantages and limitations of data from each source *in general terms* and these also need to be borne in mind in identifying which is the best source for a given application.

There are various other potentially useful sources of data about alcohol-related behaviour such as
- *STATS 19 breath test data* - the data collection form completed following road traffic accidents includes an item on alcohol breath test results (where applicable)[63].
- *Police Recorded Crime* - data on alcohol related crimes[54].
- *Data from alcohol treatment service providers*. For example, across Cheshire and Merseyside, all structured alcohol treatment service providers (tier 3 and 4 services – defined

as those which involve a client assessment and a formal structured/planned programme of care) are requested to provide information in the form of a standard set of variables about treatment for alcohol misuse. Data are collected on individuals in a pseudoanonymised format (utilising initials, date of birth and sex of clients). Data requirements include a range of demographic characteristics including ethnicity and area of residence together with alcohol treatment details.

- *Data from Accident and Emergency (A&E) Departments*. For example, data from Merseyside A&E departments has been collated[54]. Whilst case notes may contain information on presence of alcohol, it is not compulsory to collect and completion is therefore patchy.

Application	Source				
	Local boosts of national surveys	Synthetic estimates	Local surveys	Primary care data	Datasets from commercial organisations
Comparison with national and regional benchmarks and with other LAs/PCTs	a,b	e	g,h,i	l	o
Analysis of within-area inequalities by age, gender, ethnicity and area of residence.	c	e,f	i,j	l,m	o
Monitoring trends over time and progress towards local targets	d		i,j,k		p
Measuring/auditing outcomes of particular services/initiatives				n	

colour coding: suitable; possibly suitable; unsuitable or unavailable

Notes.
a.   See Section 4.1. A number of national surveys covering alcohol issues are highlighted above. Other than the Health Survey for England, it is not clear whether there would be opportunities to commission local boosts of any of these surveys.
b.   Comparison with other LAs/PCTs will be limited to those which also opt for the same approach.
c.   Very large boosts would be needed to obtain reliable data at small area (e.g. ward) level or for specific age, sex and/or ethnic groups making this option prohibitively expensive.
d.   There may be uncertainties re the forward programme for a particular national survey and whether the facility for local boosts will remain available. Local influence over the development of a national survey may be limited.
e.   Synthetic estimates of the prevalence of binge drinking have recently been published at PCT and ward level. See Section 4.2 for further details. It is possible to derive estimates at LA level from ward-level estimates.
f.   The data from this source does not allow analysis by age, gender and ethnicity. See Section 4.2 for further details.
g.   It may not be practicable or affordable to replicate "gold standard" methods used in national surveys in local surveys.
h.   Comparison with other LAs/PCTs will be limited to those which also opt for the same approach or collaborate in a multi-area survey.
i.   The Health Related Behaviour Questionnaire (HRBQ[24]) developed by the Schools Health Education Unit (SHEU) offers a tried and tested approach to collecting alcohol data on young people. Extensive benchmark data is available.
j.   Other potential vehicles for the collection of local-level alcohol data include Citizens Panels and Young Peoples Citizens Panels.
k.   Historical data will be unavailable in most areas. Commitment to a forward programme of surveys will be required.
l.   Primary care data on diet will be extremely patchy.
m.   Continuing deficiencies in the capture of data on patients' ethnicity is a further limitation.
n.   Using simple measures of alcohol consumption (e.g. collected during consultations) and perhaps employing record linkage, it should be possible to design quality studies to examine outcomes of NHS interventions. This approach may be less suitable for non-NHS interventions.
o.   Alcohol-related data are potentially available from a number of commercial organisations: MORI hold data on alcohol related health, crime and behaviours; ACNielsen hold market information such as alcohol market statistics in the "Drink Pocket Book" series. Mintel produce various reports containing information on the alcohol market, alcohol consumption, attitudes to drinking etc. Further information is awaited on collection methods, validity and cost and applicability re addressing local information needs. See also Section 4.5.
p.   Measurement of change over time in a local area will only be possible if the dataset provides direct estimates based on individual responses from local residents rather than synthetic estimates derived from modelling.

