NorthWest Public Health Observatory

synthesis

DECEMBER 06 ■ ISSUE 6

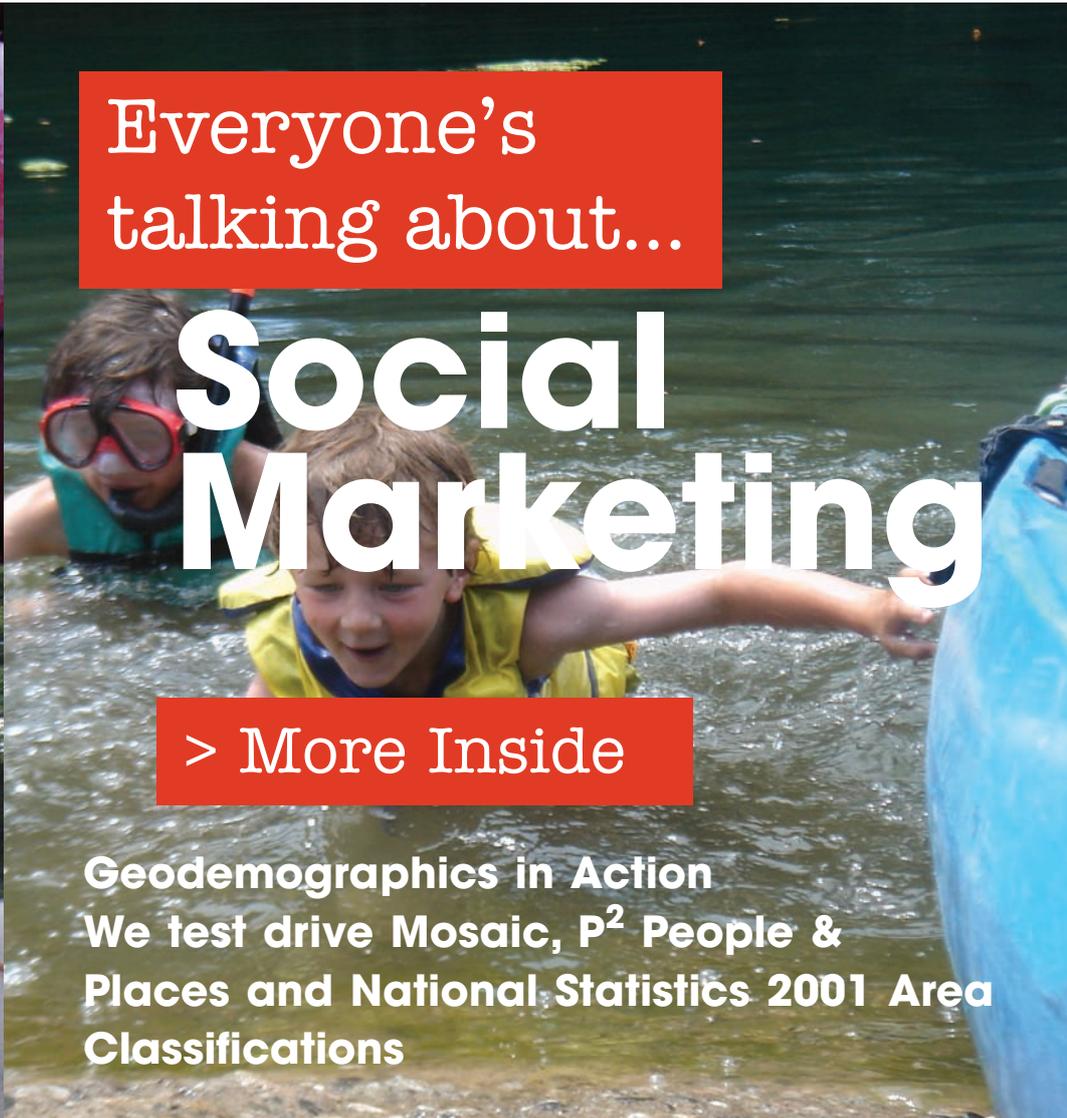*bringing together policy, evidence and intelligence*

Everyone's talking about...

Social Marketing

> More Inside

Geodemographics in Action We test drive Mosaic, P² People & Places and National Statistics 2001 Area Classifications

Population Targeting: Tools for Social Marketing

KEY Messages:

� Distinct from commercial marketing, social marketing techniques aim to effectively modify health-related behaviours for a social good - for example, better health, improved wellbeing or greater community cohesion. Put simply, social marketing is an **intelligence led** health promotion technique, whereby developing a detailed understanding of the local population allows social marketing messages to be targeted effectively.

✳ Following recommendations in *Choosing Health*, the National Social Marketing Centre (NSMC) hosted by the National Consumer Council (NCC) was set up to raise the profile of social marketing. Their report *It's our health!* contains a number of recommendations regarding the role that social marketing can have in improving the impact and effectiveness of health promotion programmes and campaigns.

✳ Geodemographic (GD) classification systems can be used to segment populations and thereby identify target groups. There are a number of commercially available geodemographic systems, some of which are free, whilst others are available at a significant cost. Examples of these systems include ACORN, Mosaic and P^2 People & Places[i]. Whilst each system differs, they all segment the population (using their own individual datasets) according to the type of neighbourhood and can be used to illustrate population segments according to a range of health-related factors.

✳ Comparing different geodemographic systems reveals that each one shows a different ability to discriminate between population groups[ii]. There are many considerations to make when selecting an appropriate system, such as geographic resolution, relative performance, the ability to link to other datasets, and − possibly the most important − available robust **population denominators**.

✳ Many local agencies currently lack the resources and expertise to effectively apply social marketing techniques to the health improvement agenda. The North West Public Health Observatory (NWPHO) can provide training and support to local health professionals to promote a better understanding of population segmentation tools and their application to social marketing.

✳ NWPHO recommends the use of the P^2 People & Places geodemographic system for the systematic segmentation of the North West population across as wide a variety of health conditions as possible. P^2 People & Places provides a greater level of discrimination by deprivation, and possibly by other demographic and social measures, than other systems evaluated (Table 2). In addition, the availability now and in the future of robust population denominators by Lower Super Output Area (LSOA) enables robust geographic comparisons, trend generation and evaluation of interventions using this geodemographic system.

---

[i] P^2 People and Places © Beacon Dodsworth 2004–2005: www.p2peopleandplaces.co.uk

[ii] It is difficult to accurately evaluate some geodemographic systems due to the lack of access to detailed datasets and/or methodology (see Section 4).

1. INTRODUCTION

The National Social Marketing Centre for Excellence (NSMC) defines social marketing as[1]:

"the systematic application of marketing concepts and techniques to achieve specific behavioural goals relevant to a social good."[p.4]

The UK cross-Government White Paper, *Choosing Health: Making Healthy Choices Easier*[2], announced a major review of health-related social marketing, and recommended that a national strategy for health should include a social marketing component. As part of the associated delivery plans and Public Service Agreements (PSAs), the Department of Health (DH) is planning and implementing a number of social marketing campaigns and initiatives. There is growing evidence, particularly from North America and Australia, for the effectiveness of social marketing interventions in modifying health-related behaviours.

This report provides a brief introduction to social marketing, with particular reference to the value of geodemographic (GD) segmentation systems for gaining customer insight and targeting interventions more effectively.

What is Social Marketing?

Social marketing is the latest addition to the existing range of intervention options (education, legislation, community mobilisation, media advocacy, etc.) for achieving behaviour change. Kotler and Zaltman introduced the term 'social marketing' in 1971[3], defining it as:

"…the design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication, distribution, and marketing research." [p.5]

Their paper queried whether marketing concepts and techniques could be applied to 'sell' or promote social objectives such as safe driving or healthy eating. It describes key concepts and requisite conditions for effective marketing campaigns, encapsulated in the 'four Ps of marketing' (see Box 1), and how they might be applied to social causes. Theoretical development of this field, particularly in North America, was rapid (and led to a number of attempts to identify additional areas of influence which build on the 'four Ps of marketing'[4; 5], examples of which can be found in Box 1).

In recent years, a number of alternative definitions for social marketing have been suggested; for example, the UK Social Marketing Strategy for Health defines it as:

"…integrated, sustained and coordinated approach based on a deep understanding of people's circumstances, values, desires and their perception of the costs and benefits associated with change…."[6]

Both definitions convey the idea of a carefully planned process; for example, long and short-term evaluation phases are integral components of the social marketing intervention. Other, simpler definitions have been proposed (as in the introduction above), most of which capture the central idea of applying commercial marketing techniques to bring about positive health or social change. Health-related social marketing has its own definitions. The one utilised by the DH[1] is:

"…the systematic application of marketing concepts and techniques to achieve specific behavioural goals relevant to improving health and reducing health inequalities." [p.31]

Box 1: The four Ps of marketing[4; 5]

❉ **Product:** having carefully defined the social idea in terms of behaviour change, the marketer must identify and segment the target market and repackage the idea into a range of more tangible products which the target audiences can buy (into).

❉ **Promotion:** the marketer uses knowledge of the target markets, and an appreciation of the prevailing social and political context, to encourage people to buy into the social objective. In this area, there is an important contribution to be made by behavioural and social scientists, psychologists, anthropologists and others who develop theories about human behaviours and how they can be modified.

❉ **Place:** the marketing messages need to be disseminated via channels that are suitable and accessible for the target markets. Equally importantly, the marketer needs to provide 'action channels', which enable motivated individuals to buy the product. Considering the issue of climate change, most people are aware of the message that something needs to be done. However, the frustration engendered by a perceived lack of action channels may eventually lead individuals to 'switch off' whenever the issue is raised.

❉ **Price:** represents the costs that an individual must bear when adopting a change in behaviour, or equivalently, the size of the barriers to change.

Other Ps[4; 5]

❉ **Publics:** programmes may need to address more than one 'public'. The target audience outside of the organisation may comprise more than one defined group, as well as policymakers and gatekeepers. Within the organisation, other publics include frontline staff involved in implementation, budget holders, and others involved in approving programmes.

❉ **Partnership:** co-ordination among organisations with similar goals leads to a more consistent approach and less chance of confusion due to conflicting messages; 'threshold effects' mean that some campaigns are unlikely to be successful unless there a 'critical mass' of support for the programme, and this is more likely if several organisations are involved.

❉ **Policy:** apply social marketing techniques and media advocacy to encourage policy makers to support aims. Structural changes as a result of policy development and/or legislation can influence the context in which social marketing campaigns take place, and increase the sustainability of individuals' behaviour change.

❉ **Positioning:** consider the 'psychological distance' of the product from related products and activities. For example, repositioning physical activity as a mode of relaxation may make it more attractive to certain audiences than if it were touted as a means to achieve better health.

❉ **Purse strings:** how the funding for a particular campaign will be obtained.

Social marketing is ultimately an intelligence led health promotion technique. The key element of this technique is customer orientation[7; 8], obtaining a deep understanding of the local population in order to target them with appropriate messages. The diversity of populations means that employing a 'one size fits all' approach is unsuitable; a campaign that runs successfully in London may not be suitable to the population of the North West. Similarly, a campaign targeted at a rural population may not be successful within an urban population. It is therefore important to gain the right local picture to allow the social marketing campaign to have maximum impact.

In the UK, the NSMC regards six core concepts or principles to be essential for a successful social marketing campaign. These concepts are detailed in Box 2.

Box 2: Six core concepts required for a successful social marketing campaign[1]

Strong customer focus: it is important to develop real insight into the lives and experiences of the intended audience. Without this insight, the preconceived notions, faulty assumptions, and indeed prejudices, of the marketer towards the audience are likely to dominate and lead to the development of interventions that are not well suited to the target audience. Focus groups and other kinds of qualitative research are often used to develop insight about knowledge, attitudes, values and beliefs of target groups. An understanding of the relevant social and political context is also important, as is the interaction with individual factors.

Defined behavioural goals/outcomes: the 'social good' in health-related campaigns needs to be defined in terms of specific, realistic, and measurable changes in behaviour. Successful marketing strategies will include an evaluation or monitoring component, and the better defined a behavioural outcome, the easier this process will be.

Application of the concept of 'exchange': exemplified in the exchange of money for goods or services in the commercial market, the exchange involved in social marketing may be more difficult to recognise. Adopting and maintaining behavioural change comes at a cost to the person making the change. These costs might be financial (e.g. joining a gym, travelling further to find fresh produce), but other types of cost include time and effort; social consequences (e.g. making one's home a smokefree zone could result in fewer visits from friends who smoke); and deferral of gratification (e.g. nicotine withdrawal).

Well developed audience 'segmentation': segmentation performs a number of functions. First, it helps to focus on small, relatively homogeneous groups, rather than trying to describe and address the heterogeneity of the whole population. This potentially leads to deeper understanding of the audience and consequently a better tailored marketing mix. It also facilitates the physical targeting of the marketing strategy (in terms of person, place and time).

Encouraging and supporting 'voluntary actions': long lasting behavioural change is more likely when individuals adopt change through rational choice. Changing behaviour may therefore involve trying to increase incentives for change or tackling attitudes or beliefs that discourage change. Social marketers are not usually in a position to introduce legislative changes, which can have a significant impact on a behaviour (e.g. alcohol licensing laws, or excise duty on tobacco products). However, social marketing techniques may be directed towards key policy and decision makers, with the express aim of encouraging them to adopt new legislation which is in line with public health policy.

Application of the concept of 'competition': as consumers with 'disposable income' we face a daily barrage of advertising material because commercial concerns must compete for a share of that disposable income. In the same way, the 'offer' being made in a social marketing campaign will always face competition. Sources of competition can be internal - for example, the pleasure associated with the unhealthy behaviour, or a psychological resistance to symbols of authority. External sources of competition could include direct counter messages (e.g. 'chocolate helps you unwind'), other health messages, or competition for time and attention.

2. POLICY CONTEXT

Along with its associated delivery documents and Public Service Agreements (PSAs), *Choosing Health*[2] is the single most important policy driver to date for health-related social marketing in the UK. The arguments for adopting a stronger marketing approach towards health improvement initiatives and activity are laid out in Chapter 2, "Health in the Consumer Economy". This chapter focuses on the public as consumers and the influence that the media has within our lives. It recognises the need to deliver consistent messages on health (using social marketing techniques) that are easy for individuals to act upon, rather than adding to the already overwhelming amount of information that tells people what is or isn't 'good for them'. In addition, it recognises the importance of understanding different population needs and the variation in choice due to differing ethnicity, level of deprivation, socio-economic status, etc. The recent *Our health, our care, our say*[9] report builds on the commitments to health promotion and health improvement laid out within *Choosing Health*.

