

Health equity audit – learning from practice briefing

Contents

| | |
|--|-----------|
| Introduction | 2 |
| What is health equity audit? | 2 |
| Learning points and examples of practice | 3 |
| Case studies | 9 |
| Sunderland Teaching PCT – teenage pregnancy equity audit: a gaps analysis approach | 9 |
| Manchester PCTs – workforce equity audit | 11 |
| St Helens PCT and MBC – identifying health inequality priorities for action | 12 |
| East Cambridgeshire and Fenland PCT – health equity audit of health visitor services | 15 |
| Luton Teaching PCT – smoking cessation audit | 16 |
| Islington PCT – audit of cardiac revascularisation services | 19 |
| Hull and East Riding – coronary heart disease audit | 21 |
| Huddersfield: health equity audit of mental health service use and provision for adults of working age and older people | 23 |
| Plymouth PCT – neighbourhood-based equity profile for coronary heart disease | 25 |
| Sheffield PCT – health visitor audit | 26 |
| Sheffield West PCT – audit of district nursing services for the over-75s | 27 |
| Great Yarmouth PCT and Waveney PCT – using the Gini coefficient and slope index of inequity to track changes over time in inequities for key health indicators | 28 |
| Camden – health equity audit of rapid-access chest-pain clinics | 30 |
| References | 31 |

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Introduction

Health equity audit (HEA) is being undertaken by PCTs across the country to meet the requirement in the NHS priorities and planning framework for 2005/06–2007/08 (Department of Health 2004a). Progress in the use of HEA is also now considered as part of the Healthcare Commission's performance assessment framework. A performance indicator for the 2004–05 star ratings includes the effective use of health equity auditing in service planning, commissioning and delivery to tackle health inequalities (for England).

Research has identified a demand from PCTs for further examples of practice and learning from those who have made progress in using HEAs (Health Development Agency 2005a). This briefing provides a summary of learning from three workshops on HEA, and examples of completed or near-completed HEAs to illustrate these learning points. It is recognised that this experience is evolving. Further support for conducting audits is available from the Public Health Observatories (www.apho.org.uk).

The workshops that informed this briefing were run by the Health Development Agency (HDA) in partnership with the Association of Public Health Observatories in January and February 2005. They were targeted at PCTs implementing HEAs and aimed to synthesise their learning experiences and examples. Following the workshops, further examples of completed/near-completed audits were identified from PCTs that had responded positively to the 2004 national baseline survey on HEAs (Aspinall and Jacobson 2005).

The briefing is one of a series of publications on HEA published by the HDA and the National Institute for Health and Clinical Excellence (NICE) in 2005, which include:

- *Clarifying health impact assessment, integrated impact assessment, health needs assessment, health equity audit, and race equality impact assessment* (Health Development Agency 2005c)
- *Health equity audit: a baseline survey of primary care trusts in England* (Aspinall and Jacobson 2005)

- *Making the case: health equity audit* (Health Development Agency 2005b)
- *Understanding the barriers to completing health equity audits in PCTs* (summary findings from a qualitative study) (Health Development Agency 2005a)

All these publications are available at www.publichealth.nice.org.uk

What is health equity audit?

An HEA identifies how fairly services or other resources are distributed in relation to the health needs of different groups and areas, and the priority action required to provide services in relation to need. Actions required to create more equitable services (thereby reducing inequalities) are agreed and incorporated into local plans and practice. The overall aim is to distribute resources not equally, but in relation to health need (Department of Health 2003b).

Primary care trusts (PCTs) are key players in the audit process, and are required to carry out HEA to inform the execution of local health plans, community strategies, local neighbourhood renewal strategies and local development plans (Department of Health 2003a, 2003b, 2004a). Strategic health authorities also have a role in relation to HEA with their responsibility for performance managing PCTs.

Critically, HEA is a process for bringing about changes in investment and services that can reduce avoidable health inequalities, and improve the determinants of good health and access to healthcare and services. An audit can be used to look at particular groups, areas or services, both within the NHS and beyond.

It can be useful to consider an audit as a cycle involving the following stages:

- 1 Agreeing partners and issues for the audit
- 2 Undertaking an equity profile
- 3 Identifying high-impact local action to narrow key inequities identified
- 4 Agreeing priorities for action
- 5 Securing changes in investment and service delivery

6 Reviewing progress and assessing impact.

(See Department of Health 2003b, 2004b for a more detailed account of the cycle.)

Learning points and examples of practice

This section highlights learning points identified both from the regional workshops on HEA held in London, Leeds and Leicester in January and February 2005, and from case studies collected in June and July 2005. The learning is presented in subsections based on the stages of the HEA cycle, the DH criteria for an effective audit (Box 1), and ideas identified by workshop participants and case study contributors.

Management support for the audit

The importance of gaining support from the Board and/or key partnerships emerges as a central theme from PCTs that have completed HEAs. Support appears to be essential in terms of the following.

- Management's understanding of major local health inequities and their impact both on key populations and on the effectiveness of local services. Many of the case studies show that the use of HEA started up a debate on the nature

of inequalities in health locally, and raised questions about whether services and resources were being deployed effectively in major areas such as coronary heart disease (CHD), as well addressing specific vulnerable groups such as ethnic minorities.

- Positioning the audit to form part of mainstream planning, commissioning and funding decisions. Many of the case studies were linked to key planning forums and supporting service development – for example in Huddersfield the HEA of mental health informed the strategic exercise of service reconfiguration.
- Establishing strategic reporting arrangements for the audit – for example to the Board, Professional Executive Committee (PEC), health partnership, annual strategy reviews, performance and strategy teams, public health annual report. In Hull, for example, the findings and recommendations of the CHD HEA were important features of the public health annual report.

