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Improving health and well-being



**Variations between Spearhead  
areas in progress with tackling  
health inequalities in England**  
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# Executive summary

This is a report on the results of a study to investigate variations between local authority areas in England with high deprivation and health needs (known as Spearhead areas) in the extent to which action to reduce health inequalities has been succeeding. The research uses a method called Qualitative Comparative Analysis to explore how conditions in Spearhead areas configure with outcomes measured as the recent trend in premature deaths from cancer and CVD, and teenage conceptions, relative to the average for England. Information about these conditions was collected from a survey of Spearhead areas and a range of secondary data about the areas.

The method for the study is based on understanding changes in the extent of health inequality as the outcome of interactions between multiple conditions, which we refer to as 'configurations'. Different configurations can be seen as alternative pathways for narrowing health inequalities. These configurations have a practical application as 'tin-openers' for local policy makers and practitioners to use alongside local knowledge and expertise. The findings from the study are not intended to be prescriptive pathways to be applied universally or uncritically, but to provide an interpretive tool to assist with re-focusing or re-balancing approaches at a local strategic level.

Progress with the cancers gap was found to be associated with a local working culture of individual commitment and champions, together with a higher level of spend per head on cancers than other Spearhead areas. Beyond a basic level, a higher standard of public health workforce planning was found to be associated with the cancer gap not narrowing. Combined with a similarly surprising result for more frequent monitoring and the role of commissioning, this suggests that too much effort expended on bureaucratic tasks may deflect from those actions that have a direct impact on the cancers gap. A higher level of deprivation compared with other Spearhead areas, a higher crime rate and a lower NHS primary care trust performance rating were associated with the cancer gap not narrowing. These conditions were associated with the cancers outcome in particular configurations, indicating different paths to both narrowing, and failing to narrow, the cancers gap. The pathways to narrowing the gap are described as

*champions and high spending, champions and a receptive local context and champions in an adverse context with an aspirational culture.*

Progress with the CVD gap was found to be associated with smoking cessation and primary care services that were assessed as better than a basic standard. A PCT budget allocation that was high relative to target was also important along with, in other configurations, good or excellent leadership, lower internal migration, and pursuing many smaller projects or an integrated systematic approach. Conditions that were associated with the CVD gap not narrowing were pursuing a few major programmes, a lower PCT budget allocation relative to target, and higher internal migration. As with cancers, these conditions were associated with the CVD outcome in particular configurations. Those associated with narrowing the CVD gap are described as *better practice smoking cessation and primary care services, better practice primary care services and a higher PCT budget allocation relative to target, and better practice smoking cessation services, good leadership and lower migration.*

Progress with the teenage conceptions gap was found to be associated with pursuing a few major programmes and interventions taking place all or mostly in community settings. Contextual conditions were also important including, compared to other Spearhead areas, a higher level of GCSE passes, a lower level of deprivation, a higher percentage of under 18 year olds in the population, and a lower number of people receiving drug treatment services. Favourable contextual conditions were associated with a narrowing gap in some areas regardless of the types of programme pursued. Commissioning and leadership were found to be more likely to be associated with not narrowing the teenage conceptions gap if ranked higher than other Spearhead areas, suggesting a negative bureaucracy or management effect similar to the finding for cancers. Configurations associated with a narrowing teenage conceptions gap are described as *a few major programmes delivered in community settings, interventions delivered all or mainly in community settings with a receptive context, and areas with a receptive context.*

# Introduction

This is a report on the results of a study funded by the National Institute for Health Research to investigate variations between local authority areas in England with high deprivation and health needs in the extent to which action to reduce health inequalities has been succeeding. The project was carried out by a Durham University team comprising Professor Tim Blackman, Professor Dave Byrne and Dr Jonathan Wistow, with assistance from Katie Dunstan. The report provides an overview of how the study was conducted and a step-by-step guide to the findings. It is organised as follows:

- **Background:** an introduction to the study and its context;
- **Methodology:** a brief introduction to the main method of data analysis, Qualitative Comparative Analysis (QCA);
- **Outcome measures:** a description of the process for determining the outcome measures for health inequalities used in the study;
- **Condition selection:** an overview of how and what conditions in each local authority area were selected for analysis;
- **Analysis and results:** a summary of the analysis of these conditions and their relationships with health inequality outcomes.

# Background

The research sought to investigate why there are significant variations across the 70 'Spearhead' local authority areas in England in the extent to which they have made progress towards their health inequality targets for 2010. The Spearhead group consists of the 70 local authority areas (mapping onto 62 NHS primary care trusts or PCTs) that are in the bottom fifth nationally for three or more of the following five factors:

- Male life expectancy at birth;
- Female life expectancy at birth;
- Cancer mortality rate in under 75s;
- Cardiovascular disease mortality rate in under 75s;
- Average score for the Index of Multiple Deprivation 2004 (Local Authority Summary) (Department of Health, 2004).

The Department of Health's *Commissioning framework for health and well-being* identified reducing health inequalities as an overarching goal for the NHS and emphasises tackling circulatory diseases and cancers as the two biggest contributors to the gap in life expectancy between the England average and the Spearhead areas (Department of Health, 2007a). In addition, tackling teenage pregnancy is central to the Government's policies for action on health inequalities, child poverty and social exclusion (Department for Education and Skills, 2007). We therefore focused on outcomes for these three key aspects of health inequalities: premature mortality from cancers; premature mortality from CVD; and teenage conceptions. These are measured as the trend in the gap between each area and the England average.

Whilst life expectancy is continuing to improve and death rates from CVD and cancer have fallen for all parts of the population in the last ten years, an overall health gap remains (Department of Health, 2008). Indeed, according to 2005-07 data for life expectancy, only 10 of the 70 Spearhead areas were on track to meet both the male and female targets of a 10% narrowing of the gap with England by 2010 (Department of Health, 2008)<sup>1</sup>. The number of Spearhead areas that were off track for both male and female life expectancy increased from 25 in 2002-2004 to 30 in 2003-05 and 41 in 2004-06, but fell to 37 in 2005-07.

The Department of Health's 2007 status report on *Tackling Health Inequalities: Programme for Action* states that the 2010 target is achievable if local action is focused and evidence based, with effective accountability and

<sup>1</sup>It will not be possible to assess whether the targets are met until 2010 data become available, based on a three year rolling average for 2009-11.

# Methodology

performance management (Department of Health, 2007b). However, a great deal of local variation in progress within, and between, Spearheads was also identified. Even so, the report argues that if the positive trend for life expectancy in some Spearhead areas was replicated in all, the target would be more than met (Department of Health, 2007b).

Studies by Tunstall *et al.* (2007) and Walsh *et al.* (2007) have identified variations in progress with narrowing health inequalities among areas with similar economic deprivation. Tunstall *et al.* (2007, p. 342) argue that, 'if some areas can resist the translation of economic adversity into higher mortality, other areas can learn from their policies and approaches.' The main objective of the study reported here is to identify how such learning can occur on the basis of understanding the features of local areas associated with health inequality gaps that have been narrowing. Over the course of the project, and through collaboration with stakeholders, a series of local conditions<sup>2</sup> were identified that were considered likely to have an effect on these outcomes. Such conditions included, for example, how well partnerships were working and whether there were particular best practices in place likely to have a high impact on improving health in the most disadvantaged communities. Once these conditions were identified, local stakeholders were asked to assess<sup>3</sup> their local authority Spearhead area against them. Assessments for each area, along with contextual information such as the level of deprivation, were analysed using a computer package that identifies how conditions combine together to associate with outcomes. The project explored what combinations of practice and context were associated with most progress.

This section provides a brief introduction to the method used for this study: Qualitative Comparative Analysis (QCA). QCA employs techniques to allow the systematic comparison of cases (Berg-Schlosser *et al.*, 2009).

It is summarised by Ragin (2000, p. 120) as providing 'analytic tools for comparing cases as configurations of set memberships and for elucidating their patterned similarities and differences.' Contrary to many conventional applications of multivariate analysis, QCA does not regard the impact of a causal condition on an outcome to be the same regardless of the state or level of other causal conditions, a simplifying assumption unlikely to reflect the realities of how outcomes from policy programmes are produced (Blackman and Dunstan, 2010).