The National Consumer Council (NCC) is the independent non-departmental body charged with development and implementation of social marketing activity in the UK. Produced by the NCC and commissioned by the DH (as part of its delivery of the commitments detailed in *Choosing Health*), the first National Review of Social Marketing for Health - *It's our health!*[10] was launched in June 2006. The report makes recommendations on how health promotion programmes and campaigns can include social marketing for improved impact and effectiveness. The five strategic objectives identified within the report are:

1. Enhance a consumer-focused approach using the best social marketing principles and practice; putting the consumer at centre of all development and delivery.

2. Increase the effective use of resources and their overall impact by better mobilising assets and resources.

3. Improve DH leadership, prioritisation and expert commissioning roles.

4. Build capacity and skills to integrate social marketing within existing strategies and interventions at national and local level.

5. Reconfigure research and evaluation approaches for improved assessment of behavioural goals and to generate shared learning.

The National Social Marketing Strategy for Health recommended that the Government should develop successful campaigns on smoking, sexual health, salt intake and mental wellbeing, whilst incorporating information on obesity, healthy eating and physical activity in different groups. Using social marketing as a health promotion method is not exactly a new concept. Prior to *Choosing Health*, many health promotion campaigns had a social marketing element; they used marketing techniques to encourage behavioural change, but the campaigns might not necessarily have been specifically or locally 'targeted'. Many of these campaigns were developed in response to Government policy and were therefore related to performance targets. Some examples of such campaigns are detailed in Section 5.

3. EVIDENCE

Although a wide range of health promotion and social marketing style campaigns and programmes exist, there are few examples of published reviews or evaluations of this work[10]. Comments by Wanless[11] on the relative shortage of experimental or observational evidence for the effectiveness and cost-effectiveness of public health interventions are equally valid for social marketing in the UK. The report *It's our health!* highlighted the lack of a commonly applied approach to the evaluation process, and thus recommended that effective research and evaluation should be incorporated into the development of programmes and campaigns to maximise their value. When planning a social marketing campaign it is vital that adequate time and resources are allocated for an evaluation phase to be conducted to allow the impact, outcome, process and cost-effectiveness of the campaign to be determined[1]. The evaluation of social marketing campaigns can improve their credibility by determining what has worked, but just as importantly, what hasn't.

Whilst there is a clear desire on some parts to place public health practice on the same footing as evidence-based clinical medicine (EBM), several commentators have pointed out obstacles to this activity, not least the difficulty of synthesising non-randomised evidence from complex interventions with much 'softer' outcomes than are commonly used in clinical trials[12]. Aside from this, there are a number of critiques of EBM which are clearly relevant to public health[13]. In response to this gap, a number of initiatives are being planned or are underway to improve the evidence base for social marketing, and public health interventions more generally. For sources of UK and international evidence, see Box 3.

Box 3: Sources of evidence

UK

A national review of health-related programmes and social marketing campaigns was announced in *Choosing Health*. Subsequently, a series of comprehensive reports were commissioned by NSMC, to review existing evidence (national and international) for the effectiveness of social marketing interventions in the priority areas of physical activity, nutrition, alcohol, tobacco and substance misuse. Other NSMC reviews assess social marketing capacity in academic, commercial and government sectors, health economics, and a compendium of social marketing resources in the UK is being produced [Draft versions downloadable from: www.nsms.org.uk/public/default.aspx]. These reports form the basis for a series of recommendations, published in the recent NSMC report *It's our health!*

To address the need for more primary research evidence on effective intervention strategies for risk factor reduction and behaviour change, the National Prevention Research Initiative (NPRI) was formed in 2004 from a coalition of charities, research organisations and government. With a budget of £12 million over five years, the initiative will provide funds for studies "that have direct relevance on influencing health behaviours aimed at preventing or minimising smoking, alcohol misuse, and encouraging good diet and exercise"[50].

In 2005, the National Institute for Clinical Excellence (NICE) and the Health Development Agency (HDA) merged and became the National Institute for Health and Clinical Excellence (still NICE), with responsibility for reviewing and synthesising the available evidence, and wherever appropriate 'translating' this evidence into guidance on best practice for practitioners and organisations providing primary and preventative health services. To this purpose, NICE has created a 'Centre for Public Health Excellence', and to date intervention guidance has been published on physical activity and smoking cessation, with a number of other topic areas currently in development (see www.publichealth.nice.org.uk).

In order to improve accessibility to evidence from primary research, systematic reviews, and to evidence-based guidelines, there have been a number of initiatives to develop a comprehensive electronic library service for public health practitioners in the UK. The Public Health Electronic Library (PHEL) (www.phel.gov.uk) was originally developed by the HDA on behalf of the DH. However, this function is now likely to be taken over by the National Library for Health (NLH) (www.library.nhs.uk), which aims to provide a modern, integrated library service for NHS staff, patients and the public. It is expected that NLH will commission a number of organisations and agencies to develop the public health-related content of this resource, but at the time of writing this had not been announced.

International

Social marketing has a longer history in some other countries such as the USA, Canada and Australia, especially in the non-profit sector. Government buy-in has come earlier in those countries too. It is not our intention to provide a comprehensive review of evidence available from these countries but selected examples of initiatives are given below:

The US Centers for Disease Prevention and Control (CDC) developed its own approach to social marketing, which it promotes under the 'prevention marketing' brand (see www.cdc.gov/hiv/projects/pmi/). CDC administrates the Prevention Research Centers programme, which brings together a network of academic researchers, public health agencies, and community members that conduct applied research in disease prevention and control. CDC also has a Media Campaign Resource Center (MCRC), which produces a range of advertising resources (posters, videos, factsheets, etc.) as well as a 'counter-marketing manual', a comprehensive guide to developing and implementing a tobacco counter-marketing campaign.

The website 'Social Marketing Downunder' (www.socialmarketing.co.nz) provides a central resource for sharing information about research, case studies and other resources for social marketers in New Zealand, Australia, and the South Pacific.

The Australian Department of Health and Ageing (DHA) has embraced the use of social marketing for health improvement - for example, see Jane Halton's (secretary of DHA) speech to the Fifth National Public Affairs Convention

(www.health.gov.au/internet/wcms/publishing.nsf/Content/health-mediarel-yr2004-dept-deptsp04003.htm), and for social marketing campaigns relating to alcohol harm reduction strategies see www.adf.org.au/images/thinkdrink/Tom_Carroll_Jenny_Taylor_Social_marketing_and_alcohol_in_Australia_lessons_from_two_decades.pdf

4. INTELLIGENCE: Geodemographics for Population Segmentation

Successful social marketing relies on in-depth knowledge of the target population to ensure that the right message is getting to the right people. Currently, the most useful tools for learning more about a population are geodemographic (GD) classification systems. These systems are used extensively in commercial marketing programmes, primarily as a tool for audience segmentation and targeting[14]. GD systems aim to classify the population according to the type of neighbourhood in which they live, and are constructed using data from a range of sources, including the 2001 Census, socio-economic factors, housing type, consumer behaviours and preferences, and lifestyle factors[15]. The use of 2001 Census data leads naturally to a classification of Census Output Areas (OAs), but other classifications incorporate additional data from a range of lifestyle and market research databases and other sources, with the intention to generate a classification at unit postcode level[16].

GD systems are of great potential value for social marketing purposes and, as with commercial marketing, can be put to a use in a number of ways[17; 18], such as identifying and locating target groups, gaining insight into population behaviour and beliefs, mapping areas/groups with the highest need and identifying control areas (Box 4).

Box 4: Applications of geodemographic classification systems for social marketing purposes

✳ Identifying potential target groups or areas for social marketing interventions[27; 30; 51]. Further investigations can then be carried out in order to develop deeper insight into the relevant characteristics of the target groups or areas.

✳ Gaining insight about potential target groups: either using the detailed descriptive data on housing type, careers, income, consumption patterns, media access, attitudes, etc. which is available for each type or category in most GD systems, or by linking GD data with other research, marketing, and health-related datasets.

✳ Mapping potential target groups identified using other means onto a GD classification, to provide a powerful visual tool for defining geographical boundaries for an intervention, or for planning and locating new services.

✳ Identifying 'control' or comparison areas, made up of similar GD types, but in which no intervention takes place. Such comparisons can be relatively informal, but experimental evidence could be obtained from appropriately designed cluster randomised trials.

Variety of Geodemographic Systems

There are a growing number of commercial GD classification systems (such as ACORN, Mosaic, P^2 People & Places, CAMEO, Personicx), as well as the free 2001 Area Classification[19] produced by the Office for National Statistics (ONS) and the School of Geography, University of Leeds (www.geog.leeds.ac.uk/wpapers/05-2.pdf). Box 5 contains descriptions of these commonly used GD systems and a comparison of their features is detailed in Table 1. Some commercial developers produce more than one classification, or repackage the same system for different target markets, leading to even more choice. Most systems employ a hierarchical structure, identifying broad neighbourhood types that can be further broken down into subtypes according to the level of detailed required.

Box 5: Examples of geodemographic classification systems

ACORN

ACORN (A Classification of Residential Neighbourhoods) was the first GD segmentation tool developed in the UK (categorising all 1.9 million UK postcodes) and is used by businesses to improve knowledge of customers, target markets and establish the best location for their company. It utilises data from the 2001 Census and CACI's consumer lifestyle database and groups the entire UK population into categories such as 'Urban Prosperity', groups such as 'Inner City Adversity' and types such as 'Villages with wealthy commuters'. See www.caci.co.uk/acorn

CAMEO

CAMEO utilises a vast array of data including 2001 Census information, property value data and consumer credit data. This GD classification system allocates residential postcodes to marketing groups e.g. 'Poorer Family & Single Parent Households' and categories e.g. 'Young & Older Households In Housing Association & Mortgaged Homes' in Great Britain and Northern Ireland. Data are available to purchase at unit postcode level and postcode sector level. CAMEO also has an international classification enabling users to link the national specific code to a range of countries, allowing comparison of consumer types across the global marketplace. See www.eurodirect.co.uk/pages/CAMEO_UK.html

Mosaic

The Mosaic Public Sector classification dataset is derived from the commercially available postcode level classification. Commercially, it is available at postcode level, whilst the academic sector can access Lower Super Output Area (LSOA) level classifications. It classifies all UK postcodes into types e.g. 'Sharing a Staircase' and groups e.g. 'Welfare Borderline'. The dataset is available free of charge to the academic sector, through an agreement with the Census Dissemination Unit and the Joint Information Systems Committee. See http://census.ac.uk/cdu/experian and www.experianbs.com/Content.asp?ArticleID=566

National Statistics 2001 Area Classification

The National Statistics 2001 Area Classification (NSAC 2001) is a joint project between the Office for National Statistics and the School of Geography, University of Leeds. Data from Census variables are classified into super groups e.g. 'Blue Collar Communities', groups e.g. 'Accessible Countryside' and subgroups e.g. 'Accessible Countryside (1)'.
See www.statistics.gov.uk/about/methodology_by_theme/area_classification and
www.geog.leeds.ac.uk/wpapers/05-2.pdf

P^2 People & Places

The P^2 classification produced by Beacon Dodsworth uses Census 2001 and Target Group Index (TGI) data to classify people by where they live. The NWPHO commissioned Beacon Dodsworth to produce the P^2 People & Places GD classification at LSOA. This classification was derived from the commercially available Output Area (OA) level classification and involved reaggregating the source data at LSOA level and assigning each LSOA to the nearest cluster centroid obtained from the OA level classification. We present data for the 'Tree' level which identifies 14 neighbourhood types (including 'unclassifiable'). Beacon Dodsworth offers this dataset free of charge to registered NHS bodies. See www.p2peopleandplaces.co.uk/health.html

Personicx Geo and Personicx Household

Personicx Geo and Personicx Household use a variety of data such as lifestyle data from consumer surveys and warranties in addition to 2001 Census information. Personicx Geo categorises this data into clusters e.g. 'City Singletons' and is available to purchase at postcode level and postcode sector level. Personicx Household categorises UK households into unique groups e.g. 'Factory Worker Families'. See
www.acxiom.co.uk/MarketingSolutions/CustomerInformation/SegmantationGISSolutions/Personicxgeo/index.htm

Table 1: Comparison of features of geodemographic classification systems

Classification System	Produced by	Geography	No of Clusters (excluding 'unclassified')***	Availability	Construction variables*
Residential A Classification of Residential Neighbourhoods (ACORN)[52]	CACI	Household/ Postcode sector/ Individual	5 Categories 17 Groups 56 Types	Subscription	400 Census 2001(30%) CACI consumer lifestyle survey (70%)
CAMEO UK[53]	CAMEO	Unit postcode/ Postcode sector	10 Groups 58 Categories	Subscription	**Census 2001 Others e.g. consumer credit data, individual residency data
Mosaic[54]	Experian	Household/ Postcode sector	11 Groups 61 Types 243 Subtypes	Postcode sector: Subscription LSOA (aggregated): Academic use only (free)	~ 400 Census 2001 (54%) Uk Consumer Dynamic Database (46%)
National Statistics 2001 Area Classification (NSAC 2001)[19]	ONS	Output Area (OA)	7 Super Groups 21 Groups 52 Subgroups	Free	41 Census 2001
P[2] People & Places[32]	Beacon Dodsworth	OA Lower Super Output Area (LSOA)	13 Trees 40 Branches 156 Leaves	OA: Subscription LSOA: free for NHS	~ 200 Census 2001 Target Group Index (TGI) and others
Personicx Geo[55]	Acxiom	Unit postcode/ Postcode sector	60 Clusters	Subscription	**Census 2001 Acxiom demographic, lifestyle and behavioural databases
Personicx Household[55]	Acxiom	Household	52 Groups	Subscription	**Census 2001 Acxiom demographic, lifestyle and behavioural databases

* The number of construction variables may not be directly comparable, since some producers do not clearly identify methodology. Thus a single variable listed for one system may have many component measures listed as separate variables within another system.