Topic selection/scope of audit

Audit topics are selected primarily to contribute to the short-, medium- and long-term goals of the PCT. They may also be triggered by plans for a service redesign or reconfiguration. This tends to result in audits that are focused primarily on NHS

Box 1 Criteria for effective health equity audits

The Department of Health (DH) has identified a series of criteria for effective HEAs, linked to the audit cycle. These are set out as a series of statements for consideration by PCT boards:

- We, the Board and the Professional Executive Committee (PEC), are aware of the importance of tackling health inequalities, and of the role of HEA as a tool in this process
- We, the Board and the PEC, understand the health inequalities in our area and our role in tackling them
- We know who our partners are, and are fully engaged with them
- We have conducted a detailed equity profile of our area and are confident in the accuracy and relevance of our current data
- We have used the equity analysis and evidence of what works to narrow gaps in service provision and identify actions to tackle health inequalities in our area
- We have identified and agreed priorities for action to tackle health inequalities
- We have successfully secured changes in resources and service delivery to tackle inequalities
- We are continuing to review and assess progress, and have made HEA an ongoing process in our PCT.

(Department of Health 2004b)

services, although the case studies in this report include examples of broader audits, such as the St Helens PCT/Metropolitan Borough Council (MBC) audit to select cross-sector investment priorities to tackle health inequalities.

Audit topics identified in this briefing include CHD prevention and treatment services; teenage pregnancy; smoking cessation services; child and adult mental health services; health visiting and district nursing services; cervical screening services; and children's services. These mirror the common topics found in the national review by Aspinall and Jacobson (2005).

Criteria that may influence the choice of audit topic include:

- Effect on star rating
- Availability of data
- Understanding of local inequality gradient and known areas of concern
- Opportunity to assess the impact of services on traditionally underserved groups such as travellers
- Resources available, including availability of public health analysts, health economists, statisticians and epidemiologists
- Time available and requirements for information to feed into the planning process.

In a number of examples, the limits of an audit topic are defined by the data or resources available. For example, Islington PCT undertook an audit of cardiac revascularisation services and found it was limited by a lack of ethnicity data, and by the need to:

- Separate primary/secondary care services
- Restrict the measure of need to hospital admissions with CHD, rather than prevalence of CHD
- Base the audit population on those registered with a GP, rather than all local residents
- Use locality rather than ward data.

It is common for PCTs to select a topic for a first audit that is on a relatively small scale, using reliable data sources, and where there is an existing mechanism for change. For

example, Sheffield West PCT selected an audit of district nursing services for the over-75s for these reasons.

There is an aspiration to ensure future audits are developed in collaboration with local councils, and that the topics selected are relevant to NHS/local authority shared priorities and targets.

Partners and audit teams

The involvement of the appropriate partners both within and beyond the NHS affects the impact of an HEA. The PCTs contributing to this briefing found that an understanding of HEA by key players in the PCT and partner organisations leads to more effective commissioning to tackle inequities identified during the process.

The key NHS partners involved in audits are usually the Board, PEC, executive team, commissioners, acute providers and other NHS bodies; relevant NHS staff, from health visitors to doctors and secondary care teams affected; and other affected PCTs.

Other key partners have variously included local authorities, the voluntary sector, the local strategic partnership, politicians, private sector providers, private sector companies whose business has an impact on health (eg supermarkets), and the police.

For example, the St Helens HEA was positioned within the remit of the local strategic partnership, and a wide range of organisations were involved, including the Council, Council for Voluntary Services, Community Empowerment Network and Healthy Living Programme.

A number of PCTs have found engaging the public in the equity debate to be important – using the idea of 'fairness' as the basis for a discussion about service development. Where an audit focuses on a specific population or area, there is an opportunity for the population concerned to contribute to the audit. There are examples of involvement of communities or community representatives in the audit process.

St Helens PCT involved community representatives in reviewing the findings of

its equity profile and in selecting priorities for investment. South and Central Huddersfield PCTs' audit of mental health service use and provision for adults and older people involved service users through the voluntary sector and through the Mental Health Partnership Board. The users and carers involved were very supportive of the process and welcomed feedback on the findings.

The effective involvement of other sectors appears to rely on:

- Understanding the agendas of partners to identify common topics and jointly develop objectives and targets
- Developing a shared understanding of the difference between inequality and inequity
- Selecting a topic for which all partners believe there are opportunities for change to tackle inequities
- Agreeing the timeframe and expected outputs with all partners
- Ensuring mechanisms for updating partners regularly on the progress and findings of the audit
- Working with partners to help commission new services and amend existing services and contracts in the light of the inequities identified.

Audit teams working directly to produce the equity profile and manage the audit usually include information and public health specialists in PCTs, working alongside strategy or performance managers. The involvement of non-NHS professionals or information specialists from local authorities appears limited at present. A typical audit team consists of:

- Health economist/s
- Consultants in public health medicine/ director of public health
- Health improvement manager/s
- Public health information analyst/s
- Relevant strategy/commissioning/ performance/service leads
- Lead professionals where the audit focuses on their service, eg health visitors/district nurses.

For example, Hull and East Riding's audit of CHD was led by a project team comprising a health economist, two epidemiologists,

two health information analysts, the PCT commissioning manager, a health service researcher and a public health specialist.

Equity profile and data issues

Equity profiles are developing across PCTs. Challenges include the selection of equity dimensions; the choice of measures of need and provision; the choice of comparators; the types and sources of data to use; and identification of resources to analyse and interpret the findings.

The most common equity dimensions included are geography, age, sex, ethnicity and some measure of deprivation. Many case studies show a concern with exploring and identifying the nature of health inequalities across a full range of dimensions. In certain cases there was a clearer focus on comparators, nationally or locally, using selected indicators. For example, the Sunderland HEA of teenage pregnancies was based on national/local comparisons of under-18 conception rates, and also variations between wards, in order to target efforts.

The availability and format of data is a key development issue in HEA and is often a critical factor in influencing change. The main concerns relate to:

- Selecting measures of need – eg the lack of data on specific topics such as CHD prevalence
- Geographical limits of many data sets – eg locality rather than ward data
- Lack of local baseline prevalence data for a number of public health priorities – eg breastfeeding and smoking
- Lack of monitoring information of prevention and community-based activities that take account of deprivation and ethnicity
- Availability of ward-based data within a reasonable timeframe – an issue with teenage pregnancy data
- Interpretation of profile data – to account for disproportionate use of services or health outcomes
- Lack of outcome measures to demonstrate inequities have been reduced
- Often limited analytical resources available to undertake rigorous analysis.

Typical data sources include prescribing data, hospital episode statistics, index of multiple deprivation and standard returns (KC53 etc).