5.6 Multiple risk factors

Policy Context
This is a neglected area, as the focus on lifestyle factors tend to be on each single factor and addressed independently of other risk factors. However those people with one lifestyle risk factor are likely also to have others as well, and the highest concentration of people with multiple lifestyle risk factors will be in the less affluent communities. There is a recognition of the link between diet and exercise in *Choosing a Better Diet*, but there are particular challenges in helping people tackle more than one lifestyle factor, and health trainers announced in *Choosing Health* will need to be aware of that when they offer or direct people to lifestyle advice.

Local Information Needs
There are no mandatory requirements to identify multiple risk factors.

Measuring multiple risk factors
South East PHO have analysed interrelationships between aspects of lifestyle within the Health Survey for England dataset and have shown, for example, that ex-smokers have higher rates of obesity than current smokers or non-smokers; that there is a strong relationship between obesity and hypertension; that the prevalence of obesity falls as levels of physical activity increase; and that levels of overweight (but not obesity) increase with increasing fruit and vegetable consumption.

However, even using a large national survey the associations were only statistically significant at the national level. At regional level the sample sizes meant that any findings were not conclusive.

Suitability of different sources for meeting local needs
The table below and accompanying notes summarise the suitability of different sources of local data on the presence of multiple risk factors in individuals in relation to different applications. The assessment reflects the current state of development of each source. Suitability and availability may improve as systems are developed further. Section 4 of this report highlights some of the advantages and limitations of data from each source in general terms and these also need to be borne in mind in identifying which is the best source for a given application.

Application	Local boosts of national surveys	Synthetic estimates	Local surveys	Primary care data	Datasets from commercial organisations
Comparison with national and regional benchmarks and with other LAs/PCTs	a,b	e	b	i	k
Analysis of within-area inequalities by age, gender, ethnicity and area of residence.	c	e f	g	i,j	k
Monitoring trends over time and progress towards local targets	d	e	h	i	k
Measuring/auditing outcomes of particular services/initiatives		e	h	i	k

colour coding: suitable; possibly suitable; unsuitable or unavailable

Notes.
a. See Section 4.1. The Health Survey for England is the only national survey that includes the collection of data on multiple risk factors.
b. Comparison with other LAs/PCTs will be limited to those which also opt for the same approach.
c. Very large boosts would be needed to obtain reliable data at small area (e.g. ward) level or for specific age, sex and/or ethnic groups making this option prohibitively expensive.
d. There may be uncertainties about the forward programme for a particular national survey and whether the facility for local boosts will remain available. Local influence over the development of a national survey may be limited.
e. Synthetic estimates have recently been published at PCT and ward level for individual risk factors. These would not offer data that is suitable for multiple risk factor analysis. See Section 4.2 for further details.
f. The data from this source does not allow analysis by age, gender and ethnicity. See Section 4.2 for further details.
g. Very large samples would be needed to obtain reliable data at small area (e.g. ward) level or for specific age, sex and/or ethnic groups making this option prohibitively expensive.
h. Historical data will be unavailable in most areas. Commitment to a forward programme of surveys will be required.
i. Primary care data on multiple risk factors will be extremely patchy. Eventually this should be a rich source of data for analysing multiple risks. However, this will only capture those registered with GPs which is satisfactory if auditing GP services.
j. Continuing deficiencies in the capture of data on patients' ethnicity is a further limitation.
k. Commercial sector datasets are unlikely to offer data that is suitable for multiple risk factor analysis as they provide estimates where there is no ability to identify individuals for this analysis. .Measurement of change over time in a local area will only be possible if the dataset provides direct estimates based on individual responses from local residents rather than synthetic estimates derived from modelling.

6. Conclusions and pointers for local organisations

At the time of writing, detailed option appraisal work is underway to generate recommendations on the best sources and methods for monitoring local-level progress in halting the rising prevalence of obesity in children. There would be merit in replicating this for other lifestyle surveillance challenges. However, such work can take time. In the interim, the authors of this report hope that it provides some useful pointers for local organisations.