A central concern of QCA is to explore whether conditions (or combinations of these) are necessary or sufficient to produce an outcome. There are two principles to follow in this respect:

- When a condition or particular configuration of conditions is *necessary* for an outcome, all instances of a given outcome should exhibit the same condition or configuration, although a different outcome may also occur;
- When a condition or configuration is *sufficient* for an outcome, all instances of the condition or configuration should be associated with the outcome, although the outcome could also occur with other conditions.

The specific QCA technique employed in this study has its roots in the earliest and most widely used application of the method, developed by Ragin and is now known as 'crisp set' QCA. This is based on Boolean algebra, which simply uses binary data based on a condition being either present or absent (variables with values of 1 or 0, such as 'yes' or 'no'). It therefore relies on the dichotomisation of variables, which is discussed further below.

Another consideration for a QCA study is that all of the cases should share sufficiently similar characteristics to permit comparisons. The Spearhead group meets this condition. In addition, the national health inequality targets provide what Berg-Schlosser and De Meur (2009, p. 21) describe as a *shared outcome of interest*.

<sup>2</sup>The methodology employed for this study refers to factors, practices, approaches, contextual features etc., as conditions.

<sup>3</sup>Assessments were made for the time of completion and for three years previously. Asking respondents to make self-assessments for longer ago than three years was regarded as unreliable, and with too many possible non-responses due to staff turnover.

# Outcome measures

The outcome measures we use are the local trends in premature mortality (deaths under 75 years of age) from cancers and circulatory diseases and teenage conception rates for each Spearhead area, all compared to the national trend (England average). To explore associations between the conditions in the Spearhead areas and the trajectory of change for health inequalities in each area, the outcome trends use 2005 as their baseline and 2007 as the final data point. Our analysis is therefore looking for quite short term effects on the inequality gap, based on assessments of local conditions made in 2005. In future years we will be able to update our outcome indicators and re-run the analysis to explore longer term effects.

Measurement of the outcome trends are based on a combination of approaches to judge the trend, including visualisation of projections and a calculation of the absolute and relative differences between 2005 and 2007 (the Spearhead area compared to the England average). We used two outcome measures, *narrowing or not narrowing* and *widening or not widening*. The visualisation of the trend was the primary method used and was based on comparisons of each Spearhead area against the national trend for single year data<sup>4</sup> for 2005, 2006 and 2007. Three year rolling average data was also used to support this.

For the purposes of this report we are focusing on the narrowing/not narrowing outcome largely because the conditions associated with a narrowing gap are likely to be of more interest to practitioners.

# Condition selection

The selection of conditions for a QCA study must be guided by theoretical and empirical knowledge about the topic. For health inequalities, services may be reactive or proactive, interactions between agents may be more or less aligned to common goals, and contextual attributes such as organisational leadership, aspirations and demographic, ethnic and socioeconomic factors may have a wide range of states that have effects on outcomes. Consequently, the selection of conditions for this study was necessarily broad so as to account for the characteristics of the local systems we were exploring.

The principal method for collecting primary data about conditions in the Spearhead areas was the completion of questionnaires by local practitioners. These were initially based on questionnaires that had been designed for an earlier exercise commissioned by Government Office for the North West (Blackman and Dunstan, 2010). These were updated based on a literature search and a number of questions were added, including about commissioning services, the public health workforce and whether health inequalities were prioritised within the local authority area or between the area as a whole and the national average. Public health practitioners were then consulted at a series of regional workshops about the structure, content and phrasing of the questionnaires, with feedback from these workshops informing further redrafting. Following this, the Department of Health's National Support Teams for health inequalities and teenage pregnancy provided detailed comments, and then a final version of the questionnaire was completed.

Out of a total of 70 Spearhead areas, 34 completed at least one of the questionnaires. For cancers, 29 areas returned the questionnaire with complete returns for 27 areas; for CVD, 33 areas returned the questionnaire with complete returns from 27 areas; and for teenage conceptions, 31 areas returned the questionnaires with complete returns from 27 areas. A Mann-Whitney statistical test was conducted to establish whether there was any difference between the areas participating in the study and the non-responding Spearhead areas. The five factors used for determining Spearhead status (outlined above) were employed for this test. For each of these, no significant difference was found between the participating group and the other Spearhead areas.

## Questionnaire structure

The questionnaires were divided into two sections. The first focused on approaches to policy and practice and included eight statements that participants were asked to assess their area against. These covered the following topics:

- 1 Identification, understanding and targeting of the inequalities gap;<sup>5</sup>
- 2 The role of commissioning;
- 3 Strategic partnership working;
- 4 Partnership working on the ground;
- 5 Community engagement;
- 6 Public health workforce planning;
- 7 Primary care services (for the CVD and cancers questionnaires) and contraception and sexual health services (for teenage conceptions);
- 8 Primary and secondary prevention of CVD; smoking cessation services (in the cancers questionnaire but used in the CVD analysis as well); and 'other interventions to reduce teenage conceptions' (mainly sex, relationships and health education).

These areas of practice and policy were included in the questionnaires as statements with accompanying detailed descriptions of levels of achievement (or best practice exemplars) provided on a six point scale between 'less than basic' and 'exemplary'. Participants were asked to assess their areas against these descriptions and to provide examples to evidence how they were meeting the level of achievement they regarded as applying to their area.

The second part of the questionnaire focused on ways of working, types of intervention and the local context, and consisted of the following items:

- Approaches to tackling the cancers/CVD gap or reducing teenage conception rates: a few major programmes, many smaller projects, or an integrated systematic approach.
- The frequency of progress reviews by the appropriate partnership board: monthly, quarterly, six monthly, annually or not yet done.
- Nature of the area's working culture: initiatives rely on individual commitment and champions; on a widely shared 'team player' spirit; or on good plans and systems largely independently of who is involved.
- Approach to prioritising health inequality interventions: the question focused on whether closing the gap between the locality and the national average or reducing inequalities within the locality is the main priority, or whether they are equal priorities.

- Prioritisation of the cancers/CVD gap or of reducing teenage conceptions: whether the outcome is the top priority; one of a small number of top priorities; one of a larger number of priorities; or not a priority.
- Nature of joint meetings: whether about funding for projects; working with shared goals and budgets; finding 'win wins'; clarity about what needs to be done and who will do it; and whether questions are asked about those not meeting targets.
- Use of available evidence: the balance between use of national evidence and guidance, and the use of local research.
- Relative priority between primary care and reaching individuals who need early treatment on the one hand and environmental and community-wide measures on the other (cancers and CVD). Relative priority between contraceptive and sexual health services reaching individuals at risk on the one hand and intervening in the wider determinants at a community level on the other (teenage conceptions).
- Balance between intervening in community or workplace settings (cancers and CVD), and balance between intervening in community or school and college settings (teenage conceptions).
- Leadership in the Spearhead area: excellent, good, fair, poor, or a mixed picture.
- Organisational culture: very aspirational, quite aspirational, comfortable with the current situation, or complacent and inward-looking.
- The Local Strategic Partnership or Health Partnership sets clear direction, is a useful forum but not especially directive, is largely passive, or presents a mixed picture.

In addition to the three questionnaires for each outcome, a fourth short questionnaire focusing on contextual information 'About your PCT' was also completed.

The following questions were included:

- Date the PCT came into existence;
- Date the current Chief Executive came into post;
- Whether the PCT had been through a major reorganisation within the last three years;
- Whether the PCT had been in major financial deficit or 'turnaround' within the last three years;

- Whether there is a jointly appointed Director of Public Health between the PCT and the local authority;
- Whether adult health and social care services in the Spearhead area are integrated in a single trust;
- The average turnover on GP practice lists;
- The accuracy of GP practice lists.

Participants were requested to complete the questionnaires as collaborative assessments in teams of at least three people. For cancers and CVD, it was requested that these should consist of a public health professional, a person with a clinical responsibility for the outcome area and a local authority officer who could provide a wider determinants perspective. For the teenage conceptions questionnaire it was requested that the team comprised the teenage pregnancy coordinator, a public health professional or local authority officer with responsibility in this area, and a sexual health lead.

Participants were asked to provide responses for the current situation (2008) as well as for three years ago (2005). To take account of health trend data being published with a delay of a year or so and the time it can take for interventions to have an impact on these trends, the assessments for three years ago are used for the analysis reported here. In completing the questionnaires, teams were asked to adopt a whole systems view across preventative and treatment services and NHS, local authority and voluntary services in the Spearhead area, and to justify their answers with examples and supporting documentation.