** Number of variables not publicly available.

*** For a list of the clusters and their descriptions (where available) see www.nwpho.org.uk/synthesis/dec06

One of the largest emerging commercial sources of information for GD classification systems is shopper loyalty schemes. The numerous loyalty reward card schemes in the UK gather information on individual shopping habits, thus allowing companies to implement highly targeted marketing campaigns, directly to individuals. The data collected also allows GD analysis for the very precise stocking of specific products tailored to local populations and the precise location of new outlets. Social marketing could successfully use these methods to target health campaigns and collaborations with commercial organisations could be employed to encourage the commercial marketing of healthy products. In 2005, the three largest loyalty schemes in the UK were as follows:

1. With an estimated 18 million members[20], the **Boots Advantage card** loyalty scheme is the largest retail loyalty card scheme in the world. It is the only scheme in the UK that provides targeted, personal in-store offers[21].

2. Operated by Loyalty Management UK, the **Sainsbury's Nectar card** has some 16 million members[22]. The scheme has numerous sponsors e.g. Ford, Talk Talk and Thomson[23].

3. With a reward scheme membership in the region of 10 million, the supermarket giant **Tesco** are particularly good at using local population profiles for marketing purposes. They use a database called Crucible which contains information (demographics, socio-economic and lifestyle characteristics) on every UK household, regardless of whether they shop at Tesco[24; 25]. In addition to data provided directly by Tesco (e.g. from Clubcard applications), data from the electoral register, Census, land registry and many more is also input onto the database. Profiling and targeting of this data is conducted using a software system known as Zodiac, classifying consumers across a variety of categories (e.g. travel, living style, credit) thus revealing how an individual shops[26]. Tesco has sold access to its database to other large consumer groups such as Sky, Gillette and Orange[24].

Given the enormous variety of GD systems available and the likely expansion in the future, there are a variety of factors that should be considered when selecting a suitable classification system: geographic resolution, relative performance, the ability to link to other datasets, and possibly the most important for population health and wellbeing, the availability of robust population denominators (for more detail, see Box 6).

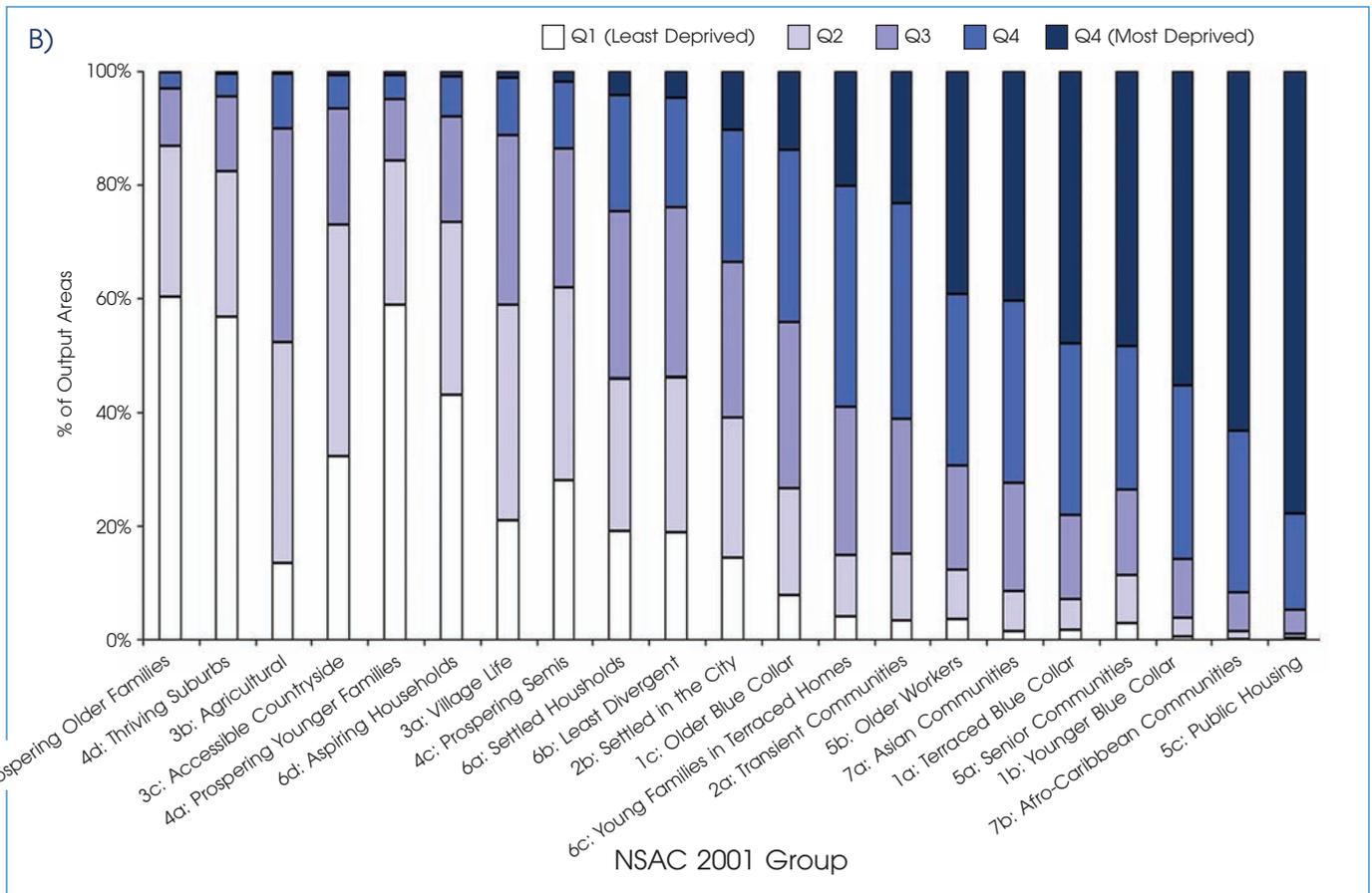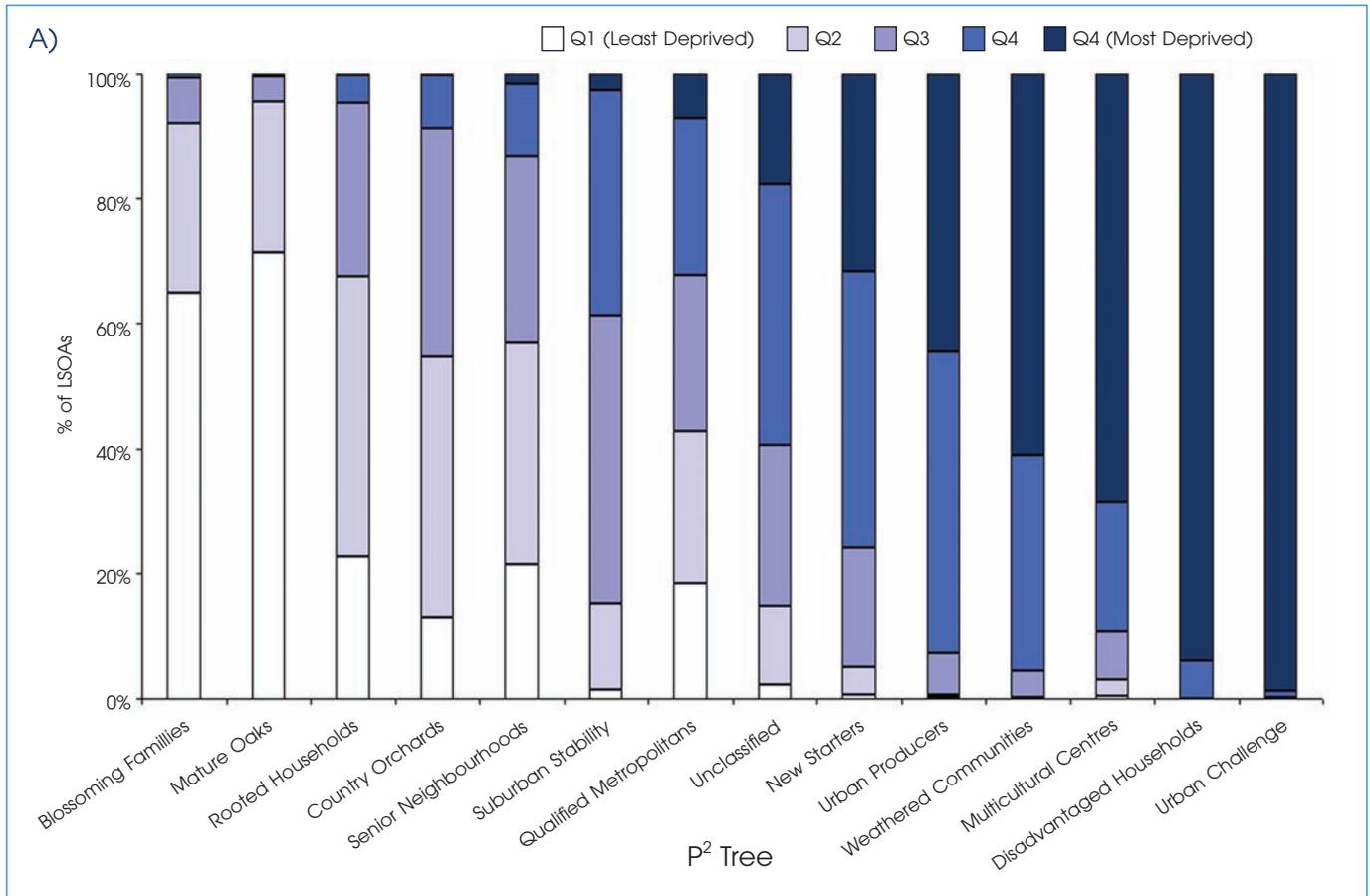## Box 6: Factors affecting choice of geodemographic classification system

❋ **Granularity, or geographical resolution:** generally, the choice of geography is between classifications at postcode level (averaging around 17 households), and at Output Area (OA) level (around 150 persons). The increased detail of a postcode level classification potentially allows more refined targeting of direct communications once a target group has been defined. However, identification of potential target groups or areas in the first place may involve comparison of illness rates or other health-related data, and reliable estimates of population denominators are not generally available below OA level. Similarly, linkage of geodemographics to other datasets requires that both are available at the same geography, and this is more likely for OAs than for postcodes.

❋ **Performance characteristics:** the choice of variables used to construct the classification, and to describe the resultant clusters, and the actual cluster generation method used will determine the performance characteristics of the classification. Relative performance should be considered over a range of indicators to identify systematic differences between classifications. Since few Primary Care Trusts (PCTs) and Local Authorities (LAs) will be looking to purchase more than one classification, a major consideration will be usability and potential for linkage to other datasets, rather than the subtle differences in performance.

❋ **Potential for linkage to other datasets:** this will be affected by the granularity of the classification. It is also important to consider the availability of other local or regional datasets that have been mapped using the same classification. The potential for linking datasets from unrelated sources is likely to be greatest if local health and social care providers adopt the same GD classification or same geographic resolution (i.e. a common currency).

❋ **Availability of denominators:** there are currently no robust population denominators available at postcode or postcode sector areas. Thus, whilst measures of health and wellbeing can be produced for GD classifications at postcoded levels, age and sex-specific rates or ratios (and sometimes even crude rates), they cannot be produced for resident populations. At other geographies, such as LSOA or larger, age-specific populations are available and more robust comparisons between GD classes can be made.

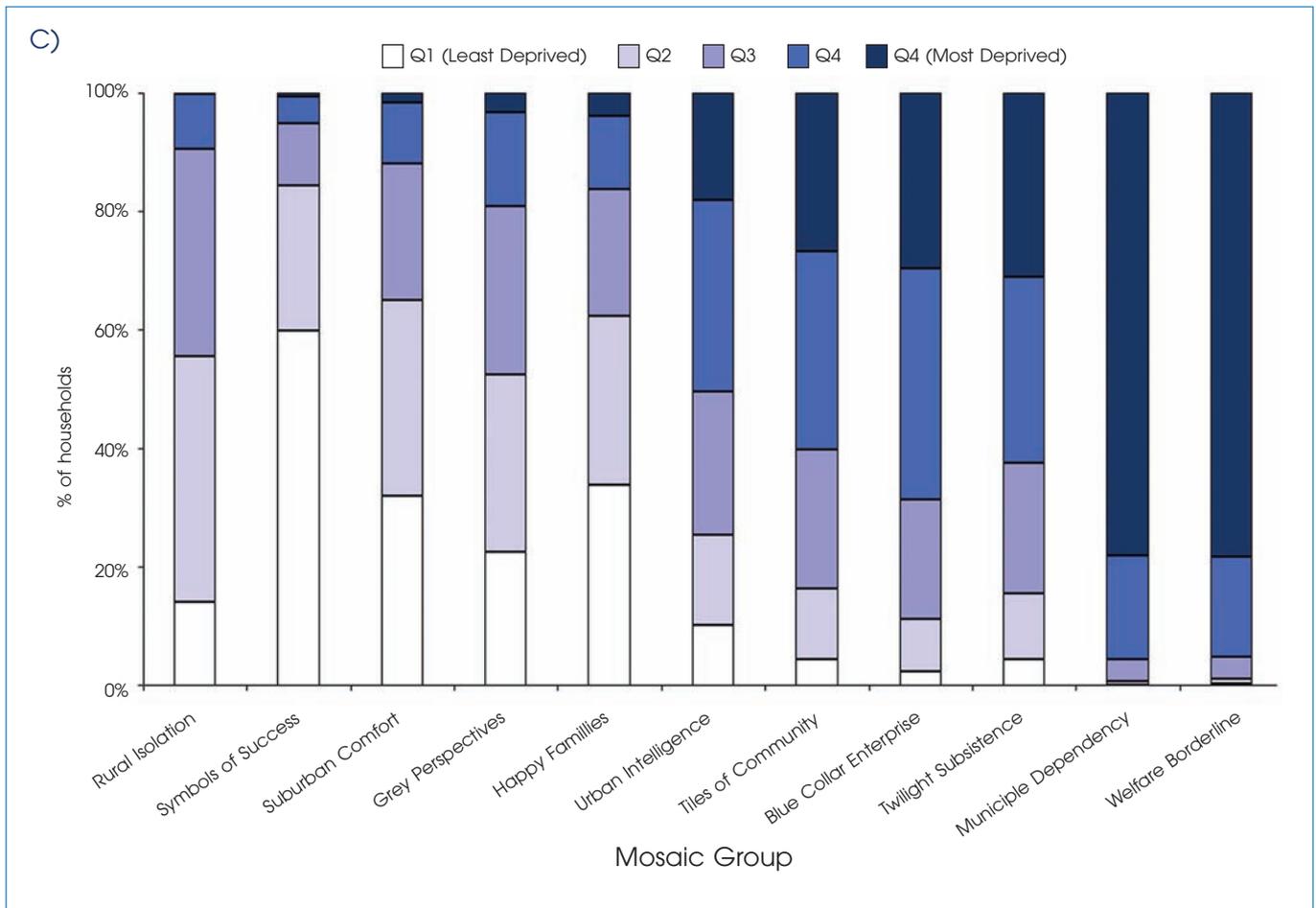### Comparison of Three Geodemographic Systems

For the purpose of illustration, we have compared three GD classification systems which are either currently in use by public health agencies or are freely available - the National Statistics 2001 Area Classifications (NSAC 2001), P^2 People & Places and Mosaic. Using data from each GD system and the Index of Multiple Deprivation (IMD 2004) at LSOA level, we calculated the proportion of LSOAs, OAs or households in each IMD 2004 quintile for the three classifications (Figure 1a-c). All three classifications are strongly related to deprivation, which is to be expected since deprivation is strongly related to consumer behaviour, and all three classifications employ in their construction a number of variables which are highly correlated with deprivation. The P^2 Trees classification shows perhaps the greatest discrimination with respect to IMD, with the proportion of LSOAs in the most deprived IMD quintile ranging from 0% (among 'Blossoming Families' neighbourhoods) to 99% (among 'Urban Challenge'). Box 7 shows the numbers of postcode, postcode sector, LSOA and Middle Super Output Area (MSOA) areas within the North West region and variation in the population and number of households within each area type.