The different sources of lifestyle data highlighted in Section 4 all have different comparative strengths and weaknesses. It is unlikely that any one source will provide *all* of the solutions to *all* of the lifestyle surveillance challenges faced by local organisations - some sources have definite advantages in some situations, others have advantages in other situations. For example, if a PCT needed to quickly identify those wards in its area likely to have low levels of fruit and vegetable consumption, the DH synthetic estimates dataset provides an easily-accessible, low-cost solution. However, for the reasons set out in Section 4.2., synthetic estimates do not provide a basis for monitoring local trends in fruit and vegetable consumption.

Some commercial companies offer estimates of fruit and vegetable consumption and other aspects of lifestyle at small area level based on survey responses from local residents. However, unless full details of sources and methods are made available, it is not possible to confirm one way or the other whether these estimates are reliable. High cost is a further drawback, although sponsorship deals and consortium purchases can help to reduce the burden on purchasers.

Much has been made of the new opportunities offered by data collected in primary care and now made available to secondary users through the QMAS system (Section 4.4.). There are strong arguments for improving the recording of lifestyle characteristics in general practices since these provide a basis for more systematic preventive health care of patients who smoke, are sedentary or overweight, or who have poor diets or drink excessive amounts of alcohol. Good practice in informatics demands that maximal use should then be made of these data to avoid duplicating effort and overburdening patients by asking them similar questions in a local survey. However, the current reality is that across the country, aggregated primary care lifestyle data for local populations will generally be incomplete and of variable quality even for smoking which has been a focus for prevention in primary care for many years. The completeness and quality of data on the diets, physical activity levels and alcohol consumption patterns of patients will be poorer still. This said, as more and more lifestyle data is collected during consultations in primary care, it would be perverse not to similarly develop its use in population-level lifestyle surveillance.

Local surveys or local boosts of national surveys are particularly flexible and provide the only currently available solution to some of the lifestyle information challenges faced by local organisations.

Where a single source is thought to be inadequate, the use of more than one source can be considered. For example:
- Supplementing lifestyle data collected in general practice by means of questionnaire surveys of patients who rarely attend.
- Triangulation of data from different sources where the reliability of a single source is uncertain.

7. Further development of sources of lifestyle data

The analysis of the different sources of lifestyle data presented in this report is a snapshot at one point in time (Autumn 2005) of a constantly developing scene. Alongside this analysis it is useful to understand how the different sources are developing and, more importantly, how they could most usefully be developed.

7.1. National surveys

Projects such as the pan-London boost of the HSfE (Section 4.1) will test the feasibility, utility and affordability of a local-level, cut-down version of this major national survey. Cut-down surveys asking fewer questions of larger numbers of people open up the possibility of disaggregation to lower levels of geography. The Active People Survey (Section 5.3), a national survey which can be disaggregated to LA level, is an example of what is possible. Telephone-based lifestyle data collection systems in North America provide an alternative model. For instance in Canada, the Rapid Risk Factor Surveillance System (RRFSS)[64], is an Ontario-based survey system that uses monthly telephone surveys to collect information at local health unit level. The surveys consist of core content supplemented with optional health unit specified content. The interviews are conducted monthly, with one hundred people in each health unit, analysed centrally at York University, and results are turned around within six to eight weeks of collection.

7.2. Synthetic estimates derived from national surveys

There is enormous scope for further work to generate synthetic estimates of the prevalence of lifestyle characteristics in local populations. Scoping work for the DH Synthetic Estimates project (Section 4.2) identified a wider range of lifestyle characteristics in the HSfE dataset which were then subsequently prioritised. The longer list could be revisited. The principles of synthetic estimation could be applied to a range of other national lifestyle-relevant surveys.