Some important lessons have emerged in developing equity profiles, including those listed below.

- Public health analysts have enabled effective analysis of the data, identification of gaps, prioritising and assessing, and ensuring the quality of information.
- National data sets/formulae can be combined with local data to provide appropriate comparators or benchmarks: eg Manchester Joint Health Unit's audit of the primary care workforce provides target-level information on the equitable provision of GP and practice staff for Manchester PCTs, using national formulae. The use of national formulae helped establish the acceptability of the audit among PCTs, which then used the data with local detailed knowledge on workforce levels and services.
- Locally developed surveys can be used in conjunction with national data:
 - eg St Helens HEA used data from various surveys, including the PCT patient survey and a gypsies' and travellers' survey
 - eg in Hull data from the health survey of the population of Hull and East Riding were used to investigate the relationship between CHD risk factors and levels of deprivation.
- Selecting meaningful comparators is essential:
 - eg the Manchester HEA applied the national formula used in resource allocation to local data to calculate a target or ideal staff level or staff budget at practice level. Certain indicators provided the basis for both national and local comparisons
 - eg the Hull and East Riding CHD HEA used the index of multiple deprivation scores (for wards ranked nationally into quintiles) to examine levels of deprivation both nationally and between wards across the four PCTs, and used this index as a proxy of 'need', given the strong relationship between CHD and deprivation.
- All stakeholders must be confident about the data sources used and the potential to design local indicators of 'need' and service provision: eg the HEA of health visiting in East Cambridgeshire and Fenland PCT devised a caseload-weighting exercise to estimate the number of staff required for the workload and to identify shortfalls/excess to give an equity score for health visiting teams.
- There is a need to invest in health intelligence and evaluation in areas such as local target setting, projections, use of new GP information systems and patient electronic records, and health and lifestyle surveys.

Box 2 Examples of further investigations into inequities identified by HEA

Hull PCT identifies the need for further analysis of social disparities in the prevalence of CHD risk factors and quality of CHD primary care services; more in-depth analysis of equity of access to secondary care; and an investigation of the factors influencing access to CHD drugs and hospital admissions for CHD treatment for people in deprived areas.

South and Central Huddersfield PCTs' mental health services audit identified the need for further investigation into the higher rates of admissions in one deprived ward, particularly during holiday periods; and into the disproportionate number of males and black and minority ethnic communities admitted under the Mental Health Act.

Plymouth PCT is undertaking further research in its CHD audit to examine how to address the higher death rates and angina admission rates in the most deprived neighbourhoods and to investigate why the most deprived groups tend to access secondary care through emergency pathways. It is also seeking to explain the mismatch between revascularisation rates and admission rates for angina and acute myocardial infarction (AMI) among the most deprived neighbourhoods.

Box 3 Examples of shifting resources through HEA

Sunderland PCT has put in place a number of evidence-based interventions to tackle teenage pregnancy rates among those in greatest need and has set out a longer-term vision for a specialist team of professionals to deliver SRE in a range of targeted settings, based on the profile of need.

Manchester PCTs have used their audit of the primary care workforce to help distribute additional resources more equitably – including monies for practice nurses and personal medical services (PMS) growth money for extra GPs.

St Helens health partnership has provided additional funding for a number of evidence-based interventions to tackle their major health inequalities as part of their cross-cutting audit, including a teenage pregnancy link worker, one-to-one support and information for teenage parents, a homeless health service, an affordable warmth scheme, and a support service for people who are deaf/deafened/hard of hearing.

East Cambridgeshire and Fenland PCT has taken action to reduce inequities in its health visitor services, including funding a new post that includes a remit to focus on travellers, and filling existing vacancies in underserved areas. Action has also been taken to accelerate the introduction of more evidence-based practice.

Sheffield West PCT's audits on health visiting and district nursing services have resulted in alignment of health visitor services at the neighbourhood level – weighted for numbers of under-fives, deprivation and use of a link worker. The district nursing service was realigned between GP practices according to need.

Selecting priorities for action and decision making

The equity profile may identify a range of different types of inequity in relation to service provision and delivery. Many case studies showed inequities of access by certain groups to established patterns of services, and redistribution of resources (or staff) was an option.

However, improving equity depends both on levels of services, and on whether those services are appropriate and effective for meeting the needs of different groups. Identifying evidence of what works is an area for considerable development in HEA. Many case studies used national guidance, such as national service frameworks, to inform service development. For example, audits frequently result in the recommendation to undertake further research to explain an inequity identified in the profile. The first audit on a topic may identify previously hidden inequities, but insufficient information to justify decisions to shift resources. The case studies illustrate such examples (Box 2).

Shifting resources

A number of audits have been positive experiences for local partnerships in informing decision making and resource allocation to tackle significant local health inequalities/ inequities. However, shifting resources across boundaries within and between health and social care services, and gaining funding support to make changes to services, continues to be the most challenging stage of an HEA.

In most cases audits appear to result in a shift in existing funds within a service, or provide a rationale for the allocation of additional funds that are available. In a number of cases the agreed action is a change in current practices within a service, rather than the provision of additional funds. In some cases new funding streams are used to help with the transition of services to become more equitable.

The problem of recruitment of key staff to address identified inequities in service provision can be a significant problem. For example, Sunderland PCT found that, despite the identification of effective, sustainable interventions, it was difficult to recruit

Box 4 Completing the cycle

Practitioners have variously identified the 'wins' from completing an audit, including:

- Effective targeting of resources to maximise health gain
- Improved commissioning of services that respond to need
- Changing historic resource allocations to ensure services operate more effectively in relation to need
- Using the evidence base to target those most in need.
- Tracking impact and progress on addressing health inequalities both within PCT areas, as well as against national targets.

professionals in both health and education settings to deliver sex and relationship education (SRE).

This review has identified very few examples of a broader shift of resources between preventive, primary and secondary services or between organisations.

The results of an audit can open a debate about the opportunities to link action on health inequalities to other mainstream service developments, or wider initiatives such as neighbourhood renewal and the use of Neighbourhood Renewal Funding.