Figure 1: Geodemographic classifications sorted by the Index of Multiple Deprivation 2004 (IMD 2004), showing the proportion of areas in each IMD quintile (Q1-Q5) for a) P² Trees b) NSAC 2001 and c) Mosaic Groups

C)

Legend: Q1 (Least Deprived), Q2, Q3, Q4, Q4 (Most Deprived)

Y-axis: % of households (0% to 100%)

X-axis (Mosaic Group): Rural Isolation, Symbols of Success, Suburban Comfort, Grey Perspectives, Happy Famillies, Urban Intelligence, Tiles of Community, Blue Collar Enterprise, Twilight Subsistence, Municiple Dependency, Welfare Borderline

Box 7: The distribution of the North West population and number of households between different geographic area types

Geography	n =	Population			Households		
		Average	Min	Max	Average	Min	Max
Postcode	198,199*	~35		~230	15**		100**
Poscode Sector	1,478	5,203	210	18,318	~2,250		~7,960
LSOA	4,459	1,526	916	5,246	642	401	1,679
MSOA	922	7,346	5,000	12,170	3,106	2,017	5,290

* Live postcodes, Gridlink Nov 2005. Source: www.statistics.gov.uk/geography/gridlink.asp

** Small user postcodes: collections of (usually) adjacent addresses. A single small user postcode may contain up to 100 addresses, but 15 is a more typical number. Source: www.statistics.gov.uk/geography/postal_geog.asp ~ Numbers estimated from the average number of people per household (2.3).

One of the suggested strengths of GD systems is their ability to segment the population according to a range of factors related to population health[27-29]. Table 2 provides a summary of the ability of different systems to segment the population according to various characteristics, namely Asian/Indian subcontinent ethnicity, elderly population, unemployment, and self-reported not good health or limiting long-term illness. For each GD system, we identified the groups with the highest and lowest proportion of their constituent populations having each characteristic, expressing this as an index relative to a national average of 100. The ratio of this index between the highest and lowest groups indicates whether the classification is able to discriminate efficiently with respect to the variable of interest (a high ratio indicates greater discrimination[iii]). Our analysis here (Table 2), consistent with findings from other studies[28], indicates that the efficiency of the segmentation varies according to the GD system used. For each of the characteristics presented, the larger ratio between the highest and lowest group for the P^2 system suggests a greater discriminatory power of this system above the other two systems.

Table 2: Comparison of segmentation variables for three geodemographic classification systems

Geodemographic System			
Segmentation Variable*	National Statistics 2001 Area Classification (NSAC 2001)[19]	P² People & Places[32]	Mosaic[54]
Ethnicity A: High B: Low Ratio (A/B)	**Indian, Pakistani, Bangladeshi** Asian Communities (427) Agricultural (14) 30.5	**Indian, Pakistani, Bangladeshi** Multicultural Centres (648) Country Orchards (6) 108	**Asian/Chinese** Grey Perspectives (188) Rural Isolation (8) 23.5
Elderly A: High B: Low Ratio (A/B)	**Aged 65+y** Senior Communities (136) Prospering Younger Families (63) 2.2	**Aged 75+y** Senior Neighbourhoods (230) Blossoming Families (39) 5.9	**Aged 65-84y** Twilight Subsistence (201) Happy Families (48) 4.2
Unemployment (age 20-34y) A: High B: Low Ratio (A/B)	**Unemployed** Public Housing (160) Prospering Older Families (63) 2.54	**Males unemployed** Urban Challenge (306) Blossoming Families (40) 7.6	**Unemployed** Welfare Borderline (262) Symbols of Success (45) 5.8
Not good health / Limiting Long Term Illness (LLTI) A: High B: Low Ratio (A/B)	**LLTI** Public Housing (111) Prospering Younger Families (91) 1.22	**Not good health/LLTI working age** Urban Challenge (220) Blossoming Families (51) 4.3	**LLTI working age** Welfare Borderline (185) Symbols of Success (59) 3.1

* Segmentation variables: for each classification, this lists the top and bottom group in terms of the variable described (e.g. unemployment, elderly population). Values in brackets give the INDEX VALUE for that characteristic, where a value of 100 represents the global average. The ratio (A/B) gives a crude indication of the segmentation ability of the classification.

[iii] Ideally, a weighted variance measure would be applied but because of the lack of access to detailed dataset components for some classifications, this is currently not possible. A full discussion of methods for evaluating and comparing GD systems is beyond the scope of this report.

Although it is clear that different classifications yield slightly different results, it would be hoped that different systems identify similar kinds of neighbourhoods, as this would increase our confidence that the clusters are not purely statistical artefacts. Figure 2 shows a cross-classification of postcodes in the North West region according to NSAC 2001 by the P^2 Trees classifications 'Multicultural Centres' and 'Suburban Stability'. Neighbourhoods classified as 'Multicultural Centres' comprise around 4.5% of the North West total, and there is a reasonably good correspondence with the NSAC 2001 Groups of 'Asian Communities' (70%) and 'Afro-Caribbean Communities' (13%). In contrast, if we consider the 13.5% of North West postcodes classified as 'Suburban Stability', we find that most of these areas are distributed fairly evenly across seven different NSAC 2001 Groups, indicating a relatively poor agreement between the two systems for this cluster.

Figure 3 shows a similar cross-classification of households in England using Mosaic Group and the P^2 Trees classifications 'Multicultural Centres' and 'Suburban Stability'. Households in the 'Multicultural Centres' (7% of the England total) are split fairly evenly across five different Mosaic Groups. Thus, at the Group level Mosaic does not appear to differentiate neighbourhoods according to the ethnic makeup of its residents. Households in the classification 'Suburban Stability' fall mainly into the Mosaic Groups of 'Ties of Community' (31%), 'Suburban Comfort' (16%), and 'Blue Collar Enterprise' (17%), indicating an intermediate level of correspondence between the two classifications for this cluster.

Charts displaying cross-comparisons of NSAC 2001 and Mosaic Groups with all 13 P^2 Trees are available online at www.nwpho.org.uk/synthesis/dec2006

Figure 2: Relationship between selected P^2 People & Places Trees and NSAC 2001 Groups – proportion of postcodes in the North West region (including Glossop)
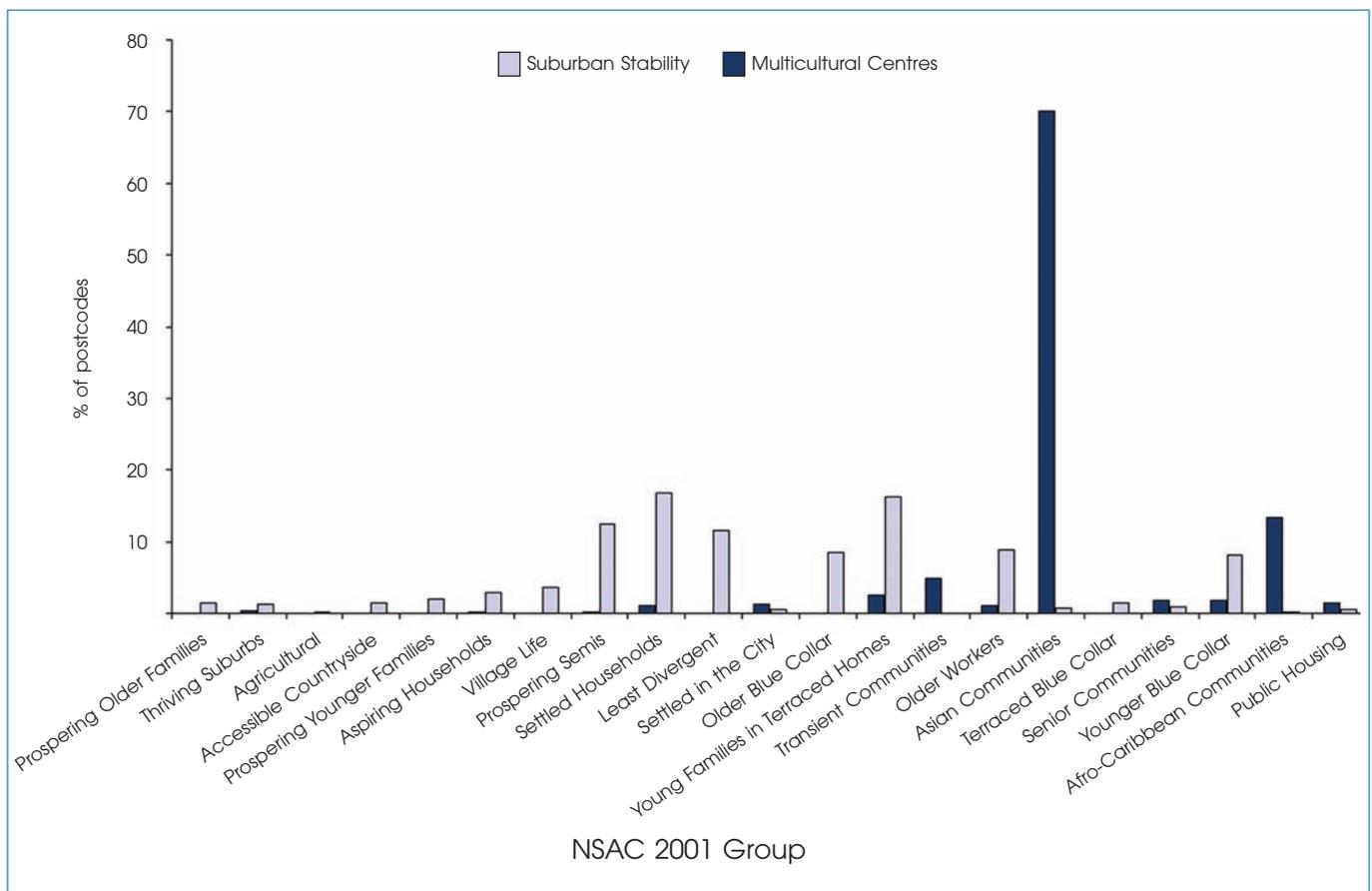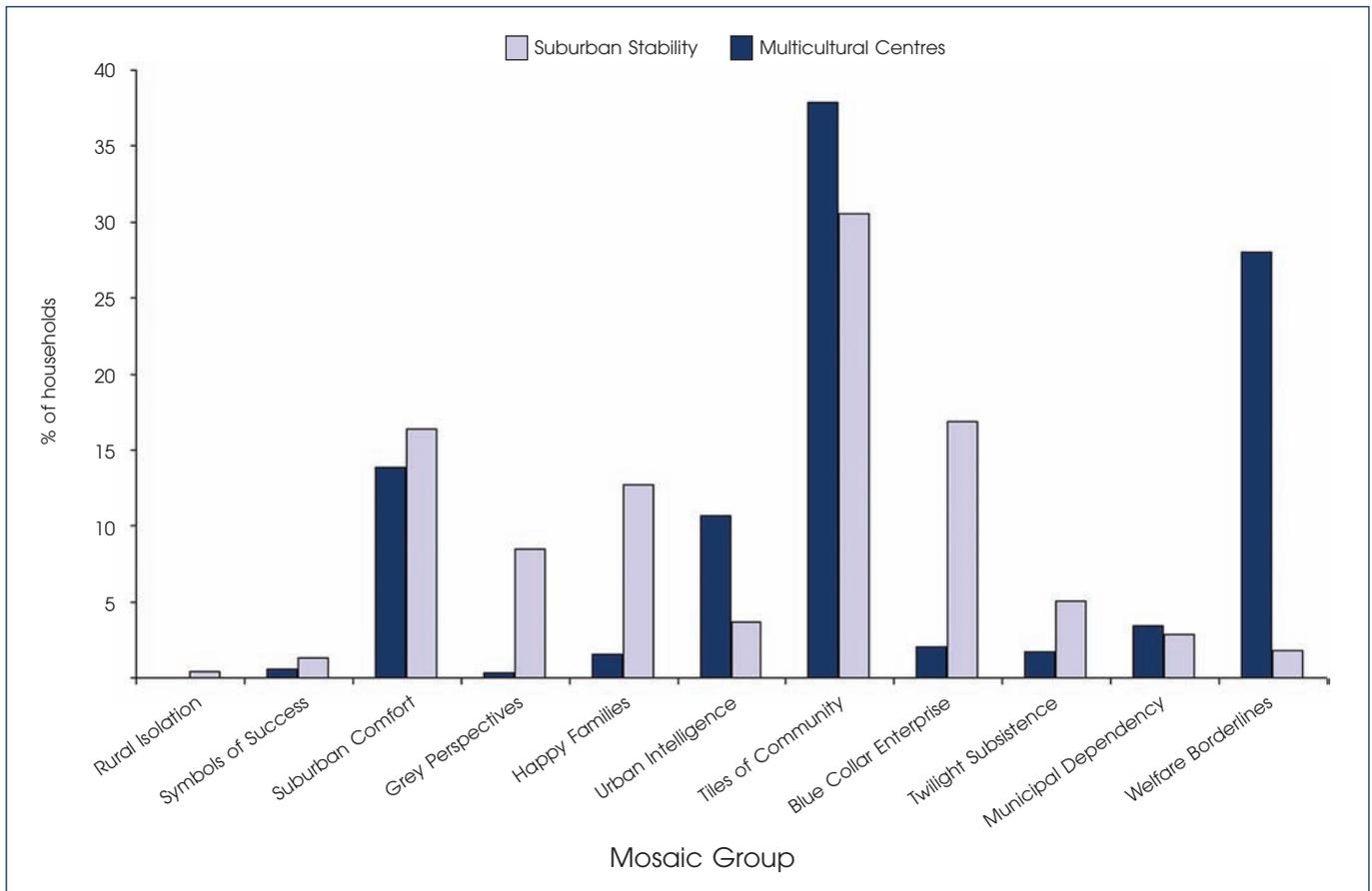
Figure 3: Relationship between selected P^2 People & Places Trees and Mosaic Groups – proportion of households in the North West region (including Glossop)

To further investigate the ability of the three GD classification systems to identify the same type of neighbourhood, we have mapped clusters of areas around Liverpool (Map 1) and Manchester (Map 2) with the highest expected percentage of persons (age-standardised) with not good health/limiting long-term illness. Each map shows NSAC 'Public Housing', P^2 'Urban Challenge' and Mosaic 'Welfare Borderline' (see Table 2). Maps 1b-d and 2b-d use primary colour shading to represent the individual GD classifications (pale red for P^2, blue for NSAC and yellow for Mosaic), whereas Maps 1a and 2a use secondary colours to demonstrate overlapping GD classifications (purple for P^2 with NSAC 2001, orange for P^2 with Mosaic, green for NSAC with Mosaic, and brown for an overlap of all three classifications). These illustrations shows that each system identifies different geographical areas, and that quite a large number of areas are covered by two classifications but relatively few areas are identified by all three systems. Thus, the different GD systems identify slightly different areas based on not good health/limiting long-term illness measures.