The questionnaires can be found at the following web link:

[www.dur.ac.uk/spearheads.health/questionnaires.htm](http://www.dur.ac.uk/spearheads.health/questionnaires.htm)

## Secondary data

A wide variety of secondary data was considered alongside the questionnaire responses. This included:

- Performance assessment ratings: PCT rating; local authority CPA star rating and direction of travel.
- Local area information: IMD 2007 score<sup>6</sup>, concentration and extent; overall crime rate; MORI liveability score<sup>7</sup>; local authority migration estimates for inflow and outflow; and percentage of the working age population without a level 2 qualification.

- Health services information: accident and emergency hospital admissions for 2005/06; Quality and Outcomes Framework (QOF) data on the proportion of primary care practices classified as outliers on performance measures; the proportion of single handed practices in areas; and the number of general practitioners (GPs) in areas (excluding retainers and registrars) per 100,000 population.
- Spend: percentage over or under PCT target budget allocation and the spend per head on cancers and CVD in 2005/06.
- Education data (for the teenage conceptions outcome): percentage achieving level 4+ at key stage 2 (English, Maths and Science); percentage achieving level 5+ at key stage 3 (English, Maths and Science); percentage achieving 5+ GCSEs at grades A\*-C including maths and English; percentage achieving any GCSE passes; half days missed in secondary schools (overall); and the percentage of 16-17 year olds participating in education and work based learning.
- 2001 Census demographic data: percentage of the population that are not white; percentage of the population that are under 18; and percentage of the population over 65.

<sup>6</sup>Most indicators relate to 2005. Further details can be found from the Department for Communities and Local Government at: <http://www.communities.gov.uk/communities/neighbourhoodrenewal/deprivation/deprivation07/>.

<sup>7</sup>This has been calculated by MORI for every local authority area in England and is based on a combination of resident survey responses about the visual quality of their neighbourhood and the proportion of housing stock that is terraced or high rise (Collinge, Duffy and Page, 2005).

# Approach to analysis

The data were coded for analysis using SPSS (the Statistical Package for the Social Sciences) and fsQCA. The fsQCA package works out combinations of conditions associated with given outcomes: in this case whether or not health inequalities had been narrowing. What causal factors or conditions are included in the model is a matter of judgement based on the wider evidence base, theory and empirical analysis.

Before presenting the results of the QCA analysis it will be helpful to recap briefly some of the basic concepts used in the method. Its core principle is that, as far as possible, researchers should avoid making simplifying assumptions about the nature of causation (Ragin 2000, p. 89). Individual conditions are unlikely on their own to be either necessary or sufficient to cause outcomes, and causation is likely to involve sufficient *combinations* of conditions. Berg-Schlosser *et al.* (2009, p. 8) emphasise that, 'by using QCA, the researcher is urged not to specify a single causal model that best fits the data, as one usually does with statistical techniques, but instead to determine the number and character of the different causal models that exist among comparable cases.' Applying this approach to the current study means that its results are presented as different configurations of conditions shared by particular cases that are associated with either 'narrowing' or 'not narrowing' outcome measures. These configurations can be viewed, therefore, as different pathways to outcomes.

The provisional results of the study were circulated to all participating PCTs and subsequently discussed with participants at a series of workshops in September and October 2009. This ensured that the results were more firmly grounded in, and coloured by, practitioners' experiences and knowledge. The additional learning and insights from the workshops have been incorporated into the commentary on the study results below.

# Results for cancers

Sixteen conditions had a relationship with this outcome. Some of these are counter-intuitive and are discussed further below.

The following conditions were clearly associated<sup>8</sup> - as single factors - with *narrowing* gaps:

- A general working culture in the Spearhead area of initiatives relying on individual commitment and champions;
- A higher NHS spend per head on cancers;
- A lower crime rate;
- A three star PCT rating.

In addition, the following conditions were weakly<sup>9</sup> associated with narrowing gaps:

- A very or quite aspirational organisational culture with challenging or stretching aspirations;
- Lower deprivation;
- Higher accident and emergency admissions;
- A higher (closer to target) PCT budget allocation<sup>10</sup>.

The following conditions were clearly associated with gaps that were *not narrowing*, and all these findings are counter-intuitive given that they are the opposite of what might be expected:

- The role of commissioning assessed as better than basic;
- Strategic partnership working assessed good or exemplary;
- Public health workforce planning assessed highly;
- More frequent (quarterly or monthly) reviewing of progress.

In addition, the following conditions were weakly associated with gaps that were not narrowing:

- Cancers a top priority or one of a small number priorities (another counter-intuitive finding);
- Health inequalities tackled with a few major projects rather than many smaller projects or an integrated systematic approach;
- The Chief Executive left recently;
- The PCT had recently been in major deficit.

These conditions were then explored for their effects on the outcome in combination. Full results are presented in table A1 in the appendix at the end of the report. Table 1 below lists the conditions found to have strong relationships in configurations that are clearly associated with whether or not the cancers gap was narrowing. An upper case letter equates to a condition that is generally associated with narrowing being present and a lower case letter equates to this condition being absent. These letters are used to denote the various conditions in the discussion that follows.

<sup>8</sup>'Associated' is used to describe to a clear skew in the data towards either the narrowing or not narrowing group of cases.

<sup>9</sup>'Weakly associated' is used to describe conditions that were less strongly skewed to either the narrowing or not narrowing group of cases.

<sup>10</sup>Higher target budget allocation refers to those Spearhead PCTs that were either above target budget allocation as determined by the Department of Health or less than -0.82% under their target budget allocation.



## Table 1. Cancers: conditions and descriptors

| Condition                              | Descriptor  |
|--|---|
| Commissioning                          | 'C' represents a 'basic' role.<br>'c' represents a good or exemplary role.  |
| Strategic partnership working          | 'SP' represents basic or basic/good practice.<br>'sp' represents good or exemplary practice.  |
| Public health workforce planning       | 'P' represents basic or basic/good practice.<br>'p' represents good or exemplary practice.  |
| Health Partnership reviews of progress | 'H' represents reviews every six months, annually or not yet done.<br>'h' represents monthly or quarterly reviews.                            |
| General working culture                | 'G' represents individual commitment and champions.<br>'g' represents either a widely shared 'team player' spirit or good plans and systems.  |
| Organisational culture                 | 'OC' represents very or quite aspirational.<br>'oc' represents comfortable or complacent.   |
| IMD score                              | 'I' represents an IMD score of less than 31.15.<br>'i' represents an IMD score of 31.15 or higher.  |
| Spend per head on cancer               | 'S' represents £86 per head or higher.<br>'s' represents less than £86 per head <sup>11</sup> .   |
| Crime rate                             | 'CR' represents less than 64.5 offences per 1,000 population <sup>12</sup> .<br>'cr' represents 64.5 offences or higher per 1,000 population. |
| PCT Trust rating 2004/05               | 'R' represents 3 star rating.<br>'r' represents 1 and 2 star ratings.   |

For cancers, there were twelve narrowing and fifteen not narrowing cases among the Spearhead areas. Whilst the main focus of this study is concerned with identifying combinations of conditions associated with narrowing, it should be noted that the narrowing group of cases has one condition that is present in all of the cases (condition G, or the general working culture of the area is one of initiatives relying on individual commitment and championing) and two conditions that are present in all but one of this group (condition P, less good public health workforce planning, and condition H, less frequent monitoring).

### Configurations associated with a narrowing gap for cancers

Three different configurations of conditions in the narrowing group of cases have been identified, each of which is described below.

#### Configuration 1: Areas with champions and high spending

This configuration consists of two conditions:

- A general working culture in the area of initiatives relying on individual commitment and champions<sup>13</sup> (condition G);
- A higher level of spend per head on cancers (condition S).

Nine of the twelve narrowing cases and none of the fifteen not narrowing cases share this configuration. Consequently, it appears to be sufficient<sup>14</sup> for a narrowing of the cancers gap, given the absence of contradictory configurations in the 'not narrowing' group.

Three cases in the narrowing group do not fall within this configuration, and eight of the conditions that were identified above as having a strong relationship with this outcome are not included in the configuration. Consequently, we should also consider some larger configurations. A more detailed iteration can be developed with the introduction of conditions H and OC, frequency of reviews and organisational culture. The configuration H\*G\*S is a narrowing configuration for eight cases and the configuration H\*G\*OC\*S is a narrowing configuration for five cases. This suggests that whilst initiatives relying on individual commitment and champions and a higher level of spend per head on cancers appear to be sufficient for a narrowing cancers gap, there is also an association with less frequent health partnership monitoring of the cancers gap (condition H) and a very or quite aspirational organisational culture (condition OC).