The involvement of commissioners and finance experts throughout the audit process can be significant in ensuring changes are made to resource allocation. For example, realigning services can be contentious and require sensitive handling – particularly where audits are conducted on specific professional groups such as health visitors or district nursing services.

The case studies illustrate some successful examples of shifting/additional resources as part of an audit (Box 3).

Reviewing progress – completing the cycle

- Establishing HEA as a routine audit tool to inform planning and decision making has been of great value in a number of PCTs. For example, in Great Yarmouth and Waverley PCT, HEA has been embedded within the wider planning and management system and is used for guiding resource allocation and monitoring health inequalities over time.
- The audit process has often helped to encourage a shift beyond measuring health inequalities to a focus on action to address identified inequities.
- The most significant changes appear to be achieved when the audit feeds into the business planning process of all organisations influenced by the audit – ideally through a partnership board responsible for specific services and budgets, including the local strategic partnership and PECs as well as the key strategic planning groups including local implementation teams (LITs).
- The role of commissioners on the audit team is critical in helping to lever change and ensure progress is reviewed.
- Most of the case studies in this briefing describe plans to re-audit after 1–3 years and to feed this information back through the planning process.
- Investment in developing the capacity for sustaining HEA is variable.

Case studies

| <i>Sunderland Teaching PCT – teenage pregnancy equity audit: a gaps analysis approach</i> | |
|--|--|
| Aims and objectives | <ul style="list-style-type: none"> • To measure inequalities in teenage pregnancy • To assess the impact of interventions to date • To identify areas of greatest need • To put in place further services to address unmet needs • To re-assess impact. |
| Contacts | Gillian Gibson and Elizabeth Chalk, Sunderland Teaching PCT gillian.gibson@suntpct.nhs.uk |
| Time period | The profiling and audit began in 2001. The current cycle will be completed in September 2005, when a report will identify the impact of service developments put in place since the last assessment of inequalities. |
| Summary of audit and its impact | A measurement of health inequalities in teenage pregnancy and an assessment of the effectiveness of interventions to inform further developments of the service. |
| Further information | A discussion paper was produced in 2003 detailing the gaps analysis approach across a range of conditions and services, including teenage pregnancy. An update in relation to teenage pregnancy will be produced in September 2005; both available from the contact above. |

Details of the audit

The initial profiling and assessment were carried out by a freelance health economist, a consultant in public health medicine and an information analyst. The update is being undertaken by the sexual health/HIV/teenage pregnancy lead, head of public health intelligence and a public health information analyst. The development of a strategy to reduce unintended under-18 conceptions and to address inequalities was taken forward by a multi-agency group, with service developments such as educational programmes and the introduction of new leaflets informed by young people in the city.

Teenage pregnancy was selected for equity audit for a number of reasons. Sunderland had some of the highest rates in the country, and the link between teenage pregnancy and disadvantaged areas was already known. The 1998–99 conception rates in Sunderland were 63.2 per 1000 compared with 46.0 per 1000 in England.

The initial equity profile and assessment, produced in 2002, covered a number of

conditions and services. It demonstrated stark inequalities for under-18 conceptions in 1998–99, ranging from 134.4 per 1000 for Southwick ward to 17.9 per 1000 for St Michael's. The gap analysis was then applied to measure systematic variability in health between wards using regression analysis. This confirmed that of all the indicators measured, teenage pregnancy demonstrated one of the highest levels of inequality in the city, having a gap of 82%. When the analysis was also run on 1992–94 data, however, it suggested that there had been a reduction in inequalities during the 1990s from 95%, a reduction in local inequalities of 14%. The reduction in inequalities was greatest in those areas where there had been sustained youth and sexual health interventions.

Despite this it was recognised that major inequalities still remained, and a number of evidence-based interventions were put in place (Social Exclusion Unit 1999), influenced by the views of young people in the city. The main interventions were the development of SRE programmes, a teenage pregnancy team, improved information and a condom

card scheme. In 2004, Sunderland was selected to represent the Northern region in the Community Nurse Certificate to Support PSHE programme in schools and community settings. This has been built on recently, with more nurses participating. The long-term vision is the development of a specialist team of professionals to deliver SRE in a range of settings in each locality within the city. This will enable programmes to be tailored more specifically to young people's needs.

The development of training programmes, including accredited courses for youth/ community workers, has been built up and has proved very successful. Boys and young men are targeted via a range of approaches, eg the media, single-gender sessions, leaflets and posters. A boys' and young men's sexual health outreach worker has been appointed, and two boys-only limited sexual health clinics are provided, with a fortnightly sexual health drop-in for asylum seekers and refugees. A young people's service directory of information has been produced and translated into five languages. A 'sexual health outreach with teenagers' (SHOWT) condom card has been running for the past 5 years and has identified that more boys than girls are registering on the scheme.

The Teenage Pregnancy Team consists of a sexual health outreach worker (youth); sexual health outreach worker (contraceptive nurse); a boys' and young men's sexual health worker; and a sexual health training facilitator. Their role is to provide SRE to the more vulnerable/harder-to-reach young people across the city who may be at risk of unintended conceptions. All SRE sessions and the development of sexual health drop-ins are developed and shaped according to the needs of young people. Most of the team's work is delivered through youth and community organisations, agencies concerned with children in care, and schools, and by contraceptive provision, while still maintaining and developing services in other areas.

The interpretation of ward data is integral to the identification of areas that need

to be specifically targeted for the team's outreach work. Several wards within the city traditionally have higher conception rates, and there are now 10 identified 'hotspot areas' (Teenage Pregnancy Unit, 2005, Independent Advisory Group on Teenage Pregnancy, *Annual Report 2003/04*). Designated hotspots recognise the link with social deprivation and poor educational achievement.

Since development of the HEA, progress in reducing inequalities in teenage pregnancy has been monitored through Teenage Pregnancy Strategy annual reports. Research has also been commissioned to assess the impact of the Teenage Pregnancy Strategy. The equity profile has also been updated. Recent increases in the local teenage pregnancy rate to 62.5 for 2003 have prompted a re-audit, including re-running the equity assessment for teenage pregnancy through the gaps analysis. A report on the equity audit cycle for teenage pregnancy, including an updated equity assessment, will be produced.