Map 1a-d: Examples of mapping areas with high not good health/limiting long-term illness identified by three geodemographic classification systems clustering around Liverpool
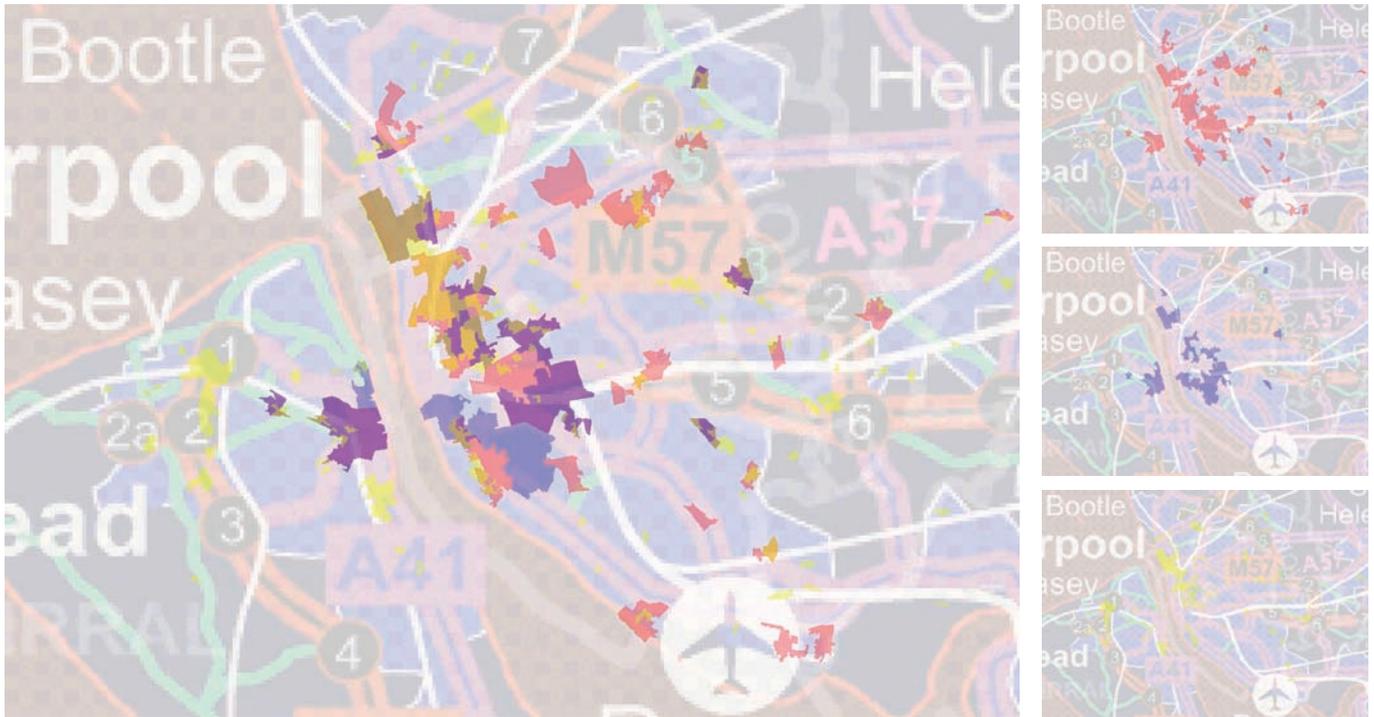
Map 2a-d: Examples of mapping areas with high not good health/limiting long-term illness identified by three geodemographic classification systems clustering around Manchester

■ P^2 classification only	■ NSAC 2001 classification only	■ Mosaic classification only	■ All three classifications
■ P^2 & NSAC 2001 classification	■ P^2 & Mosaic classification	■ NSAC 2001 & Mosaic classification	

Comparison of Health Measures by Three Geodemographic Systems

Table 2 and Maps 1 and 2 investigate the similarities and differences of the GD systems to identify geographic areas of similar population 'type'. This section looks at whether the various GD systems are able to identify similar segments of the population with the highest levels of a particular health need. Using the three systems described above, we have compared the same health condition across GD gradients to assess the practicality that local users might use these systems to target health campaigns.

Based on hospital admission, the Centre for Advanced Spatial Analysis found that targeted health promotion campaigns (using Mosaic) would be beneficial for conditions such as Chronic Obstructive Pulmonary Disease (COPD), as they are concentrated in a narrow set of areas across England[28]. Below, we have compared the analysis of COPD for Mosaic Groups to similar measures for the other two GD systems (P[2] and NSAC 2001) using age-standardised rates of hospital admissions for COPD. Table 3 shows the GD groups for the three classifications ranked by the level of COPD hospital admission. Thus, as an example, if a local programme was to target the group with the highest relative need (Table 3), then using:

* P[2] People & Places – the target population would be 'Urban Challenge', consisting of old people, living in purpose built flats, council or housing association owned homes, and in small accommodation. Unemployment and long-term unemployment is high, as is long-term illness, and incomes are low. This group is extremely likely to smoke. Households mainly consist of one person, and few own cars. There is a low incidence of qualifications, and those with jobs work in semi-routine and routine occupations[30].

* Mosaic – the target population would be 'Twilight Subsistence', consisting of people who have reached the late stage in previously independent lives and now require the support of housing and social services departments or state benefits. They either rent their homes from the public sector, or use local authority care homes. This reflects their low levels of savings and income; most do not hold any equity, either in their homes or in financial investments. Housing can be found in a number of forms: high-rise flats, small enclaves of single-storey units within larger council estates, dwellings that are part of a more organised complex in which one of the units accommodates the warden; or sheltered accommodation with common sitting and dining rooms[31].

* NSAC 2001 - the target population would be 'Constrained by Circumstance', consisting of areas with far above the national average proportion of people living in flats or public sector rented accommodation. These are areas with far below the national average proportion of people living in detached housing, with two or more cars, having gained a higher educational qualification.

Thus, many similarities emerge for the type of population identified as having the greatest risk of COPD by the three GD systems: elderly, low qualifications, living in flat/public sector rented accommodation, claiming benefits and low car ownership. Only a few factors are identified by one system only: unemployment, smoking and low savings/equity. Thus, all these GD systems would seem to enable local agencies to identify the general 'type' of person resident in a location with high need (at least for COPD). Nevertheless, the most effective local campaigns would supplement this analysis with locally acquired information (from local lifestyle surveys or focus groups) to enable social marketing to be targeted very specifically to the local population, which may differ in characteristic from the average description produced by GD methodology.

Table 3: Rank of classifications for HES COPD admission rates by three geodemographic systems (age-standardised)

Rate	P² People & Places*	Mosaic**	NCCOA
Highest	Urban Challenge	Twilight Subsistence	Constrained by Circumstances
	Disadvantaged Households	Welfare Borderline	Blue Collar Communities
	Weathered Communities	Municipal Dependency	Multicultural
	Urban Producers	Grey Perspectives	City Living
	Multicultural Centres	Blue Collar Enterprise	Typical Traits
	New Starters	Ties of Community	Prospering Suburbs
	Settled Suburbia	Suburban Comfort	Countryside
	Unclassified	Rural Isolation	
	Rooted Households	Urban Intelligence	
	Metropolitan Growth	Symbols of Success	
	Blossoming Families	Happy Families	
	Senior Neighbourhoods		
	Country Orchards		
Lowest	Mature Oaks		

* taken from *Where Wealth Means Health* report[27]

** taken from Webber R (2004) *Neighbourhood Inequalities in the Patterns of Hospital Admissions and their Application to the Targeting of Health Promotion Campaigns*[28]

How to Segment and Target Using P² People & Places

The NWPHO report *Where Wealth Means Health*[27] illustrated health inequalities across the North West through a variety of analyses, including mapping by P² People & Places GD classifications for over 60 different health conditions. This particular GD system was originally produced at OA level but was rederived to LSOA level specifically because reliable population denominators were available to allow age-standardisation across classification groups. Examples taken from this report demonstrate how different datasets (in this case, prevalence of mental health conditions and claimants of Disability Living Allowance[iv]) analysed by GD classification can assist in the targeting of particular areas/population groups. The GD groups are ordered by deprivation based on the IMD 2004 income domain score; from left, 'Mature Oaks' being the least deprived, to right, 'Urban Challenge' being the most deprived.

Figure 4 shows an increasing rate of hospital admission for mental health conditions by GD lifestyle group. As expected, the most deprived group 'Urban Challenge' has the greatest level of mental health need; the next two most deprived groups 'Disadvantaged Households' and 'Multicultural Centres' also have high need as expected from the level of deprivation. However, 'New Starters' also show significantly high levels of mental health illness; much greater than would be expected from the deprivation gradient. Thus, a local social marketing campaign to improve mental illness in the North West might aim to target the 'Urban Challenge' areas based on greatest expected overall need or on areas that are not necessarily deprived but have a known excess need, such as 'New Starters'. Location of these areas in a local patch is achieved by mapping areas classified as the groups with highest need (Map 3).

Similarly, the proportion of people claiming Disability Living Allowance also varies by GD lifestyle group (Figure 5), with those in the 'Urban Challenge' category being over four times more likely to claim than the 'Mature Oaks' group.

[iv] A social security benefit paid to adults who have an illness or disability requiring care or mobility support, or those who are terminally ill.

However, the trend reveals lower than expected levels of claimants in the 'Qualified Metropolitans', 'New Starters' and 'Multicultural Centres' groups than the deprivation gradient would suggest. Thus, these three groups might be specifically targeted to encourage a greater level of social benefit claims to reduce apparent inequities.