#### Configuration 2: Areas with champions and a receptive local context

This configuration consists of four conditions:

- A general working culture of initiatives relying on individual commitment and champions (G);
- A lower deprivation score (I);
- Less good public health workforce planning (P);
- Less frequent monitoring by the Health Partnership (H).

<sup>11</sup>Calculations based on raw populations and net expenditure for 2005/06.

<sup>12</sup>2005/06 data.

<sup>13</sup>Workshop participants interpreted this condition as relating to a general culture of championing running across PCTs from Directors of Public Health through to key individuals working on the ground.

<sup>14</sup>In QCA a condition or configuration is considered to be *sufficient* for an outcome when all instances of the condition or configuration are followed by the outcome.

Seven of the narrowing cases and two of the not narrowing cases share this configuration. Conditions P and H are counter-intuitive, since it might be expected that good public health workforce planning and frequent monitoring would be associated with narrowing the gap. The opposite is the case. We can only speculate on the reasons for this but in our workshops with practitioners it was regarded as plausible that these activities are bureaucratic tasks that may have limited practical value for work on the ground, possibly distracting time and effort from activities that do have an impact on the cancers gap. We return to this issue in considering the role of commissioning below.

Configuration 2 draws attention to a pathway for narrowing the cancers gap that involves individual championing and less effort going into bureaucracy *but* with a receptive context of lower deprivation compared to other Spearhead areas. It is also worth noting that, with the exception of case 8, all the cases in this configuration have at least two of the three other conditions that are likely to be receptive contexts for tackling health inequalities (higher spend on cancers, lower crime and higher PCT star rating).

Case 15, which is not narrowing, is an anomaly given that it has both championing and lower deprivation. However, the absence of the other receptive conditions of higher spend per head on cancer, a lower crime rate and a higher PCT rating (s, cr and r) points to a potential explanation for this case not narrowing its cancers gap. Case 14, also not narrowing, shares the receptive context of both a lower crime rate and a three star PCT rating with cases 7 and 8 in the narrowing group. This case requires further explanation and is discussed in the not narrowing group of cases below.

### ***Configuration 3: Areas with champions in an adverse context with an aspirational culture***

This configuration consists of six conditions:

- A general working culture of initiatives relying on individual commitment and champions (G);
- An aspirational organisational culture (OC);
- Less than good public health workforce planning (P);
- Less frequent monitoring by the Health Partnership (H);
- Higher deprivation (I);
- A higher crime rate (cr).

Three of the narrowing cases and none of the not narrowing cases share this configuration. As a result this can be considered to be a sufficient configuration for a narrowing cancers gap, suggesting that even in an adverse context with higher deprivation and related problems there is

progress that can be made with a combination of championing, high aspirations, and less work devoted to monitoring and workforce planning (if our speculation about these last two conditions distracting from actual impact when carried out beyond basic achievement is correct).

### ***Configurations associated with a gap that was not narrowing***

There were three different configurations of conditions among the not narrowing group of cases.

#### ***Configuration 4: Areas with an aspirational but bureaucratic culture***

This configuration consists of four conditions:

- A more aspirational organisational culture (OC);
- A commissioning role better than basic (c);
- Good or exemplary strategic partnership working (sp);
- Good or exemplary public health workforce planning (p).

Significantly, championing is missing in all but one of the cases included in this configuration, reinforcing the importance of this condition. Six not narrowing cases and none of the narrowing cases share the configuration, which is sufficient for not narrowing. It is a pattern that is consistent with the general absence of the 'bureaucracy' conditions in the narrowing group of cases (C, SP and P).

The presence of condition OC (a more aspirational organisational culture) is generally associated with configurations in the narrowing group of cases but here forms part of the not narrowing configuration. Its effect may be negated by the  $c*sp*p$  combination (which may signal an over-emphasis on bureaucratic work) and the absence of championing.

Four of the six cases in this configuration have at least three of the four receptive contextual conditions absent (I, s, cr and r). This suggests that an unreceptive context may contribute to gaps not narrowing for most cases in this configuration.

#### ***Configuration 5: Areas with a low aspiration culture in an adverse context***

This configuration consists of four conditions:

- A comfortable or complacent organisational culture (oc);
- Basic public health workforce planning (P);
- Less frequent monitoring by the Health Partnership (H);
- A higher crime rate (cr).

Four of the not narrowing cases and one of the narrowing cases share this configuration. Given that basic public health workforce planning and less frequent health

partnership monitoring have both been identified as important conditions for narrowing the cancers gap, this apparent contradictory finding needs to be considered. The comfortable or complacent organisational culture appears to be significant in this respect, although also significant may be the absence of championing and the higher crime rate. The latter may reflect underlying issues regarding lower social capital in these areas.

### **Configuration 6: Areas with a low aspiration culture and low spend and performance**

This configuration consists of five conditions:

- A comfortable or complacent organisational culture (oc);
- A lower spend per head on cancers (s);
- A lower PCT star rating (r);
- A lower deprivation score (I);
- A higher crime rate (cr).

Two cases in the not narrowing group and no cases in the narrowing group share this configuration. Consequently, it can be described as a sufficient configuration for not narrowing. Lower deprivation is generally a receptive contextual condition for narrowing inequality gaps. However, it appears that lower deprivation alone will not overcome the negative effect of the oc\*s\*r\*cr combination of low aspirations, a lower spend on cancer, a lower PCT rating and higher crime rates.

### **Unexplained 'not narrowing' cases**

Cases 13, 14 and 27 remain unexplained by the not narrowing configurations outlined above. Case 13 shares a lot of the same conditions with case 11 in the narrowing group. Both of the cases have higher deprivation. On closer examination of the data, case 13 has an appreciably higher level of deprivation (an IMD score of 37.03 compared with 32.61 for case 11). Looking back at other variables not selected for the QCA exercise, case 13 also has a much higher migration inflow, 10.5% compared with 3.1% for case 11. In addition, case 13 was 5.42% under its PCT target budget allocation for 2005/06, whereas case 11 was only 1.34% under its target budget allocation. Finally, case 13 had a non-white population of 20.3% at the time of the 2001 census and case 11 only had 1.2%. Consequently, despite the similarities between these cases across the conditions in the QCA model, there are some marked differences between them in the broader dataset.

Case 14 shares the same profile as case 7 in the narrowing group. The main distinguishing feature between these two

cases is a higher non-white population of 15% in case 14, compared with 3.8% in case 7.

Case 27 remains an anomaly. Nevertheless, there appears to be a relationship between generally more bureaucracy, low aspirations, absence of championing, high crime, low PCT rating and a not narrowing gap.

### **'Less than basic' practice**

The questionnaire responses were also analysed for their relationship with 'less than basic' answers across the full range of questions in the questionnaire. This is because it might be argued that we are suggesting that even very poor practice regarding these other conditions does not matter, given our focus on the smaller number of conditions selected for the QCA exercise. However, the occurrence of 'less than basic' responses is very rare. Consequently, most areas were achieving at least basic levels of practice for most of the conditions. The exception was community engagement, where about a quarter of the respondents assessed their area as having 'less than basic' practice. This question did not have a strong association with either narrowing or not narrowing gaps, suggesting that the condition has little impact on cancer inequalities even if practice is less than basic.

### **Cancers: conclusions**

Narrowing the cancers gap was associated with a general working culture in the Spearhead area of initiatives relying on individual commitment and champions, and a higher level of spend per head on cancers.

Some of the conditions displaying strong relationships with the cancers outcome appear to have counter-intuitive relationships with this outcome. In particular, the role of commissioning being better than basic, strategic partnership working being good or exemplary, and public health workforce planning being good or exemplary are conditions that are largely absent from the group of cases with narrowing cancer gaps. It is possible that process improvements are taking place but that this study has been too early for these to have had an impact on the cancers outcome. Alternatively, there could be too much focus on the bureaucracy of partnership meetings, writing plans and monitoring frequently which is distracting effort from a focus on cancers. This was an explanation that many of the practitioners in our workshops found plausible. Interestingly, we found an inverse relationship between individual commitment and championing on the one hand and these 'bureaucratic' conditions being present in a Spearhead area on the other.