Key learning points

- Use of the gap-analysis technique has been a useful method for summarising and comparing inequalities between conditions and over time. On reflection, it could have been used more widely with partners to demonstrate the inequalities issue, and this is something for the future.
- There have been two main difficulties associated with the use of teenage pregnancy as a subject for HEA. The first relates to data profiling – because of significant delays in the availability of ward-based data, timeliness is an issue. The second difficulty relates to the implementation of effective, sustainable interventions – due to a lack of professionals (eg teachers, health, youth and community) who are available/willing to deliver SRE in schools and youth and community settings.
- Despite these difficulties, the use of HEA continues to be a useful tool in addressing inequalities in teenage pregnancy.

| Manchester PCTs – workforce equity audit | |
|---|--|
| Aims and objectives | To promote equitable GP and staff levels in the practices of a given PCT by providing target levels based on national formulae. |
| Contact | John Hacking, Manchester Joint Health Unit j.hacking@manchester.gov.uk |
| Partners involved | North, Central and South Manchester PCTs. |
| Time period | Started in 2000 for Manchester Health Authority, revised in 2002 for the three PCTs, followed by <i>ad hoc</i> updates in consultation with the PCTs. |
| Summary of audit and its impact | The audit has helped PCT managers to focus on the problem of primary staffing inequity, and enabled them to improve equity by allocating additional resources appropriately. |
| Further information | An overview, a more detailed method report and a sample anonymous spreadsheet are available from the contact above. |

Details of the audit

The key people involved in the audit were the directors of public health and performance and strategy managers, Manchester PCTs and the Joint Health Unit.

The idea was suggested to PCTs by the Joint Health Unit following research on local and national inequities in primary staffing, and supported by primary care and public health managers at the former Manchester Health Authority.

Research on national data showed levels of GPs per weighted population in former health authorities varied from the average for England – from 24% above (Brent and Harrow) to 20% below (Sunderland). Variation in levels of practice nurses was even greater. For the above two health authorities this was 27% above average for Brent and Harrow, and 38% below average for Sunderland. The variations in local practice levels compared with the health authority average were, as expected, considerably greater (Figure 1).

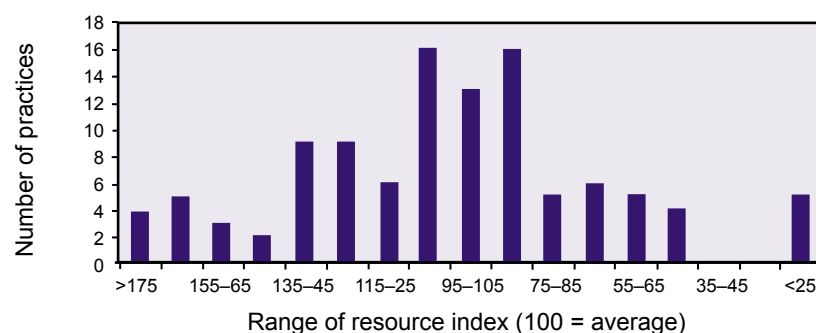
The audit focused on GPs, practice staff, practice nurses, health visitors and district nurses. The calculation of target or 'ideal' staff levels or staff budgets involved the application of national formulae used in resource allocation. The formulae were applied to data on age, sex and ward of residence of patients using nationally available (attribution data set) or locally obtained analyses. (For GPs and staff the global sum weighted capitation can be used as an alternative.)

A comparison of the results with actual staff levels then revealed any significant disparities. In general, there was a wide distribution of workforce levels, and there were practices which appeared to be clearly under- or overstaffed.

For Manchester Health Authority in 2000:

- 40% of practices were either more than 25% below or 25% above the average level of practice nurses
- 31% of practices were in this percentage bracket for GP levels

Figure 1 Number of Manchester practices with provision of practice nurses in given range of resource index (100 = average)



- 15% of practices were in this percentage bracket for administrative staff.

The audit method was also used recently to assess total GP levels in PCTs, and at least one PCT has used the result to confirm the need for recruitment of GPs.

PCTs have used the audit to help distribute additional resources equitably, eg for practice nurses or PMS growth money for extra GPs. The results of the audit usually need to be used in conjunction with detailed local information, eg variation in enhanced services. There is also interest in using the audit to distribute health visitors and district nurses better. Generally the audit has been used to allocate additional funds rather than to move funds.

One PCT has accepted the principle of the audit for any future additional funds for GP services, but current financial deficit has prevented deployment of staff so far.

Some of these changes will lead to improved equity, but no fixed-point assessment was made and the use is ongoing. Progress

towards greater equity will take some time and natural workforce movement, population changes and expansion of GP services will alter the picture continuously. It is expected that a further snapshot of staffing levels will be made to compare with the original picture.

Key learning points

- This audit acts as a starting point for workforce assessment, to be used in conjunction with local detailed knowledge on workforce levels and services. It is particularly useful in highlighting large inequities at practice level and in assessing total PCT levels.
- It has also proved useful in providing a quantitative guide to allocating additional resources to practices, and there is growing interest in using it to plan equitable deployment of health visitors and district nurses.
- The use of national formulae improves acceptability of the audit by PCTs.
- In using the audit, it is important not to underestimate potential difficulties in determining precise practice staff levels.

| <i>St Helens PCT and Metropolitan Borough Council – identifying health inequality priorities for action</i> | |
|--|---|
| Aims and objectives | To identify priorities for inequalities investment through measuring local inequalities against the four key themes from <i>Tackling health inequalities</i> (Department of Health 2003a), and against the basket of local indicators produced by the DH, HDA and London Public Health Observatory. |
| Contacts | Fiona Johnstone, Director of Public Health, St Helens PCT/Council Fiona.johnstone@sthkhealth.nhs.uk |
| Partners involved | St Helens Council Helena Housing Job Centre Plus St Helens Chamber Ravenhead Renaissance (local strategic partnership) Council for Voluntary Service SHINE (St Helens Inter-Church Neighbourhood Evangelisation) Community Empowerment Network Healthy Living Programme 5 Boroughs Partnership (Mental Health Trust) |
| Time period | January–August/September 2004. |
| Summary of audit and its impact | The audit was designed to identify local inequalities priorities and used to determine health inequalities investments. |
| Further information | The audit (equity profile) was published as Part II of the 2004 Public Health Annual Report, and is available electronically from the contact above. |

Details of the audit

The key people involved in the audit were the Director of Public Health, St Helens PCT/MBC, the Public Health Intelligence Officer, St Helens PCT and the Research & Development Manager from St Helens PCT. Community representatives were involved in reviewing the findings of the equity profile and the selection of the priorities for investment. These priority areas were endorsed by the local strategic partnership, which has wide community membership.