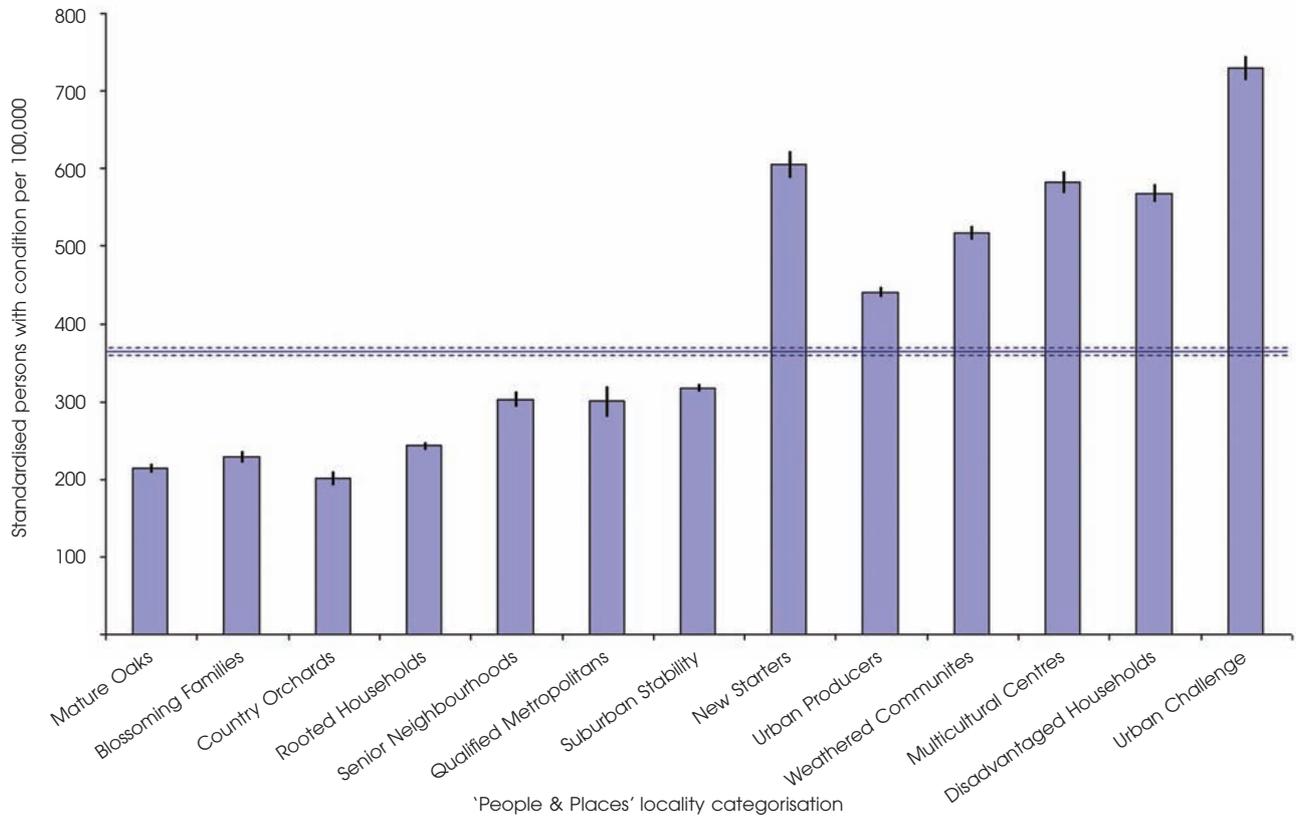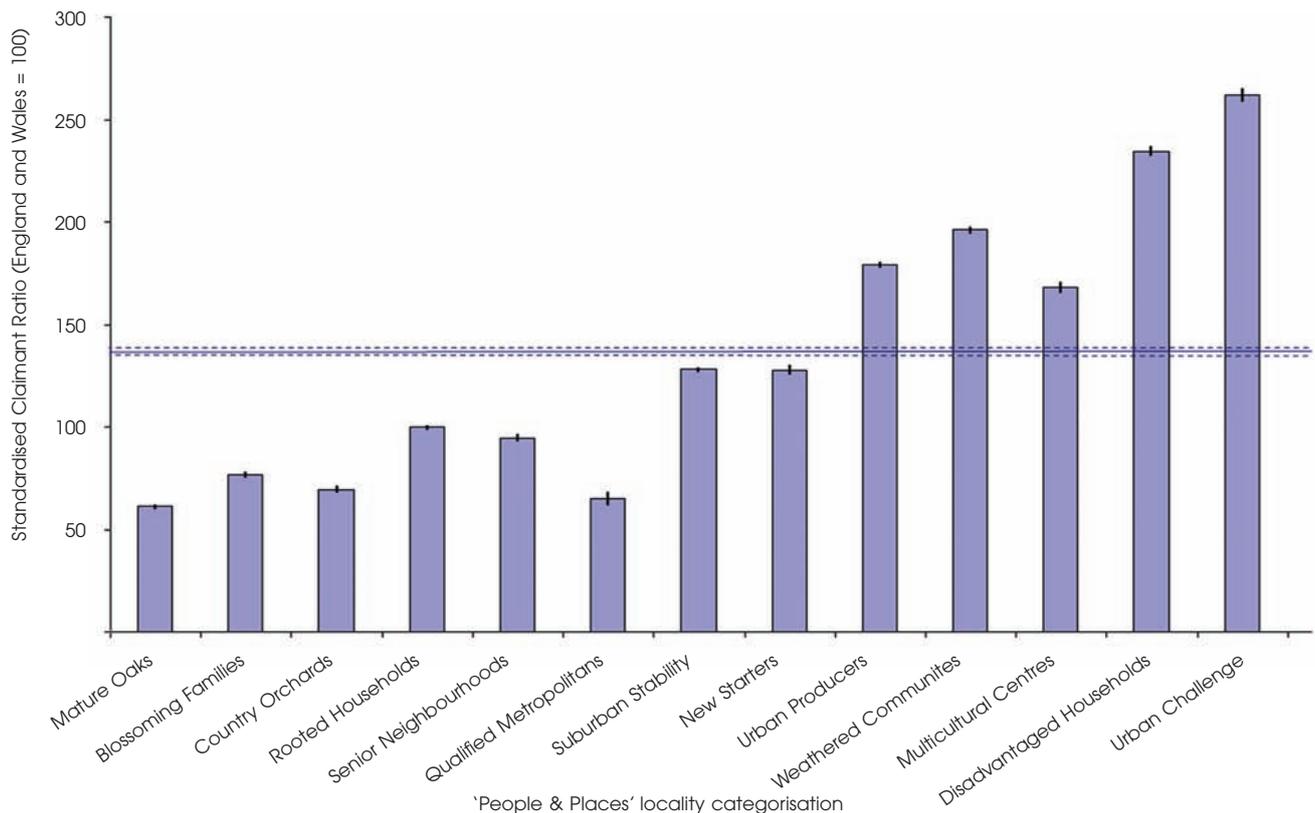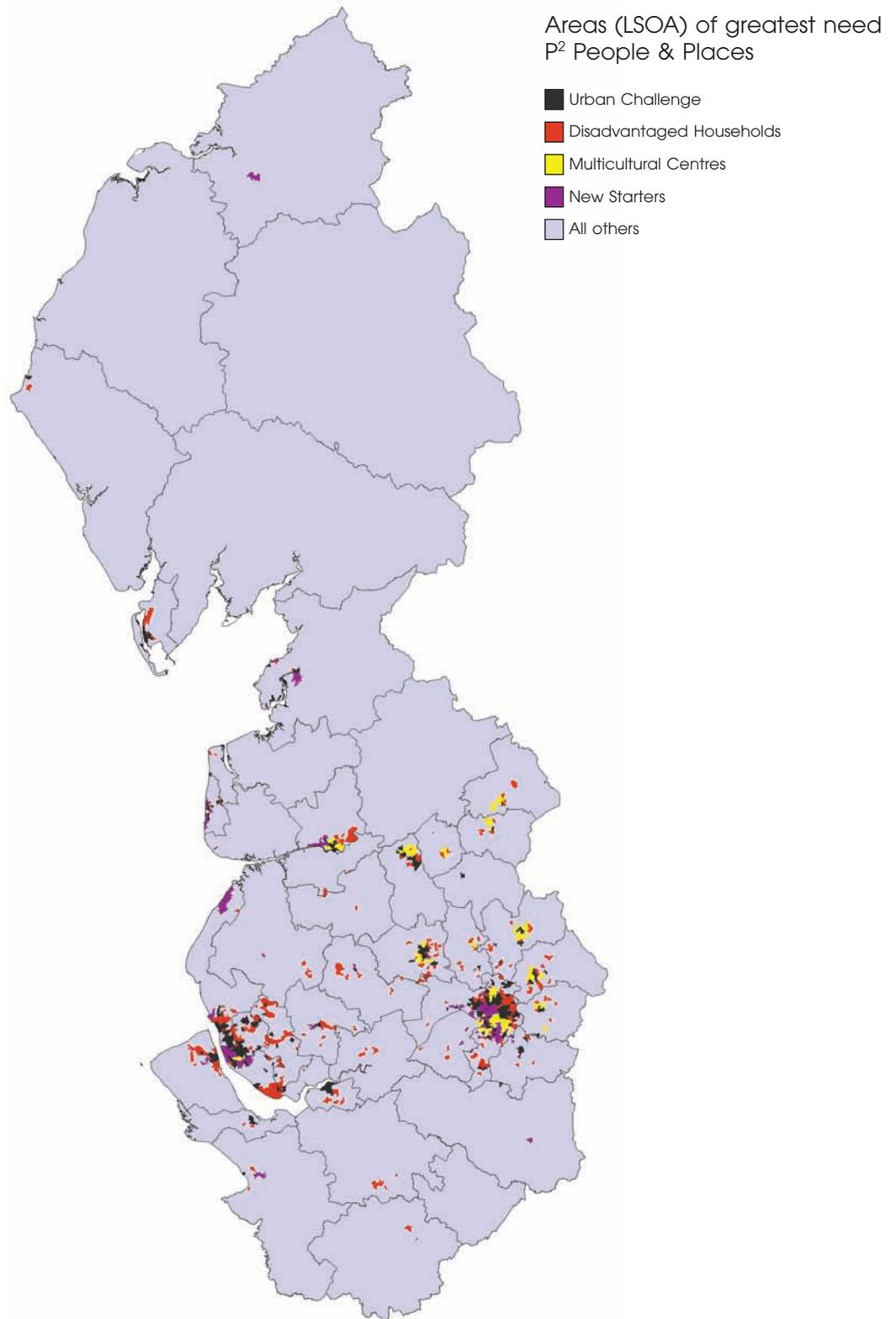**Figure 4: Prevalence of hospital admission for mental health conditions - North West residents: 1998-2002**

Figure 4: Prevalence of hospital admission for mental health conditions - North West residents: 1998-2002

Map 3: Map showing the Lower Super Output Areas classified by P^2 People & Places with the highest prevalence of mental health conditions (as identified from Figure 4)

Areas (LSOA) of greatest need
P^2 People & Places

- Urban Challenge
- Disadvantaged Households
- Multicultural Centres
- New Starters
- All others

Source: 2001 Census, Output Area Boundaries, © Crown copyright 2006.
Crown copyright material is reproduced with the permission of the Controller of HMSO.

5. SOCIAL MARKETING IN ACTION

Historically, there have been many health promotion campaigns that have utilised social marketing techniques and this is increasingly seen as a way to encourage behavioural change. As technological advances continue, commercial marketing techniques are able to rapidly adapt and change; for example, Tesco increasingly use shopper-collated information to target sales promotions[25]. Also, the use of online marketing is growing, which is a particularly powerful medium for targeting young people. A recent study in the USA analysed online advertising of food to children and found that 85% of the top food brands that use TV advertisements to target children also market online via branded websites. Many sites include interactive content such as games and promotions which young people find appealing[32].

Examples of ongoing social marketing campaigns in the North West region are detailed below as well as some national campaigns that might, at first sight, not seem like social marketing. However, the techniques employed by these campaigns are attempting to use commercial marketing techniques, where there may be room for improvement if lessons learned from the commercial sector were applied. The successful delivery of health-related campaigns requires up-to-date use of modern techniques and media (such as online marketing).

A) NORTH WEST EXAMPLES

Several groups within the North West are conducting social marketing-based health promotion campaigns.

D-MYST

Based in Liverpool, Direct Movement by the Youth Smokefree Team (D-MYST) is a smokefree campaign run by and for young people. Their aim is to educate and raise awareness amongst peer groups about the dangers of tobacco, the manipulative marketing techniques employed by the tobacco industry and the positive benefits of smokefree workplaces. It is hoped that the provision of such information will assist young people in making informed choices. For further information about D-MYST go to www.d-myst.info
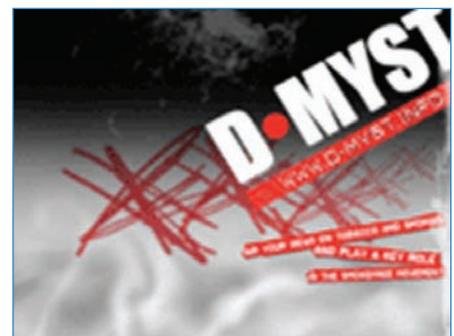

Image source ©: www.d-myst.info

Big Noise Group

In 2005, the Cheshire and Merseyside Partnerships for Health (ChaMPs) formed the Big Noise Group whose function is to work on social marketing activity using the NSMS 'total process planning model'. The first phase of this activity is to develop and implement a social marketing intervention to change the snacking habits of children during a 'danger time zone' (after childcare and from 4pm onwards). The group is developing a number of co-ordinated interventions such as education, commercial link ups and existing Sure Start centres. The group are now at the development phase of the project. Further information about the Big Noise Group is available at www.nwph.net/champs

Heart of Mersey

Launched in 2003, Heart of Mersey is the largest coronary heart disease prevention programme in England. It is responsible for a number of high profile and often hard-hitting social marketing campaigns on subjects such as smoking and poor diet. Their most recent campaign is entitled '4000 reasons' and provides information to the public about the dangers of secondhand smoke and the 4000 dangerous chemicals that it contains. Further information about the Heart of Mersey and their social marketing campaigns is available at www.heartofmersey.org.uk and www.4000reasons.org.uk

Image source ©: Heart of Mersey

Image source ©: HIT

Crystal Clear

CRYSTAL CLEAR® is a multicomponent social marketing campaign developed by HIT (a Liverpool-based drug training and information centre) with the aim of reducing glass-related injuries and alcohol-related violence in and around pubs, bars and clubs. This campaign has been running across many parts of the UK, including Merseyside, Cheshire, Blackburn with Darwin, Accrington, and Blackpool. In addition to some of the more standard promotional materials (e.g. posters, leaflets), the campaign also uses a wide range of more creative promotional materials such as beer mats, t-shirts, football programmes, bus rears, escalator panels, taxis and electronic advertising at football grounds[33]. In 1999, an independent evaluation of the campaign[34] found that admissions for violently inflicted glass injuries to the main city centre hospital were reduced by over 50% during and after the campaign. As a result, in 2001 the campaign received a Tilley Award (under the Crime Reduction category). For further information about HIT and the CRYSTAL CLEAR® see www.hit.org.uk

ACTIVATE Pendle

ACTIVATE Pendle is a community development/health trainer project which encourages and supports people in Pendle to make healthier lifestyle choices with the aim of reducing the high incidence of heart disease and Type 2 diabetes in the population. Consultation identified a need for a personalised approach, and so Living Well Groups were set up to facilitate small groups of participants to identify and respond to national messages about lifestyle change. These meetings provoke thought and discussion around a range of health issues and allow the group to 'spontaneously' identify how they are going to make personal changes. A second strand of the project is 'healthy choices in cafés' with a number of local cafés working in partnership with Pendle Environmental Health Department to:

- Highlight healthier choices and encourage cafés to provide more healthier options;

- Provide healthier messages to people otherwise not reached;

- Support smoking cessation and tobacco control; and

- Support the wider public health agenda.

Further information about ACTIVATE Pendle is available at www.pendlelearningnetwork.org.uk/providers_info.asp?id=30

Image source ©: Activate Pendle

Image source ©: Altn8
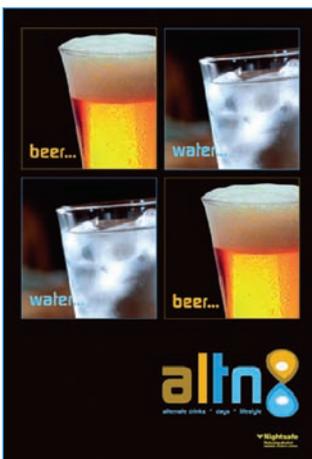
ALTN8 (Alternate)

The Altn8 campaign targets 18-44 year olds and aims to minimise alcohol-related harm through the message: *Alternate drinks, Alternate the days you drink, Alternate Venues*. The campaign was developed by Blackpool PCT in response to a survey which revealed the need for a simple and achievable solution focused approach. The survey highlighted popular drinking locations and places of purchase as well as details of the most listened to radio stations. This information was used to target the promotion of the campaign, such as advertising on Rock FM at popular times and conducting in-store promotions at selected supermarket chains. Altn8 has also been promoted on bus back ads, advans and posters as well as the distribution of campaign materials such as mobile phone charms and sweatbands.