# Results for CVD

Eighteen conditions had relationships with this outcome. The following conditions were clearly associated, as single factors, with a *narrowing* gap:

- Smoking cessation services better than basic;
- Primary care services better than basic;
- Tackling inequalities with a few major projects;
- Good or excellent leadership;
- A higher PCT budget allocation relative to target;
- Lower levels of internal migration.

The following conditions were weakly associated with a narrowing gap:

- A commissioning role better than basic;
- Higher spending on CVD;
- The PCT had not been in major deficit recently;
- A jointly appointed Director of Public Health, with regular access to the local authority executive;
- More frequent (6 monthly or quarterly) reviews of progress;
- Lower deprivation;
- The PCT Chief Executive left recently;
- Reducing health inequalities *within* the locality was the main priority;
- Initiatives rely on individual commitment and champions.

The following conditions were weakly associated with *not narrowing* the gap:

- Initiatives rely on a widely shared team player spirit (rather than championing or systematic planning);
- The local priority was closing the overall gap between the locality as a whole and the national average rather than inequalities within the area;
- Interventions were partly based on primary care and partly on environmental measures (rather than focusing on either one or the other);
- A higher number of GPs per head of population;
- A lower number of Accident and Emergency admissions per head of population.

These conditions were then explored for their effects on the outcome in combination. Full results are presented in table A2 in the appendix at the end of the report. Table 2 (below) lists the conditions that have strong relationships in configurations that are clearly associated with whether or not the CVD gap was narrowing. An upper case letter equates to a condition associated with a narrowing gap being present and a lower case letter equates to this condition being absent. These letters are used to denote the various conditions in the discussion that follows.

For CVD, there are twelve Spearhead areas that were narrowing their gap and fifteen not narrowing. Whilst the main focus of this study is concerned with identifying combinations of conditions associated with narrowing, it should be noted that none of the single conditions associated with narrowing are present in all of the narrowing cases or absent in all of the not narrowing cases. No single condition is either necessary or sufficient for the CVD gap to be narrowing.

## Table 2. CVD: conditions and descriptors

| Condition                          | Descriptor  |
|------------------------------------|---|
| Smoking cessation services         | 'S' represents basic/good practice and above <sup>15</sup> .<br>'s' represents basic practice.  |
| Primary care services              | 'P' represents basic/good practice and above <sup>16</sup> .<br>'p' represents basic practice.  |
| Approaches to tackling the CVD gap | 'A' represents a few major programmes.<br>'a' represents many smaller projects or integrated systematic approach.   |
| Leadership in the Spearhead area   | 'L' represents good or excellent.<br>'l' represents fair, poor or a mixed picture .   |
| PCT target budget allocation       | 'B' represents PCTs receiving no less than 4.3% under their 2005/06 target budget.<br>'b' represents PCTs more than 4.3% under their 2005/06 PCT target budget. |
| Internal migration <sup>17</sup>   | 'M' represents lower levels of internal migration<br>'m' represents higher levels of internal migration.  |

<sup>15</sup>The areas with better practice assessed themselves as meeting a description of smoking cessation services in which provision has been mapped across the area and is available in a wide range of settings; prevalence data are collected and used to target services; and there is effective targeting of 'seldom seen, seldom heard' groups.

<sup>16</sup>The areas with better practice assessed themselves as meeting a description of primary care services in which the PCT actively manages QOF exception reporting; primary care works with other services to reach vulnerable groups and to actively seek out people with (or at risk of) diseases; and the quantity of primary care in local areas meets local needs.

### **Configurations associated with a narrowing gap for CVD**

There were three different configurations of conditions among the group of cases with narrowing gaps.

#### ***Configuration 1: Areas with better practice smoking cessation and primary care services***

This configuration consists of two conditions:

- Smoking cessation services better than basic (S);
- Primary care services better than basic (P).

Seven of the thirteen narrowing cases and one of the fourteen not narrowing cases share this configuration. All of the narrowing cases with this configuration also have at least two, and often three, of the four other conditions in table A2 present in their profiles. This suggests that the configuration may be associated with a narrowing gap only when other conditions are present; in particular, the presence of good or excellent leadership and a higher PCT budget allocation relative to target appear to be linked to this configuration and may be contributing to the better outcomes.

Case 14 is an anomaly among the not narrowing group as it shares configuration 1 together with three of the other four conditions in table A2. This case is discussed in more detail below.

#### ***Configuration 2: Areas with better practice primary care services and a higher PCT budget allocation relative to target***

This configuration consists of two conditions:

- Primary care services better than basic (P);
- Higher PCT budget allocation relative to target (B).

Eight of the narrowing cases and two of the not narrowing cases share this configuration. Case 15 in the not narrowing group shares this configuration with one other condition present, better than basic smoking cessation services (S), which is the same as case 12 in the narrowing group, making this an ambiguous result. Each of the remaining narrowing cases with P\*B have at least two of the other four conditions present, mostly good or excellent leadership and better than basic smoking cessation services.

As with configuration 1, a narrowing CVD gap appears to be associated with a specific configuration of conditions, reinforced by additional but not necessarily identical conditions. This is to be expected given the overlapping cases in configurations 1 and 2, and is discussed further below.

#### ***Configuration 3: Areas with better practice smoking cessation services, good leadership and lower migration***

This configuration consists of six conditions:

- Smoking cessation services better than basic (P);
- Good or excellent leadership (L);
- Lower internal migration (M);
- An approach to tackling health inequalities that does not involve a few major programmes and is best characterised as either many smaller projects or an integrated systematic approach (a);
- Lower PCT budget allocation relative to target (b);
- Basic primary care services (p).

Three narrowing cases and one not narrowing case share this configuration. Three conditions are absent that are generally associated with narrowing gaps (P, A and B). However, it appears that the combination of better practice smoking cessation services, good leadership and lower migration can overcome the absence of these conditions.

Since case 25 in the not narrowing group has an identical profile to the three narrowing cases in this configuration, it was necessary to look at this case more closely. The complete dataset was re-examined to explore whether there were any other conditions that distinguished between the narrowing and not narrowing cases. The condition that demonstrated the most obvious relationship was the census data for the percentage of the population that was not white. The three narrowing cases had higher levels of non-white population (over 6%) while for the not narrowing case this was below 6%. This factor may be influential with regard to whether configuration 3 determines narrowing or not narrowing outcomes.

#### ***Unexplained 'narrowing' case***

Case 13 remains unexplained by the narrowing configurations outlined above. It has only one of the conditions associated with a narrowing gap: a higher PCT budget allocation relative to target. Closer examination of the full dataset draws attention to a lower IMD score (a receptive contextual condition). There are also missing data for this case.

### **Configurations associated with the CVD gap not narrowing**

There were two different configurations of conditions among the not narrowing group of cases.

<sup>17</sup>This condition is derived from estimates of internal migration within the UK. The estimates are based on levels of both population inflow and outflow for each local authority in 2005/06. When dichotomised, the local authorities falling within the higher and lower inflow migration thresholds were exactly the same as those within the higher and lower outflow migration thresholds. Therefore, a single 'internal migration' condition is used. The migration threshold corresponds to 3.6% for population inflow and 4% for population outflow. The statistics are available from: <http://www.statistics.gov.uk/statbase/ssdataset.asp?vlnk=9674&More=Y>.

#### **Configuration 4: Areas with an absence of a few major programmes, a lower PCT budget compared to target and higher migration**

This configuration consists of three conditions:

- An approach to tackling health inequalities that does not involve a few major programmes and is best characterised as either many smaller projects or an integrated systematic approach (a);
- A lower PCT budget allocation relative to target (b);
- Higher internal migration (m).

Seven cases in the not narrowing group and none in the narrowing group share this configuration. Consequently, this appears to be a sufficient<sup>18</sup> configuration for not narrowing the CVD gap, given the absence of cases in the narrowing group. It is worth noting that six of the seven cases with this a\*b\*m configuration also have condition p (basic primary care services). Case 16 is the exception but, despite having better practice primary care services, this area has basic smoking cessation services.

#### **Configuration 5: Areas with less good primary care and an absence of a few major programmes**

This configuration consists of two conditions:

- Basic primary care services (p);
- An approach to tackling health inequalities that does not involve a few major programmes and is best characterised as either many smaller projects or an integrated systematic approach (a).