The audit was intended to help focus planning to tackle health inequalities from the broad range of issues that could be addressed. The area had previously been part of a health action zone, and the local partnership wanted to move to a position where it could commission programmes of activity funded by the PCT baseline health inequalities monies, rather than seeking bids against broadly based objectives.

The equity profile used local data sets that reflected the key areas of *Tackling health inequalities* (Department of Health 2003a) based on the national work to develop a local basket of inequalities indicators. Data were provided by the PCT and the local council, together with some *ad hoc* local data sets (eg health surveys). Some data sets were not available, and this was either accepted or identified for future data collection. Useful data sets included measles, mumps and rubella (MMR) data collection (by ward); the PCT patient survey; and a gypsies' and travellers' questionnaire.

Further data to be collected include:

- Smoking cessation data (smoking during pregnancy, smoking in schools) – the public health, clinical governance and smoking cessation teams are working on improving data collection
- Breastfeeding data – a breastfeeding coordinator has been appointed and is working with public health, clinical governance and health visitors to improve the quality of the data collected
- Individual cases rather than episodes of neuroses and schizophrenia – the public health team is working with the mental

health team to collect data on individual cases, frequency of admission, length of stay and how they are monitored.

Some examples of key inequities identified include:

- Poor oral health in children – 41.7% of 5 year old children in St Helens have active dental decay
- The number of homeless presentations made to St Helens Council has increased between 2000 and 2003
- Females from St Helens aged 65 and over have the highest accidental death rates in Merseyside
- 14 out of 18 wards in St Helens are in the top 30% most deprived wards in England (ward boundaries changed in June 2004, the number of wards is reduced to 16 but there are no data currently available for them).

The equity profile included a review of the evidence base relating to the four themes of *Tackling health inequalities* (Department of Health 2003a). This was used in tandem with local knowledge and evidence to support the agreement of the priority areas, and to assess proposed investments. The key areas identified for investment to narrow the gap included:

- Supporting families, mothers and children
 - sexual health, teenage pregnancy (education)
- Engaging communities and individuals
 - supporting homeless people
- Preventing illness and providing effective treatment and care
 - access for hard-to-reach groups, oral health, tobacco control, alcohol, obesity
- Addressing the underlying determinants of health
 - tackling fuel poverty.

The following immediate investments were made without the need to disinvest elsewhere.

- Teenage pregnancy link worker
- One-to-one support and information for teenage parents
- Homeless health service
- Making a real difference (hearing

impairment) – support and empowerment services for deaf/deafened, hard-of-hearing people and their families, including an advocacy service to ensure equal access to essential services, including health, education and employment

- Affordable warmth scheme.

Work is ongoing to carry out more topic-based equity audits – which will be used to ensure mainstream programmes such as smoking cessation, diabetes and obesity programmes are targeting those who need it most.

All the funded programmes are required to provide monitoring feedback to enable the Health Partnership to assess the impact of its decisions. The partnership aims to review the total inequalities investment (including mainstream funding) to ensure all relevant activity in the local health economy is identified and to create greater accountability for narrowing the health inequalities gap. The need to do this has been enhanced by St Helens being designated a spearhead area.

Many of the programmes are only just beginning and impact cannot yet be measured. The intention is to re-measure key indicators on an annual basis within the Public Health Annual Report, and on a three-yearly cycle for the borough-wide review. This will enable the Health Partnership to identify any new priorities or adverse impacts.

Key learning points

- The audit was a positive experience which informed decision making
- It focused action on issues with the highest impact on health inequalities
- Local issues need to be considered – the

equity profile is only part of the decision-making process for investment

- The audit enabled the Health Partnership to be pragmatic and opportunistic in developing a programme of work
- The results of the audit opened the debate for linking action to mainstream and other initiatives such as the Neighbourhood Renewal Fund
- The audit allowed consideration of different dimensions of inequity
- It is essential to use accessible data that will be available in 3 years (basket of indicators)
- The audit has provided a framework for moving beyond measurement – working around the audit cycle
- Making HEAs part of routine analysis adds value
- It was important to explain to local partners that equity auditing meant moving round the cycle, not simply doing a profile, and the Health Partnership was extremely helpful in being able to do this. It also explained the 'wins' from doing this:
 - financial – effective targeting of resources to maximise health gain (possibly a useful link to programme budgeting)
 - commissioning – services that respond to needs
 - service delivery – ensuring people and services are able to meet needs (shift from historic allocations)
 - health improvement – using the evidence base to target those most at risk.

This was a huge piece of work and took up most of the time of the R&D Manager and the Intelligence Officer for about 6 months. However, it was felt to be a worthwhile investment, not least in being able to provide an evidence base for the priorities identified.

| <i>East Cambridgeshire and Fenland PCT – health equity audit of health visitor services</i> | |
|--|---|
| Aims and objectives | To perform an HEA of health visiting services to children aged 0–4 years and their families in the PCT, with an emphasis on health promotion and protection. A profile of the equity of health visiting services was done as a key stage in conducting the HEA. |
| Contacts | Dr Liz Robin, Director of Public Health Dr Lincoln Sargeant, Specialist Registrar in Public Health East Cambridgeshire and Fenland PCT Liz.robin@eastcambandsfenland-pct.nhs.uk |
| Time period | May 2003–November 2004 Re-audit started May 2005. |
| Summary of audit and its impact | The audit highlighted geographical areas of inequity in service provision and found that variation in health visitor practice was an important source of inequity. Steps have been taken to standardise health visitor practice across the PCT, and funding was agreed for a new post to address the needs of vulnerable groups such as travellers. |
| Further information | A report is available from Dr Lincoln Sargeant: ls348@medschl.cam.ac.uk |

Details of the audit

The key people involved in the audit were the Director of Public Health, Specialist Registrar in Public Health, Policy Lead for Children’s Services and lead health visitors.