7.3. Local surveys

The analysis in this report demonstrates that local surveys are still an important tool for obtaining local-level lifestyle information. Given this, the SEPHO Lifestyle Survey Toolkit[23] could now usefully be further developed to provide advice to local organisations on the design and implementation local surveys. The development should concentrate on issues such as:

- *Agreement on data requirements,definitions, and indicators*. Surveys need to provide the appropriate data to support the monitoring of progress towards "Choosing Health" and other national lifestyle-related targets plus lifestyle indicators relating to LAAs.
- *Standardisation of questions*, for example, in line with the measures collected in the HSfE or other national surveys to allow ongoing comparisons within and between geographical areas.
- *The reliability and validity of questions*.
- *Guidance on appropriate methods of delivery*. Postal, interview, telephone and web-based surveys may all be appropriate depending on the purpose and circumstances of the survey and on required sample sizes.

Comparability between areas is valuable and there are examples in local government where co-ordination has been used to ensure comparability of local surveys. The Best Value (BV) Surveys in LA areas (although not primarily concerned with lifestyle) are a good example[65]. These surveys are conducted every three years to measure, for example, satisfaction with the neighbourhood and local service provision, giving the BVPI (Best Value Performance Indicators). The methodology for the BV Surveys is prescribed. It uses a standard questionnaire, which can be added to, but with core questions which cannot be amended. LAs either conduct the survey data collection themselves or commission a survey research organisation to do it. Response rates have frequently exceeded 60% using the two reminders prescribed by ODPM. The

data from the surveys for each LA are returned to a central organisation where the data are weighted before the final results are returned to the LA. This provides a possible model for better-coordinated, standardised lifestyle surveys in local areas. There is the potential for economies of scale leading to reduced costs.

7.4. Primary care data
Primary care healthcare data sits in thousands of separate GP systems around the country. This is a pity because the way in which primary care data are recorded means that much more detail about the health status of patients (observations, investigation findings, diagnoses, treatments, outcomes and lifestyle risk factors), is recorded than in any other healthcare setting. Furthermore the opportunities for capturing data means that in an aggregated form the data set should be able to give as complete a picture about the health of the national population as it is conceivably possible to get. There is a growing realisation within the NHS of the importance of primary care data and the need for GP systems to be connected to a bigger system.

Though it has been designed to support a payments process (rather than serve a public health function), QMAS is the first system able to collect data from GP practice systems on a national basis automatically and routinely. Section 4.4 describes the current, rather limited lifestyle data available currently from the QOF/QMAS system. Future versions of the system could potentially be developed to include more extensive lifestyle data. However, this will depend on whether GMS contract targets (QOF targets) linked to the collection of lifestyle data are negotiated in any future GMS contract.

Looking further ahead, the NHS Care Records Service (NHSCRS) has been tasked with providing health and care professionals with access to nationally held electronic patient records by 2010. These records will store patients personal details alongside data relating to their health and care history, including data collected in primary care settings. Access to an anonymised form of this data for public health purposes is likely to be facilitated through the NHSCRS Secondary Uses Service (SUS). However, the level of detail about patients held in these records is not entirely clear at this stage. Whilst the diagnosis and treatment of conditions will be recorded, lifestyle risk factors may not.

7.5. Datasets offered by commercial providers
Market research-based data from commercial providers clearly have potential. However, local users will clearly need to be reassured that these are fit for purpose. This will require greater transparency regarding methodologies including information on local sample sizes, response rates and modelling approaches. Cost is also an issue, although sponsorship deals and consortium purchases may provide ways to reduce this in future.

Some companies offer the possibility of sponsoring questions on future surveys. The Regional Development Agency Yorkshire Forward has sponsored questions within the National Shoppers Survey. Exploring and developing partnership working between public and private sector organisations to obtain consumer data which satisfies the needs of both is an obvious way forward.

Finally, as previously mentioned, this report focuses on challenges and solutions relating to local-level lifestyle information *in England only*. It would be useful to extend this work to identify how other countries in the UK, Europe and beyond have addressed similar problems.

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About the APHO

The Association of Public Health Observatories was established in 2000 and has as a main focus facilitating collaborative working between the PHOs in the UK and Ireland. The APHO Technical Group was established to coordinate effort and share methodology, good practice and knowledge across the PHOs in relation to public health indicators and is the commissioning group for the Technical Briefings series. Further information about APHO, the PHOs and their work can be obtained from www.pho.org.uk.