Eleven cases in the not narrowing group share this configuration. Three in the narrowing group also do so, but in addition share configuration 3, which is associated with a narrowing gap.

#### **Unexplained 'not narrowing' cases**

There are two 'unexplained' cases in the not narrowing group (14 and 15). Case 15 has a configuration comprising basic smoking cessation services, poor leadership, and higher levels of internal migration that is shared with case 13 in the narrowing group. Case 13 has been discussed above and is one of the 'unexplained' cases in the narrowing group. Looking back at the variables not selected for the QCA exercise, a possible distinguishing factor is the higher level of deprivation that occurs in case 15 compared with case 13. Case 14, with a gap that has not been

narrowing, has five of the six conditions associated with a narrowing gap and, once again, a higher level of deprivation provides a possible explanation.

#### **'Less than basic' practice**

The questionnaire responses were also analysed for their relationship with 'less than basic' answers across the full range of questions in the questionnaire because it might be argued that we are suggesting that even very poor practice regarding these other conditions does not matter, given our focus on the small number of conditions selected for the QCA exercise. However, the occurrence of 'less than basic' responses was very rare and most areas were achieving at least basic levels of practice for most of the conditions.

#### **CVD: conclusions**

The three narrowing configurations described above provide the most parsimonious explanation of a narrowing CVD gap and account for twelve of the thirteen narrowing cases. None of these configurations can be described as sufficient for the gap to have been narrowing because each includes at least one case in the not narrowing group. However, a key finding is that four conditions are present in the majority of narrowing cases: better than basic smoking cessation services; better than basic primary care services; good or excellent leadership; and higher PCT budget allocations relative to targets.

Two configurations account for twelve of the fourteen not narrowing cases. Configuration 4 consists of three conditions, two of which are derived from the secondary dataset (lower PCT budget allocation relative to target and higher levels of internal migration). These two conditions are contextual and appear to be unreceptive for narrowing inequalities. Configuration 5, which overlaps considerably with configuration 4, is linked to the absence of effective services in eleven of the not narrowing cases (better than basic primary care services and a few major programmes).

It is also worth noting that, among the narrowing group of cases, all have one or other of the 'receptive context' conditions of lower internal migration or higher PCT budget allocations relative to target. Those with higher migration among these narrowing cases also have higher PCT budget allocations, suggesting that areas where services are coping with the population churn caused by higher internal migration may need these higher budget allocations if they are to be in a position to narrow their CVD gap.

# Results for teenage conceptions

Sixteen conditions had relationships with this outcome. Some of these are counter-intuitive and are discussed further below.

The following conditions were clearly associated, as single factors, with a narrowing gap:

- Interventions all or mostly in community settings;
- An approach of pursuing a few major programmes;
- A higher percentage of GCSE passes;
- A higher percentage of under 18 year olds;
- Lower proportions of people receiving drug treatment;
- Lower deprivation.

The following conditions were weakly associated, as single factors, with a narrowing gap:

- A higher percentage of non white populations;
- Less good practice regarding sex, relationship and health education (a counter-intuitive finding);
- Areas with PCT Chief Executives appointed after May 2002.

The following conditions were clearly associated with not narrowing the gap:

- Less good children and young people's workforce planning;
- A strong role for commissioning (a counter-intuitive finding);
- Excellent or good leadership (also counter-intuitive);

- Better contraception and sexual health services (also counter-intuitive).

The following conditions were weakly associated with not narrowing the gap. These might all be regarded as counter-intuitive:

- Less frequent reviewing of progress;
- Joint meetings about working with shared goals and budgets;
- Joint meetings having clarity about what needs to be done and who will do it.

These conditions were then explored for their effects on the outcome in combination. Full results are presented in table A3 in the appendix. Table 3 below lists the conditions that have strong relationships in configurations that are clearly associated with whether or not the teenage pregnancies gap was narrowing. An upper case letter equates to a condition associated with narrowing being present and a lower case letter equates to this condition being absent. These letters are used to denote the various conditions in the discussion that follows.

There are thirteen narrowing and fourteen not narrowing cases among the Spearhead areas. Whilst the main focus of this study is concerned with identifying combinations of conditions associated with narrowing, it should be noted that none of the single conditions associated with narrowing are present in all of the narrowing cases or absent in all of the not narrowing cases. No single condition is either necessary or sufficient for the teenage pregnancy gap to be narrowing.

**Table 3: Teenage conceptions: conditions and descriptors**

| Condition                                  | Descriptor   |
|--|--|
| Commissioning                              | 'C' represents a basic role for commissioning <sup>19</sup> .<br>'c' represents a basic/good, good or exemplary role.                                      |
| Approaches to reducing teenage conceptions | 'A' represents a few major programmes.<br>'a' represents many smaller projects or an integrated systematic approach  |
| Balance between intervention settings      | 'B' represents all or mostly in community settings.<br>'b' represents all or mostly in school and college settings   |
| Leadership                                 | 'L' represents fair, poor or a mixed picture.<br>'l' represents good or excellent.   |
| Any GCSEs                                  | 'G' represents more than 96.65% of pupils in the area achieving at least one GCSE.<br>'g' represents 96.65% or less of pupils achieving at least one GCSE. |
| Percentage under 18                        | 'U' represents more than 24% of the population under 18 <sup>20</sup> .<br>'u' represents 24% or less of the population under 18.                          |
| Drug treatment                             | 'D' represents less than 570 individuals per 100,000 population.<br>'d' represents 570 or more per 100,000 population.                                     |
| IMD Score                                  | 'I' represents an IMD score of less than 30.9.<br>'i' represents an IMD score of 30.9 or higher.   |

<sup>19</sup>The areas with better practice assessed themselves as meeting a description which included the following: services are commissioned on the basis of a sexual health needs assessment, with resources directed at 'hotspots' and prevention; there is some budget pooling and joint contracting; resources are adequately scaled up to reduce the teenage conceptions rate based on analysis of target trajectories, knowledge of effective interventions and adequate service volumes and locations, including seven days a week in hotspots; and there are joint plans, budgets and planning processes across commissioners and service providers.

<sup>20</sup>2001 census.

### **Configurations associated with a narrowing gap in teenage conceptions**

There were three different configurations of conditions among the narrowing group of cases.

#### ***Configuration 1: Areas with a few major programmes delivered in community settings***

This configuration consists of two conditions:

- The approach to reducing teenage conceptions in the area is best characterised as a few major programmes (A);
- Interventions take place all or mostly in community settings (B).

Five cases in the narrowing group and one in the not narrowing group share this configuration. Further examination shows that all of the narrowing cases, apart from case 2, have lower numbers of people in contact with drug treatment services. This might be regarded as a receptive contextual condition linked to a lower prevalence of substance misuse problems in an area. Other receptive contextual conditions appear to be lower deprivation, a higher proportion of under 18s and a higher rate of GCSE passes. Case 2 shares all of these three conditions. Thus, the presence of contextual conditions, in particular lower numbers of people receiving drug treatment, appears to provide a receptive context for narrowing their gaps for areas with the A\*B configuration. This is corroborated if we look at case 13 in the not narrowing group, where there is the A\*B configuration but these four contextual conditions are absent.

#### ***Configuration 2: Areas delivering interventions all or mainly in community settings with a receptive context***

This configuration consists of six conditions:

- Interventions are all or mostly in community settings (B);
- Higher percentage of GCSE passes (G);
- A lower deprivation score (I);
- An approach to reducing teenage conception rates best characterised as either many smaller projects or an integrated systematic approach (a);
- Leadership for reducing teenage conceptions is a fair, poor or a mixed picture (L);
- A basic role for commissioning (C).

Three cases in the narrowing group and no cases in the not narrowing group share this configuration. Consequently, it can be viewed as sufficient<sup>21</sup> for a narrowing gap. Interventions focusing on community contexts are important again, and lower deprivation and higher GCSE

passes appear as receptive contexts. The association of basic commissioning and worse leadership with a narrowing gap is a counter-intuitive finding given that the opposite relationships might be expected. The commissioning finding, however, is consistent with our speculation above regarding cancer outcomes and the possible negative impact of spending too much time on bureaucratic activity. The leadership finding is difficult to interpret; it may also be picking up certain advantages from not having strong bureaucratic or management drivers in the area that distract from effective ground level working and getting on with the task at hand. This explanation was regarded as plausible by participants in the practitioner workshops and was linked with the approach in these areas of many smaller projects or an integrated approach rather than a few major programmes.