The formation of the East Cambridgeshire and Fenland PCT in April 2002 brought together two very different health visiting services. In addition to different ways of delivering services to children aged 0–4 years, health visiting teams in Fenland had different caseload compositions compared with their colleagues in East Cambridgeshire. A review of health visiting had been carried out in Fenland, and the creation of the East Cambridgeshire and Fenland PCT presented the opportunity to extend and update this review.

A caseload-weighting exercise was done in conjunction with the Health Visitor Best Practice Group of the PCT. Each health visitor provided details of their caseload, including the total number of children aged 0–4 years and numbers of children or families needing special interventions. Weights were applied to each category of activity on the caseload to reflect the differences in time required to address these issues. For example, a child on the child protection register would have

a higher weight compared with a child requiring only universal services. Other factors included numbers of new births, single/isolated/unsupported mothers, referrals to social services, referrals to audiology/speech therapy/ophthalmology, referrals to GP, children with special needs, families transferring to the area, post-natal depression, domestic violence, breastfeeding at 6-week visit, and maternal smoking (more details in full report).

The data from the caseload weighting were used to estimate the number of staff needed to cover the workload. The deficit or excess in staff capacity could then be found by subtracting the current establishment of health visitors (or total clinical staff). This deficit or excess was reflected in an equity score for each health visiting team.

Two teams in Fenland and one in East Cambridgeshire showed the lowest level of health visitors in relation to need. The equity scores were influenced strongly by the overall number of children on the caseload who require universal core services.

Different working practices existed between Fenland and East Cambridgeshire. The core programme of services in Fenland required additional visits compared with

East Cambridgeshire. This influenced the equity score and amplified the needs in Fenland teams relative to those in East Cambridgeshire. A substantial proportion of caseload-related activity is administrative in nature, but administrative support was uneven across teams.

The following recommendations were made:

- Initial investment to achieve equity should focus on the two teams with the lowest staffing in relation to population need
- Standardising health visitor practice across all teams should be accelerated in order to reduce deficits that are related more to practice than to funded establishments
- Where appropriate, there should be greater use of skill mixing within teams to achieve equity
- Administrative support to health visitor teams should be reviewed to ensure it is reliable, high quality and timely
- Information systems should be implemented or strengthened to allow timely and accurate monitoring of caseload activity.

As a result of the audit, a new post was funded and existing vacancies were filled where possible. The job description for the new post included a specific role to help to reduce health inequalities, and a specialist ‘traveller’ caseload was created to deal with the needs of specific vulnerable groups in the PCT. Efforts to implement standard evidence-based practice across the PCT were accelerated. The audit report was helpful in demonstrating to health visitors and PCT policy leaders for children’s health that different practices were an important source of inequity. This helped to cement support for change within the PCT. A health visitor best practice group was charged with leading the process of standardising practice. A re-audit is now under way.

Key learning points:

- The data sources used in the equity profile must be credible to all stakeholders in an equity audit.
- Differing patterns of service delivery may be important sources of inequity even when there is equity of service provision.

| Luton Teaching PCT – smoking cessation audit | |
|---|---|
| Aims and objectives | To contribute to reducing health inequalities in Luton by ensuring quality Stop Smoking services are accessed by those in greatest need. |
| Contacts | Paul Brotherton, Luton Teaching PCT Paul.Brotherton@luton-pct.nhs.uk Kelly.o’neill@luton-pct.nhs.uk |
| Time period | Audit completed during 2004; re-audit planned for 2006. |
| Summary of audit and its impact | The audit assessed access to Stop Smoking services by age, gender, ethnicity and residency (ward level), levels of activity by advisors, GP practices and GP prescribing practice. The findings of the audit indicated that inequity was present. Action was taken to make more effective use of staff already in receipt of level 2 training and target those wards with greatest need within existing resources, rather than providing additional investment. |
| Further information | A report has been published: <i>Health Inequalities in Luton – Getting to the Point. Smoking Cessation Health Equity Audit 2004.</i> |

Details of the audit

The key people involved in the audit were a public health specialist, the smoking cessation service coordinator, cessation coordinator for ethnic minorities, two cessation advisors and administrative team members.

Smoking was identified as a priority area for action in the 2003 annual public health report, *Health Inequalities in Luton – Getting to the Point*. There are currently no data available on the number of smokers in Luton, either at ward level or at a more aggregated

level. The prevalence of smoking within the East of England in 2001 was 27% for men and 25% for women (Petersen S, Peto V (2004) *Smoking Statistics*, London: British Heart Foundation); levels of deprivation in Luton suggest significantly higher rates. Nevertheless, applying this level of incidence to Luton's population of 184,371 (2001 Census, Office for National Statistics, ONS), it is estimated that there are approximately 50,000 smokers in Luton.

Current smoking cessation services operate at the following levels:

- Level 1: general advice about smoking cessation, offering information and the awareness of Stop Smoking services to enable referral to level 2 or 3 services
- Level 2: 30 minutes' advice by smoking cessation advisors – people who access level 2 services are required to set a quit smoking date and advisors provide follow-up 4 weeks after the quit date to verify smoking status
- Level 3: support to dependent smokers who require additional support to stop smoking through a programme of intensive individual support and group interventions.

The equity profile assessed access to the service by age, gender, ethnicity and residency (ward level), levels of activity by advisors, GP practices and GP prescribing practice, as outlined below:

- Combined level 2 and 3 service user by gender and age, 2002–03
- Level 2 service user by gender and age, 2002–03
- Level 3 service user by gender and age, 2002–03
- Comparison of recorded ethnic origin of level 2 service users with 2001 Census data
- Sex/age of minority ethnic service users accessing level 3 services (there was only one overall classification for minority ethnic service users)
- Mortality rate attributable to smoking by Luton Ward, 1998–2002 (Beds and Herts Public Health Intelligence Unit based on ONS deaths data)
- Combined level 2 and 3 service users as percentage of Luton Ward population, 2001 Census data

- Total service users by Luton Ward
- Residency of level 2 service users by Luton Ward
- Residency of level 3 service users by Luton Ward
- Number of patients seen by individual level 2 advisors, 2002–03
- Active and inactive level 2 smoking cessation advisors, 2004
- Trained level 2 smoking cessation advisors by staff group, 2004
- Source of referral for level 2 Stop Smoking services
- Source of referral for level 3 Stop Smoking services
- Level 2 and 3 service users by GP practice
- Recorded level 2 activity by GP practice and active level 2 advisor
- ASTRO-PU items prescribed per GP practice – smoking cessation medication*.