The campaign has been well received and there has been a great deal of interest from across the country. A number of local agencies have now adopted the campaign in their area, such as Hyndburn and Ribble Valley PCT, Blackburn with Darwen PCT and Morecambe Bay PCT. For further information contact: Ian Treasure, Alcohol Harm Reduction Policy Officer on 01253 651041 or ian.treasure@blackpoolpct.nhs.uk

B) NATIONAL EXAMPLES

Many national strategies aim to modify the behaviour of certain sections of the population by employing targeted campaigns. It is often not disclosed how these campaigns target specific population groups but national policy is increasingly encouraging a social marketing-based approach to improve and evaluate the effectiveness of such campaigns[10].

Drugs

Image © Crown copyright 1995-2006.
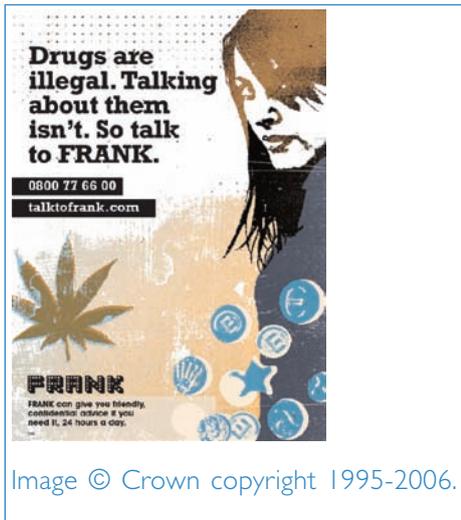
One of the PSA targets underpinning the Government's drug strategy (1998, updated in 2002) is to reduce the use of Class A drugs and the frequent use of any illicit drug among all young people under the age of 25, especially by the most vulnerable young people[35]. In addition, Indicator 27 of *Opportunity for all* is 'A reduction in the use of drugs by 16-24 year olds in the last year (England and Wales)[36]'. The report *Every Child Matters: Change for Children, Young People and Drugs*[37] highlighted the need for services to be built around the needs of children and young people, in particular those most vulnerable to drug misuse. The *Young People Delivery Plan*, as agreed by the Department for Education and Skills, the Home Office and the DH, complements this report. These three government departments are working together to achieve a reduction in serious drug use amongst young people. Their national drug awareness campaign 'FRANK'[38] (launched in 2003) is a drug information service which has been widely publicised through various media channels (e.g. TV, radio, website - www.talktofrank.com). Targeting young people, parents and carers, 'FRANK' aims to increase their awareness of the risks and dangers associated with Class A drugs.

DARE (Drug Abuse Resistance Education)[39] is a British charity whose philosophy is 'prevention is better than intervention'. It provides a proactive drugs education programme to young people and parents. The programme is designed to provide information about the dangers of drug misuse (including alcohol and tobacco), and to develop the appropriate life skills needed to resist peer pressure. It also educates young people about healthy living and provides them with coping skills to avoid violent behaviour. DARE uses trained police officers to deliver a course in primary schools and works with teachers to offer other programmes to secondary schools. There is also a pilot after-school and holiday programme being run in Nottinghamshire aimed at providing positive activities during peak times of youth crime and disorder. Adult courses include the Stronger Families (parenting course) and the workplace programmes. More recently, DARE launched the DARE Sport initiative, encouraging young people to be motivated and focused through sport.

Studies of the American DARE programme have found little evidence to support DARE's effectiveness[40]. However, the same evaluations have not been conducted for the UK-based DARE programme. Further information about DARE UK can be found at www.dare.uk.com

Image source ©: D.A.R.E. UK

Images © Crown copyright 2006:

Road Safety

A key target detailed in the Government's policy strategy document *Tomorrow's roads: safer for everyone*[41] is to reduce road deaths and serious injuries by 40% (50% for children) by the year 2010. The Department for Transport (DfT) is working towards this target in a variety of ways, and since 2000 has used the banner 'THINK!'[42] to promote road safety messages (walking, driving or riding). There are many 'THINK!' campaigns on a variety of road safety issues such as drug driving, seatbelt use, driving tired and child car seat safety. One of their larger campaigns is on drink driving. In the UK, drink driving has decreased significantly over the years (1,600 fatalities in 1976 to 590 in 2004). Despite this drop, the Government is aware that the issue must be kept fresh in the mind of the public to prevent complacency. The DfT (supported by a wide range of organisations) have promoted their drink driving campaign under the brand of 'THINK!' through various media such as TV, radio, cinema, posters, leaflets, etc. Targeting of the campaign is determined using monthly tracking reports into driver attitudes and behaviour and is aimed primarily at 17-29 year old males. Further information about 'THINK!' is available at www.thinkroadsafety.gov.uk


Image source ©:
The Portman Group

Responsible Drinking

The Government recognises the need to change attitudes towards irresponsible drinking and behaviour. A number of measures aimed at changing these attitudes were detailed within the *Alcohol Harm Reduction Strategy for England* (2004)[43].

Choosing Health identified a number of measures aimed at reducing alcohol misuse, such as working with the Portman Group to cut down binge drinking, and a new information campaign. The Portman Group promotes responsible drinking through campaigns such as their 'If you do do drink, don't do drunk'[44] campaign which aims to raise awareness of the adverse consequences of excessive drinking amongst young people aged 18-24 years. This campaign not only utilises the more traditional media channels (TV, radio, posters) but also uses some more innovative channels such as postcards, advans, viral emails, cinema adverts and even viewrinals (TV in toilets). The Government, alcohol industry and key stakeholders have joined forces to launch the Drinkaware Trust (www.drinkawaretrust.org.uk), a new independent charitable organisation aimed at promoting sensible drinking. This project is a development of the Portman Group Trust (a charitable arm of the Portman Group). The drinkaware website (www.drinkaware.co.uk) is the consumer end of the Drinkaware Trust, providing information about responsible drinking to encourage consumers to make informed lifestyle choices in relation to their drinking habits. For more information about the Portman Group go to www.portmangroup.org.uk

Image © Crown copyright 2005
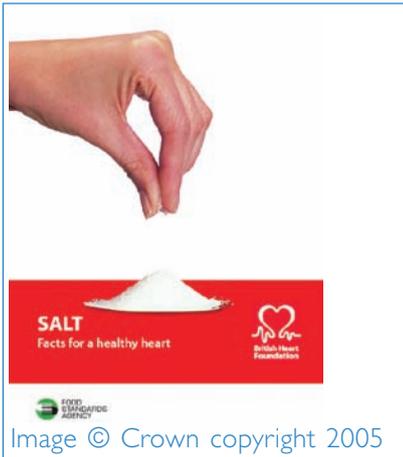
Food Behaviour

Following the 2003 Scientific Committee on Nutrition (SACN) report *Salt and Health*[45], the Food Standards Agency (FSA) set a target to reduce adults average daily salt consumption to 6g by 2010. As part of the activity to achieve this target, the FSA initiated a salt campaign to provide information about healthy levels of dietary salt and encourage adults to meet the recommended targets. The campaign uses a range of media channels such as a website (www.salt.gov.uk), various publications and its 'check the label' TV advertisement. The FSA is working with a number of organisations to promote its campaign and developing salt-related initiatives. For example, the British Dietetic Association is developing healthy diet recipe cards to educate ethnic groups and those with learning disabilities and the Blood Pressure Association ran adverts in magazines such as Reader's Digest linking in with their 'Know Your Numbers!' blood pressure testing and awareness week.

Influenza ('Flu') Campaign

Image © Crown copyright 2005
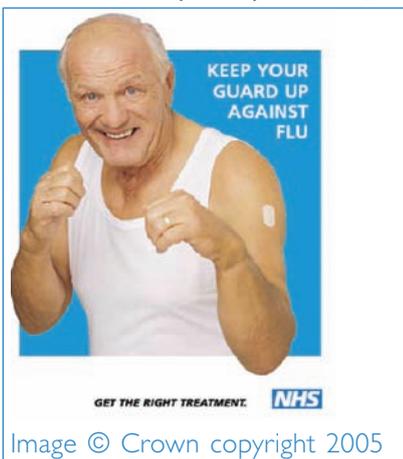
Aimed at preventing an Influenza (flu) epidemic, the Government has been running high profile flu campaigns for a number of years. Flu is a highly contagious acute viral infection which is particularly dangerous for the very young and elderly. The Government recommends immunisation for people aged 65 years and over, with an overall national target of 70% uptake of immunisation for people of these ages. The winter 2002/03 campaign was fronted by the former heavyweight boxing champion Henry Cooper in a bid to appeal to older, at risk groups. Adverts ran in the national press and on daytime television with the slogan 'Keep your guard up against flu.' More recently, the winter 2005 flu campaign aimed to promote the importance of immunisation for those most at risk through a variety of media such as leaflets, posters, bus headliners, television commercials and press advertisements[46]. Further information was also made available on the NHS immunisation website www.immunisation.nhs.uk

6. CONCLUSIONS AND RECOMENDATIONS

When planning a social marketing campaign there are a number of important factors that the agencies need to consider, such as:

1. *The timing of the campaign, e.g. seasonality* - a campaign to promote the use of sunscreen for prevention of skin cancer would not be appropriate during the winter season.

2. *The language that is used* - not just the translation, but also the terminology most suited to the target audience can greatly affect the success of the campaign.

3. *Brand development and protection* – if the NHS is conducting campaigns, there must be a suitable level of validation (quality control) to keep their value.

4. *Selecting an appropriate spokesperson* – the person who fronts the campaign should have the necessary knowledge to ensure the public has confidence in the campaign, reassuring them that the campaign's message is correct and that adopting the suggested changes in behaviour will be beneficial.

For effective social marketing, appropriate segmentation of the local population is required and geodemographic (GD) systems are a method to assist with this process. With the growing interest in health and public sector applications of GD segmentation systems, commercial vendors are beginning to aggressively market their systems to Primary Care Trusts (PCTs), Strategic Health Authorities (SHAs) and local authorities (LAs).

In selecting any particular GD classification that enables local campaigns to be effectively targeted, there are a number of issues that need to be addressed, and there are additional caveats associated with all GD systems and barriers to their use, for example:

1. There is a bewildering choice of competing classifications, coupled with aggressive marketing. In Section 5, we have attempted to illustrate some differences between three commonly used systems that should raise awareness of what local agencies should look for when selecting a GD system.

2. It is difficult to systematically evaluate and compare different systems, due to commercial sensitivity of the construction methods and the data used. This synthesis report has some observations on how different GD systems perform when analysing patterns of the same health condition (COPD).

3. Access to training and support for the use of various GD systems is currently limited. With many time and resource constraints on local analysts, the ability to investigate models of application for new and emerging techniques is limited.

4. Lack of empirical testing and evaluation of the application of GD systems and social marketing. All local interventions should undertake an evaluation of the programme.

5. Availability of robust and nationally available population denominators for small geographic areas are crucial to enable not only valid comparisons of health need between groups but also for the ability to accurately monitor trends and carry out effective evaluations. The production of regular updates to small area populations is also required, which is one reason why GD systems constructed at the LSOA Level provide a greater level of accuracy for analysis.

Roles of Primary Care Trusts and Local Authorities

Many social marketing campaigns will require a multi-agency and multi-disciplinary approach. However, PCTs or LAs are likely to play a central role, as they are responsible for delivery against the targets for population health, wellbeing and inequalities. One issue is that capacity and resources are at an early stage of development. In considering whether to engage in particular campaigns, these organisations will need to balance local, regional and national targets and priorities. It will be necessary to assess both the potential impact of a successful campaign, in terms of reductions in health inequalities, and the likelihood that the campaign will be successful in the selected target group(s). As capacity develops in the region, it is expected to generate a need for new types of information and intelligence to support this activity.

Roles of Public Health Observatories

Public Health Observatories (PHOs) play a central role in the provision and dissemination of regional and local public health information and intelligence, including in the evaluation and use of GD techniques. Observatories are promoters of and advocates for the collection of robust high quality health-related information and intelligence, and both *Delivering Choosing Health*[47] and the Public Health Information and Intelligence Strategy[48] recommended strengthened roles for PHOs.

There are a number of ways in which NWPHO might support local and regional social marketing initiatives. These include:

✳ Identifying small areas that are known or expected to experience particular health issues. One problem with small area data is that illness rates are difficult to estimate reliably, due to small numbers of events. For the analysis presented in *Where Wealth Means Health: Illustrating Inequality in the North West*[27], illness and population data from LSOAs are pooled in order to provide more stable estimates of illness rates within each segment. Information from such analyses can be used by PCTs or LAs to select potential target areas where interventions might have the greatest impact.

✳ Using our expertise in Geographical Information (GI) and other mapping techniques, we can consistently illustrate geographical variation in illness rates at small area level, thus providing a powerful tool for selecting potential targets for social marketing interventions.

✳ With greater access to various GD systems and the capacity to carry out evaluation and comparison of different classifications and other segmentation tools, NWPHO can provide support and training on the use of these methods as well as negotiating access to datasets to improve region-wide population segmentation. If necessary, we also co-ordinate consortium purchases of datasets and licences for local partners.

✳ NWPHO can collate information from local lifestyle surveys and other population-based research to supplement the detailed information from GD typologies and generate an enhanced picture of the overall health experience in different neighbourhood types[49].

✳ NWPHO can contribute to the evaluation phase of a social marketing intervention in a number of ways:

  ○ Through provision of baseline and longitudinal health-related datasets to monitor temporal trends before, during, and after the period of the intervention.

  ○ Identification 'control' areas which have similar characteristics, but which did not receive the intervention, for comparison with the areas receiving the intervention. This informal 'benchmarking' can be extended to include design of cluster randomised trials.

  ○ Working with partner organisations to develop a region-specific evidence base for public health interventions. Local context is extremely important for understanding the target markets, and is not generalisable from studies conducted in other populations.

7. REFERENCES

1. National Social Marketing Centre for Excellence (2005). *Social Marketing Pocket Guide*. National Consumer Council.

2. Department of Health (2004). *Choosing Health: Making Healthier Choices Easier*. London: The Stationery Office.

3. Kotler, P and Zaltman, G (1971). Social Marketing: An Approach to Social Change. *Journal of Marketing* 35[3], 3-12.

4. Center for Advanced Studies in Nutrition and Social Marketing (2006). *Introduction to Social Marketing* [Online] Available at http://socialmarketing-nutrition.ucdavis.edu/ [Accessed 21-8-2006].

5. Nedra Kline Weinreich (1999). What is Social Marketing [Online] Available at www.social-marketing.com/Whatis.html#anchor1378023 [Accessed 21-8-2006].