#### ***Configuration 3: Areas with a receptive context***

This configuration consists of four conditions:

- Higher percentage of any GCSE passes (G);
- Higher percentage of under 18 year olds (U);
- Lower numbers of people receiving drug treatment services (D);
- Lower deprivation (I).

Two cases in the narrowing group and no cases in the not narrowing group share this configuration. Consequently, it can be viewed as sufficient for a narrowing gap. It comprises conditions that can be regarded as forming a receptive context for teenage conception gaps to narrow regardless of any particular interventions or ways of working.

#### ***Unexplained 'narrowing' cases***

Cases 10, 11 and 12 remain unexplained by the narrowing configurations described above. Case 10 has a configuration of a basic role for commissioning; an approach to reducing teenage conceptions best characterised as a few major programmes; leadership as fair, poor or a mixed picture; a higher percentage of any GCSE passes; and lower numbers of people receiving drug treatment services. Case 11 is in the 'not narrowing' configurations 5 and 6 described in the next section; it shares a lot of the same conditions as the 'not narrowing' cases 18 and 19. The main factor that distinguishes it from case 18 is lower numbers of people in contact with drug treatment services and, from case 19, lower numbers of people in contact with drug treatment services and a lower percentage of under 18 year olds. Case 12 shares a lot of the same conditions with case 24 in the not narrowing group. This case, however, has a higher assessment of community engagement and a three star PCT rating. In a practitioner workshop, case 12 was also identified as an area where there had been a large amount of work to delay second pregnancies.



### **Configurations where the gap was not narrowing**

There were three configurations among the cases where the teenage conceptions gap had not been narrowing.

#### **Configuration 4: Areas with an unreceptive context**

This configuration consists of four conditions:

- Lower percentage of any GCSE passes (g);
- Lower percentage of under 18 year olds (u);
- Higher numbers of people receiving drug treatment services (d);
- Higher deprivation (i).

Two cases in the not narrowing group and none in the narrowing group share this configuration. It is thus a sufficient configuration for the gap not to be narrowing, and comprises conditions that can be regarded as an unreceptive context regardless of any particular interventions or ways of working.

#### **Configuration 5: Areas with an absence of major programmes and an unreceptive context**

This configuration consists of three conditions:

- An approach to reducing teenage conception rates in which there is an absence of a few major programmes and which is best characterised as either many smaller projects or an integrated systematic approach (a);
- Lower percentage of any GCSE passes (g);
- Higher deprivation (i).

There are seven not narrowing cases and one narrowing case (case 11) sharing this configuration. With the exception of case 11, the other cases in the narrowing group with lower numbers of GCSE passes and higher deprivation (cases 4 and 5) both have an approach to tackling health inequalities that focuses on a few major programmes delivered all or mostly in community settings. This approach to interventions appears to be important in overcoming the unreceptive context locally.

#### **Configuration 6: Areas with an absence of major programmes and where interventions are in school settings**

This configuration consists of two conditions:

- An approach to reducing teenage conception rates best characterised as either many smaller projects or an integrated systematic approach (a);
- Interventions take place all or mostly in school and college settings (b).

Nine not narrowing cases and two narrowing cases share this configuration. It is the direct opposite of configuration 1. Although cases 11 and 12 are narrowing cases with this configuration, they have other distinguishing factors discussed above in the section on unexplained 'narrowing' cases.

### **Unexplained 'not narrowing' cases**

Cases 14, 26 and 27, with gaps that were not narrowing, remain unexplained by the 'not narrowing' configurations described above. Cases 14 and 26 share a configuration of interventions taking place all or mostly in school settings, good or excellent leadership, and a lower proportion of under 18 year olds, but case 12 shares this as well and has a narrowing gap (although this case has been discussed above as an anomaly). Case 27 has its own configuration of better than basic commissioning, an approach to tackling health inequalities best characterised as either many smaller projects or an integrated systematic approach, good or excellent leadership, a lower proportion of under 18 year olds, and higher numbers of individuals in contact with drug treatment services.

#### **'Less than basic' practice**

The questionnaire responses were analysed for their relationship with less than basic answers across the full range of questions in the questionnaire. This is because it might be argued that we are suggesting that even very poor practice regarding these conditions does not matter because of our focus on the small number of conditions selected for the QCA exercise. However, the occurrence of less than basic responses is very rare and most areas are achieving at least basic levels of practice for most of the conditions. The questions about children's and young people's workforce planning and 'other' interventions (mostly sex, relationship and health education) are exceptions, and we conclude that these appear to have little impact on the teenage conceptions gap even if practice is less than basic according to the definitions we used in the questionnaires.

#### **Teenage conceptions: conclusion**

Configuration 3 (sufficient for narrowing) and configuration 4 (sufficient for not narrowing) consist of relatively few cases but point to the importance of contextual conditions (deprivation, low educational attainment, substance misuse) for narrowing the teenage conceptions gap. This suggests that interventions are unlikely to have significant impact when these contexts are particularly unreceptive. However, this is not to say that local action cannot have an impact on these contextual conditions, and the finding points to the importance of interventions that improve them.

Configurations 1 and 6 point to the importance for narrowing the teenage conceptions gap of an approach that focuses on a few major programmes and interventions that are all or mostly in community settings. Contradictory cases, however, mean that this approach cannot be regarded as sufficient for the teenage conceptions gap to narrow, especially without a receptive context regarding the conditions noted above. One possible explanation for the significance of delivering teenage conception services in community settings rather than school settings is that community interventions may be more targeted towards 'hard to reach' and high risk groups than school settings.

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# Appendix

Table A1. Conditions associated with a narrowing gap in cancers mortality (1=present; 0=absent)

|                   | Area | Basic Commissioning | Less than good strategic partnership working | Less than good public health workforce planning | Less frequent progress reviews | Champions | Aspirational | Lower IMD | Higher spend on cancers | Lower crime | 3 star PCT |   |
|-------------------|------|---------------------|--|---|--------------------------------|-----------|--------------|-----------|-------------------------|-------------|------------|---|
| GAP NARROWING     | 1    | 1                   | No data                                      | 1   | 0                              | 1         | 0            | 0         | 1                       | 0           | 0          |   |
|                   | 2    | 1                   | 1  | 1   | 1                              | 1         | 1            | 1         | 1                       | 0           | 1          |   |
|                   | 3    | No data             | 1  | 1   | 1                              | 1         | 1            | 1         | 1                       | 1           | 1          |   |
|                   | 4    | 1                   | 1  | 1   | 1                              | 1         | 1            | 1         | 0                       | 1           | 1          |   |
|                   | 5    | 0                   | 1  | 1   | 1                              | 1         | 1            | 1         | 1                       | 1           | 0          |   |
|                   | 6    | 1                   | 1  | 1   | 1                              | 1         | 0            | 1         | 1                       | 1           | 1          |   |
|                   | 7    | 1                   | 1  | 1   | 1                              | 1         | 0            | 1         | 0                       | 1           | 1          |   |
|                   | 8    | 1                   | 0  | 1   | 1                              | 1         | 0            | 1         | 1                       | 0           | 0          |   |
|                   | 9    | 1                   | 1  | 1   | 1                              | 1         | 1            | 0         | 1                       | 0           | 0          |   |
|                   | 10   | 0                   | 0  | 1   | 1                              | 1         | 1            | 0         | 1                       | 0           | 1          |   |
|                   | 11   | 1                   | 0  | 1   | 1                              | 1         | 1            | 0         | 0                       | 0           | 0          |   |
|                   | 12   | 1                   | 1  | 1   | 0                              | 1         | 1            | 0         | 0                       | 1           | 0          | 0 |
| GAP NOT NARROWING | 13   | 0                   | 1  | 1   | 1                              | 1         | 1            | 0         | 0                       | 1           | 0          |   |
|                   | 14   | 1                   | 1  | 1   | 1                              | 1         | 0            | 1         | 0                       | 1           | 1          |   |
|                   | 15   | 0                   | 1  | 1   | 1                              | 1         | 0            | 1         | 0                       | 0           | 0          |   |
|                   | 16   | 0                   | 0  | 0   | 0                              | 0         | 1            | 0         | 1                       | 0           | 0          |   |
|                   | 17   | 0                   | 0  | 0   | 0                              | 1         | 0            | 1         | 0                       | 0           | 0          |   |
|                   | 18   | 0                   | 0  | 0   | 0                              | 0         | 1            | 1         | 1                       | 0           | 1          |   |
|                   | 19   | 0                   | 0  | 0   | 0                              | 1         | 0            | 1         | 0                       | 0           | 1          |   |
|                   | 20   | 0                   | 0  | 0   | 0                              | 1         | 1            | 1         | 0                       | 0           | 0          |   |
|                   | 21   | 0                   | 0  | 0   | 0                              | 0         | 0            | 1         | 1                       | 1           | 0          |   |
|                   | 22   | 0                   | 0  | 1   | 1                              | 0         | 0            | 0         | 0                       | 0           | 0          |   |
|                   | 23   | 0                   | 1  | 1   | 1                              | 0         | 0            | 0         | 0                       | 0           | 0          |   |
|                   | 24   | 0                   | 1  | 1   | 1                              | 0         | 0            | 1         | 1                       | 0           | 1          |   |
|                   | 25   | 1                   | 1  | 1   | 1                              | 1         | 0            | 0         | 0                       | 0           | 1          |   |
|                   | 26   | 1                   | 1  | 1   | 1                              | No data   | 1            | 0         | 1                       | 0           | 0          | 0 |
|                   | 27   | 0                   | 0  | 1   | 0                              | 0         | 0            | 1         | 1                       | 1           | 0          | 0 |