6. National Social Marketing Centre (2005) What is Social Marketing? [Online] Available at www.nsms.org.uk/public/default.aspx?PageID=10 [Accessed 18-7-2006].

7. Grier, S and Bryant, CA (2005). Social Marketing In Public Health. *Annual Review of Public Health* 26[1], 319-339.

8. Hasting, GD and Haywood A (1991). Social marketing and communication in health promotion. *Health Promotion International* 6[2], 135-145.

9. Department of Health (2006). *Our health, our care, our say*: a new direction for community services. The Stationery Office. ISBN 0101673728.

10. National Consumer Council (2006). *It's our health!* National Social Marketing Centre. ISBN 1-899581-89-8.

11. Wanless, D (2004). *Securing Good Health for the Whole Population: Final Report*. London: HM Treasury/Department of Health. ISBN 0-947819-98-3.

12. Kelly, MP, Speller, V, and Meyrick, J (2004). *Getting Evidence into Practice in Public Health*. London: Health Development Agency. ISBN 1-84279-267-9.

13. Lambert, H, Gordon, EJ, and Bogdan-Lovis, EA (2006). Introduction: Gift horse or Trojan horse? Social science perspectives on evidence-based health care. *Social Science & Medicine* 62[11], 2613-2620.

14. Webber, R (2004). Designing geodemographic classifications to meet contemporary business needs. *Interactive Marketing* 5[3], 219-237.

15. Batey, PWJ and Brown, PJB (1994). Design and construction of geodemographic targeting systems. *Journal of Targeting, Measurement and Analysis for Marketing* 3, 105-115.

16. Webber, R and Farr, M (2001). MOSAIC: From an area classification system to household classification. *Journal of Targeting, Measurement and Analysis for Marketing* 10[1], 55-65.

17. Jones, CE, Longley, PA, and Webber, R (2005). *Who does not eat their greens? Geodemographics, health promotion and neighbourhood health inequalities.* Centre for Advanced Spatial Analysis. University College London.

18. Longley, P (2005). Geographical Information Systems: a renaissance of geodemographics for public service delivery. *Progress in Human Geography* 29, 57-63.

19. Office for National Statistics (2006). National Statistics 2001 Area Classification [Online] Available at www.statistics.gov.uk/about/methodology_by_theme/area_classification/ [Accessed 12-7-2006].

20. Butcher, J (2005). Boots appoint GEO [Online] Available at www.geoltd.co.uk/default.asp?menuitemID=15 [Accessed 29-8-2006].

21. Branding Asia.com (2006). Boots the Chemist [Online] Available at www.brandingasia.com/cases/boots.htm [Accessed 29-8-2006].

22. The Independent (2005). A trip to Alton Towers? That'll be £2,000, please. [Online] Available at http://money.independent.co.uk/personal_finance/loans_credit/article305643.ece [Accessed 29-8-2006].

23. Loyalty Management UK (2006). LMUK Overview [Online] Available at www.loyalty.co.uk/about_lmuk.html [Accessed 29-8-2006].

24. Dunnhumby (2006). Tesco: Becoming a giant [Online] Available at www.dunnhumby.com/relevance/case_tesco.htm [Accessed 26-7-0006].

25. Tomlinson, H and Evans, R (2005). Tesco stocks up on inside knowledge of shoppers' lives. [Online] Available at http://business.guardian.co.uk/story/0,3604,1573821,00.html [Accessed 26-7-2006].

26. Hickman, L (2005). Is it OK…to use loyalty reward cards? [Online] Available at http://money.guardian.co.uk/ethicalliving/story/0,,1579276,00.html [Accessed 26-7-2006].

27. Wood, J, Hennell, T, Jones, A, Hooper, J, Tocque, K, and Bellis, MA (2006). *Where Wealth Means Health*: *Illustrating Inequality in the North West*. Liverpool: North West Public Health Observatory. ISBN 1-902051-77-7.

28. Webber, R (2004). *Neighbourhood Inequalities in the Patterns of Hospital Admissions and their Application to the Targeting of Health Promotion Campaigns.* London: UCL. ISBN 1467-1298.

29. Tickle, M., Blinkhorn, A. S., Brown, P. J. B., and Matthews, R. (2000). A geodemographic analysis of the Denplan patient population in the North West Region. *British Dental Journal* 189[9], 494. Nature Publishing Group. 00070610.

30. Beacon Dodsworth UK (2005). People and Places [Online] Available at www.beacon-dodsworth.co.uk/p2/ [Accessed 20-12-2005].

31. Experian Business Strategies Division (2006). *MOSAIC United Kingdom.* UK.

32. Henry J. Kaiser Family Foundation (2006). *It's Child's Play*: *Advergaming and the Online Marketing of Food to Children.* USA: The Kaiser Family Foundation.

33. HIT (2006). CRYSTAL CLEAR® - Reducing violence and glass-related injury. [Online] Available at www.hit.org.uk/displayPage.asp?id=20 [Accessed 1-8-2006].

34. Young, C and Hirschfield, A (1999). Crystal Clear - *Reducing Glass Related Injury. An evaluation conducted on behalf of the Safer Merseyside Partnership.* Department of Civic Design: University of Liverpool.

35. HM Treasury (2004). Spending Review 2004. *Public Service Agreements 2005-2008: Action Against Illegal Drugs.* London: The Stationery Office.

36. Department for Work and Pensions (2006). Opportunity for all [Online] Available at www.dwp.gov.uk/ofa/.

37. Department for Education and Skills, Home Office, and Department for Health (2005). *Every Child Matters: Change for Children, Young People and Drugs.* Nottingham: DfES Publications.

38. Home Office (2003). FRANK [Online] Available at www.talktofrank.com [Accessed 19-6-2006].

39. D.A.R.E. UK (2004). Drug Abuse Resistance Education (DARE) [Online] Available at www.dare.uk.com [Accessed 20-6-2006].

40. Ennett, ST, Tobler, NS, Ringwalt, CL, and Flewelling RL. (1994). How effective is Drug Abuse Resistance Education? A meta-analysis of project DARE outcome evaluations. *American Journal of Public Health* 84[9], 1394-1401.

41. Department for Environment, Transport and Regions (2000). *Tomorrow's roads: Safer for Everyone.*

42. Department for Transport (2006). The THINK! Road Safety Website [Online] Available at www.thinkroadsafety.gov.uk [Accessed 20-6-2006].

43. Prime Minister's Strategy Unit (2004). *Alcohol Harm Reduction Strategy for England*. London: Strategy Unit.

44. The Portman Group (2006). If you do do drink, don't do drunk [Online] Available at www.portmangroup.org.uk/campaigns/51.asp [Accessed 21-6-2006].

45. Scientific Advisory Committee on Nutrition (SACN) (2003). *Salt and Health*. London: The Stationery Office.

46. Department of Health (2006). Summary of Flu immunisation policy. [Online] Available at www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/Flu [Accessed 1-8-2006].

47. Department of Health (2005). *Delivering Choosing Health: Making Healthier Choices Easier*. London: Department of Health.

48. Department of Health (2006) *Informing healthier choices: Information and intelligence for healthy populations - A consultation*. London: Department of Health.

49. Jones, AM, and Tocque, K (2005). *Lifestyle Surveys. Developing a local and regional picture. Synthesis Report: Issue 4*. Liverpool John Moores University: North West Public Health Observatory.

50. Economic and Social Research Council (2004). ESRC in £12m major research to prevent killer diseases [Online]. Available at: www.esrc.ac.uk/ESRCInfoCentre/PO/releases/2004/october/index4.aspx?ComponentId=6408&SourcePageId=1405 [Accessed 26-10-2006].

51. Dedman, D, Hennell, T, Hooper, J and Tocque, K (2006) Using Geodemographics to Illustrate Health Inequalities [Online]. Available at: www.nwpho.org.uk/inequalities/Geodem_Inequalities_dr4.pdf [Accessed 26-10-2006].

52. CACI Ltd (2005). ACORN: A classification of residential neighbourhoods [Online]. Available at: www.caci.co.uk/acorn [Accessed 20-12-2005].

53. EuroDirect (2006). CAMEO UK [Online]. Available at: www.eurodirect.co.uk/pages/CAMEO_UK.html [Accessed 26-10-2006].

54. Experian Business Service Division (2005). MOSAIC UK [Online]. Available at: www.experianbs.com/BSHome.asp [Accessed 26-10-2006].

55. Axciom (2006). Personicx Family [Online]. Available at: www.acxiom.co.uk/MarketingSolutions/CustomerInformation/SegmentationGISSolutions/PersonicxFamily/index.html [Accessed 26-10-2006].

Population Targeting: Tools for Social Marketing

We welcome your feedback on both content and style of the Synthesis Report series.

This report and all other NWPHO reports are available on our website www.nwpho.org.uk

Authors: Dan Dedman, Alyson Jones, Karen Tocque, Mark A Bellis

Contact:

North West Public Health Observatory. Centre for Public Health, North Street, Liverpool L3 2AY

Tel: **0151 231 4454** Email: **nwpho-info@ljmu.ac.uk** Website: **www.nwpho.org.uk**

ISBN: 1-902051-40-8

STAFF OF THE NORTH WEST PUBLIC HEALTH OBSERVATORY

Professor Mark A Bellis, Director	m.a.bellis@ljmu.ac.uk	+44 151 231 4511
Dr Karen Tocque, Director of Science and Strategy	k.tocque@ljmu.ac.uk	+44 151 231 4506
Jeremy Hooper, Public Health Information Project Manager	j.p.hooper@ljmu.ac.uk	+44 151 231 4508
Daniel Dedman, Public Health Information Analyst	d.dedman@ljmu.ac.uk	+44 151 231 4552
Gillian Kelly, Public Health Information Analyst	g.e.kelly@ljmu.ac.uk	+44 151 231 4552
Clare McCormick, Research Assistant	c.mcormick@ljmu.ac.uk	+44 151 234 4552
Karen Murphy, Public Health Information Analyst	k.murphy@ljmu.ac.uk	+44 151 231 4552
Craig Timpson, Research Assistant	c.timpson@ljmu.ac.uk	+44 151 231 4552
Sacha Wyke, Data Manager	s.wyke@ljmu.ac.uk	+44 161 952 4359
Lynn Deacon, Knowledge & Communications Project Manager	l.k.deacon@ljmu.ac.uk	+44 151 231 4239
Sara Hughes, Public Health Intelligence Specialist	s.k.hughes@ljmu.ac.uk	+44 151 231 4384
Alyson Jones, Senior Project Officer	a.m.jones@ljmu.ac.uk	+44 151 231 4445
Rebecca Manning, Regional Researcher	r.manning@ljmu.ac.uk	+44 151 231 4445
Stephen Rogers, ICT Project Manager	s.rogers@ljmu.ac.uk	+44 151 231 4430
Wayne Murray, Web Developer & Programmer	w.s.murray@ljmu.ac.uk	+44 151 231 4388
Neil Potter, Web Developer & Programmer	n.potter@ljmu.ac.uk	+44 151 231 4388
Jodie Sharrock, Website Content Co-ordinator	j.sharrock@ljmu.ac.uk	+44 151 231 4454
Tom Hennell, Consultant Analyst GONW	thomas.hennell@doh.gsi.gov.uk	+44 161 952 4359
Alison Ledger, NWPHO Administrator	a.ledger@ljmu.ac.uk	+44 151 231 4055
Sharon Schofield, Business and Financial Support	s.l.schofield@ljmu.ac.uk	+44 151 231 4507

North West Public Health Observatory is a member of the Association of Public Health Observatories

Your cut out and keep guide to keeping your life junk free

1. **Keep health promotion leaflets around the house:** your GP and other local health services will have plenty on healthy eating, smart drinking, stopping smoking, exercising and safe sex (or see below for other sources).

2. **Complain if you see irresponsible advertising of food, alcohol or anything else:** any inappropriate advertising, especially to children, should be reported to the relevant authorities (see below).

3. **Help market good health yourself:** give encouragement to friends who are trying to exercise more, eat better or cut down on the booze and fags.

4. **Turn off the volume during TV adverts:** teach the kids to do the same.

5. **Bin or recycle the junk mail advertising:** you can stop it being delivered permanently by contacting the Mailing Preference Service (details below).

6. **Never shop hungry:** you can end up buying more high sugar and snack foods.

7. **Don't just give the kids money:** buy them what they need, or if they have money take a healthy interest in what they buy.

8. **Don't buy food that comes with toys:** it can make kids ask for food they don't really want.

9. **Get the local community involved:** not just at a health event but any event at any venue (even if it's a school fayre, sports day or car boot sale) can have a stall "selling" health advice.

10. **Where possible, recycle packaging, free advertising posters and even vouchers:** they are often adverts for food and drink you don't need - out of sight and out of mind.

Useful sources of information

To complain about an advert that you have seen or to stop direct mail (post, fax, text or email) or if you have problems getting goods or a refund for items bought by mail order or on shopping channels contact the Advertising Standards Authority by visiting www.asa.org.uk or telephone 020 7492 2222.

To stop unwanted mail, telephone calls and faxes, register with the Mailing Preference Service online at www.mpsonline.org.uk or register by phone on 0845 703 4599 (mail preference) or 0845 070 0702 (telephone and fax preference).

For help and advice on:

✳ **Food and healthy eating:** visit www.eatwell.gov.uk or call the Food Standards Agency Helpline on 020 7276 8829.

✳ **Debt:** call the National Debtline on 0808 808 4000 or visit www.nationaldebtline.co.uk. Help is also available from the Citizens Advice Bureaux (CAB) at www.adviceguide.org.uk or by contacting your local CAB office, details of which can be found in the Yellow Pages.

✳ **Alcohol:** visit the NHS site www.wrecked.co.uk or see the Advice for Alcohol Problems site www.apas.org.uk or contact them on 0115 948 5570.

✳ **Drugs:** talk to FRANK by visiting the website www.talktofrank.com, emailing frank@talktofrank.com, calling 0800 77 66 00 or textphone 0800 917 8765.

✳ **Gambling:** visit www.gamcare.org.uk or call 0845 6000 133.

✳ **Exercise:** visit the British Heart Foundation website www.bhf.org.uk or call their Heart Information Line on 08450 70 80 70. For other sources of UK information and support visit www.patient.co.uk/showdoc/287

✳ **Smoking:** visit www.givingupsmoking.co.uk or call the NHS Smoking Helpline on 0800 169 0169.

✳ **Sexual Health:** contact the Family Planning Association on 0845 310 1334 or visit www.fpa.org.uk