**Key:**

- Config 1  Config 2  Config 3  Config 4  Config 5  Config 6

**Table A2. Conditions associated with a narrowing gap in CVD mortality (1=present; 0=absent)**

|                   | Area | Better than basic smoking cessation services | Better than basic primary care services | A few major programmes | Good or excellent leadership | Higher budget allocation relative to target | Lower internal migration |
|-------------------|------|--|---|------------------------|------------------------------|---|--------------------------|
| GAP NARROWING     | 1    | 1  | 1                                       | 0                      | 1                            | 0   | 1                        |
|                   | 2    | 1  | 1                                       | 1                      | 1                            | 1   | 0                        |
|                   | 3    | 1  | 1                                       | 0                      | 1                            | 1   | 0                        |
|                   | 4    | 1  | 1                                       | 0                      | 1                            | 1   | 0                        |
|                   | 5    | 1  | 1                                       | 1                      | 1                            | 1   | 0                        |
|                   | 6    | 1  | 1                                       | 1                      | 0                            | 1   | 1                        |
|                   | 7    | 1  | 1                                       | 0                      | 1                            | 1   | 1                        |
|                   | 8    | 0  | 1                                       | 1                      | 1                            | 1   | 0                        |
|                   | 9    | 1  | 0                                       | 0                      | 1                            | 0   | 1                        |
|                   | 10   | 1  | 0                                       | 0                      | 1                            | 0   | 1                        |
|                   | 11   | 1  | 0                                       | 0                      | 1                            | 0   | 1                        |
|                   | 12   | No data                                      | 1                                       | 1                      | 0                            | 1   | 0                        |
|                   | 13   | 0  | 0                                       | No data                | 0                            | 1   | 0                        |
| GAP NOT NARROWING | 14   | 1  | 1                                       | 0                      | 1                            | 1   | 1                        |
|                   | 15   | 0  | 1                                       | 1                      | 0                            | 1   | 0                        |
|                   | 16   | 0  | 1                                       | 0                      | 1                            | 0   | 0                        |
|                   | 17   | 1  | 0                                       | 0                      | 1                            | 0   | 0                        |
|                   | 18   | 1  | 0                                       | 0                      | 1                            | 0   | 0                        |
|                   | 19   | 1  | 0                                       | 0                      | 1                            | 0   | 0                        |
|                   | 20   | 1  | 0                                       | 0                      | 0                            | 0   | 0                        |
|                   | 21   | 0  | 0                                       | 0                      | 0                            | 0   | 0                        |
|                   | 22   | No data                                      | 0                                       | 0                      | 1                            | 0   | 0                        |
|                   | 23   | 1  | 0                                       | 0                      | 1                            | 1   | 1                        |
|                   | 24   | 1  | 0                                       | 0                      | 1                            | 1   | 0                        |
|                   | 25   | 1  | 0                                       | 0                      | 1                            | 0   | 1                        |
|                   | 26   | 0  | 0                                       | 0                      | 0                            | 1   | 0                        |
|                   | 27   | 1  | 0                                       | 0                      | 0                            | 1   | 0                        |







**Key:**

Config 1  Config 2  Config 3  Config 4  Config 5 

**Table A3. Conditions associated with a narrowing gap in teenage conceptions (1=present; 0=absent)**

|                          | Area | Basic commissioning | A few major programmes | Interventions all or mostly in community settings | Fair or poor leadership | Higher GCSE achievement | Higher % under 18 | Lower numbers in drug treatment | Lower IMD |
|--------------------------|------|---------------------|------------------------|---|-------------------------|-------------------------|-------------------|---------------------------------|-----------|
| <b>GAP NARROWING</b>     | 1    | 1                   | 1                      | 1   | 1                       | 0                       | 1                 | 1                               | 1         |
|                          | 2    | 0                   | 1                      | 1   | 0                       | 1                       | 1                 | 0                               | 1         |
|                          | 3    | 1                   | 1                      | 1   | 1                       | 1                       | 1                 | 1                               | 1         |
|                          | 4    | 0                   | 1                      | 1   | 1                       | 0                       | 0                 | 1                               | 0         |
|                          | 5    | 1                   | 1                      | 1   | 1                       | 0                       | 1                 | 1                               | 0         |
|                          | 6    | 1                   | 0                      | 1   | 1                       | 1                       | 0                 | 1                               | 1         |
|                          | 7    | 1                   | 0                      | 1   | 1                       | 1                       | 0                 | 0                               | 1         |
|                          | 8    | 1                   | 0                      | 1   | 1                       | 1                       | 1                 | 0                               | 1         |
|                          | 9    | 1                   | No data                | 0   | 1                       | 1                       | 1                 | 1                               | 1         |
|                          | 10   | 1                   | 1                      | 0   | 1                       | 1                       | 0                 | 1                               | 0         |
|                          | 11   | 1                   | 0                      | 0   | 1                       | 0                       | 0                 | 1                               | 0         |
|                          | 12   | 1                   | 0                      | 0   | 0                       | 1                       | 0                 | 0                               | 0         |
| <b>GAP NOT NARROWING</b> | 13   | 0                   | 1                      | 1   | 0                       | 0                       | 0                 | 0                               | 0         |
|                          | 14   | 1                   | 1                      | 0   | 0                       | 1                       | 0                 | 1                               | 1         |
|                          | 15   | 1                   | 0                      | 1   | 1                       | 0                       | 0                 | 1                               | 0         |
|                          | 16   | 0                   | 0                      | 1   | 0                       | 0                       | 1                 | 1                               | 0         |
|                          | 17   | 1                   | 0                      | 0   | 1                       | 0                       | 1                 | 0                               | 0         |
|                          | 18   | 0                   | 0                      | 0   | 0                       | 0                       | 1                 | 0                               | 0         |
|                          | 19   | 1                   | 0                      | 0   | 1                       | 0                       | 0                 | 0                               | 0         |
|                          | 20   | 1                   | 0                      | 0   | 1                       | 0                       | 1                 | 0                               | 0         |
|                          | 21   | 0                   | 0                      | 0   | 0                       | 0                       | 0                 | 1                               | 1         |
|                          | 22   | 0                   | 0                      | 0   | 0                       | 0                       | 0                 | 1                               | 0         |
|                          | 23   | 0                   | 0                      | 0   | 0                       | 1                       | 0                 | 1                               | 1         |
|                          | 24   | 1                   | 0                      | 0   | 0                       | 1                       | 0                 | 0                               | 1         |
|                          | 25   | 0                   | 0                      | 0   | 0                       | 1                       | 0                 | 1                               | 0         |
|                          | 26   | 0                   | 1                      | 0   | 1                       | 0                       | 0                 | 1                               | 1         |
|                          | 27   | 0                   | 0                      | 1   | 0                       | 0                       | 1                 | 0                               | 1         |

**Key:**

- Config 1 
 Config 2 
 Config 3 
 Config 4 
 Config 5 
 Config 6 



# Notes

A series of horizontal dotted lines for writing notes.



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