Audit findings

The data suggest that women aged 16–34 are more likely than men to access Stop Smoking services, particularly at level 2, whereas for those aged 35–64 this trend is reversed. There is more consistency in access to level 3 services up to 54 years, when access is more predominantly by men.

Ethnicity data are incomplete for level 2 services. When it is recorded, the categories used to identify ethnicity are not the standardised national categories. For example, data on Kashmiri are not collected nationally and the category 'mixed' is not defined. Comparisons with the local population in terms of access cannot be made conclusively.

For the level 3 service, ethnic origin is not broken down at all. The only information recorded is whether an individual is from a minority ethnic group. This prevents analysis of equity of access by minority ethnic group,

*Prescribing data, based on prescribing of all smoking cessation drugs, details the number of items each GP has prescribed of smoking cessation drugs per denominator. The denominator is the ASTRO-PU, a prescribing unit that provides a comparison baseline by weighting each general practice according to the characteristics of the practice population, eg age and sex. This is a useful tool to even out variations in prescribing between practices.

and creates difficulty in evaluating the effectiveness of any activity targeted at a specific ethnic population.

Mortality attributable to smoking varies considerably by ward, with Biscot, South and High Town having the highest rates. Biscot is particularly poor due to the significantly higher mortality rate for women. However, this need is not reflected in service uptake, where there are significantly fewer people from Biscot, High Town and South accessing the service.

According to Luton Stop Smoking Service, as of June 2004 there were 85 healthcare workers trained to deliver level 2 interventions, a considerable increase on the 2002–03 figure of 29. However, despite the increase in numbers, the majority of this workforce is inactive. There is no information available or collected as to why this is. (The term 'active' refers to an individual who has received training to deliver level 2 smoking cessation advice and is delivering interventions to smokers, as evidenced by the return of a level 2 smoking cessation form to the Stop Smoking Service at Luton Teaching PCT. 'Inactive' refers to an individual who has completed the training but who is not delivering level 2 interventions to smokers.)

Level 3 service provision includes one-to-one support or group support. In total, 549 smokers accessed level 3 services. However, these data are not broken down into numbers who access groups or individual support. In terms of successful quitters, it is not possible to identify the efficacy of any of these interventions.

In total, 62% of all referrals to both level 2 and level 3 services were made by GPs. For level 2 this equates to 54%; for level 3, 73%. GPs are clearly vital to the Stop Smoking Service in terms of referral rate, although the efficacy of referrals in terms of numbers of successful quitters is currently impossible to ascertain. Nevertheless, analysis of level 2 and 3 service users by GP practice indicates that there is considerable variation in referral rates between practices.

The audit identified a number of areas for service improvements, including:

- Data collection and recording – including follow-up of level 2 patients after 4 weeks and development of a GP-based smokers' register through the new General Medical Services (GMS) contract
- Improved service provision – including improved coordination between the PCT Stop Smoking Service, PCT staff and GPs, ensuring availability of Stop Smoking advisors to all GP patients, developing criteria for referrals to different levels of the service and ensuring training in prevention in health visitor and school nurse services
- Access to services – including increasing the number and location of clinics (including at general practices), targeting services to those identified as underserved, publicising the services to PCT staff and developing a communication strategy through the local media and through Luton Teaching PCT and general practice staff. Suggested target audiences for external communications are local factories, bookmakers, pubs, clubs, and the university and colleges students' union campaign
- Training – including awareness training about the services for PCT staff; training/retraining of staff to ensure level 2 advisors are active in post (particularly health visitors)
- Evaluating effectiveness – including measuring investment and outcome, effectiveness of level 2 and level 3 treatment, and comparisons for one-to-one and group treatment.

It was also recommended that the equity audit be repeated one year following implementation of the above agreed recommendations.

Improvements made:

- The Stop Smoking Service has implemented a database that records referral and treatment data and the success of level 2 and level 3 interventions more effectively
- The quality and outcomes framework has checked whether general practices have a smokers register; differences remain in the validity of some practice-based data, and how they are recorded and retrieved – the

PCT has invested in a data quality officer to assist in improving practices

- The Stop Smoking Service has focused on increasing the number of PCT and GP staff trained to deliver level 1 and level 2 treatment and to identify gaps in provision – this includes identifying practices that either have no level 2 advisor or an inactive advisor, and training is offered for those practices
- Access to treatment programmes has been improved with a Saturday service.

A re-audit will be conducted between February and April 2006. This will include an evaluation of the cost effectiveness of each treatment level.

Learning points

- An HEA of an individual service must have the full involvement of staff working in that area if changes are to occur and improvements are to be achieved.
- Positive leadership of the service is essential and needs to include staff support so that staff do not see the audit as criticism.
- An HEA must focus on improvement, equitable access and equitable delivery as its main objectives.
- Data are not always reliable, and there are wide variations depending on the source.
- There is no point carrying out an HEA if there is no senior organisational drive for evidence-based improvement.

| <i>Islington PCT – audit of cardiac revascularisation services</i> | |
|---|---|
| Aims and objectives | To determine the extent to which people with similar needs for cardiac revascularisation intervention in Islington have equal access to these services, and identify what actions could improve equity of access. |
| Contacts | Dagmar Zeuner, Consultant in Public Health, Islington PCT Dagmar.zeuner@nhs.net 0207 527 1222 |
| Partners involved | Acute hospital trusts and PCT. |
| Time period | The audit was undertaken over a 6-month period from the end of 2003 to June 2004. Re-auditing is planned for 2006. |
| Summary of audit and its impact | An investigation of equity of access to cardiac revascularisation services of people in Islington, with recommendations to improve equity of access, both geographically and with respect to certain groups, considered by both clinicians and commissioners. |
| Further information | A report is available from the contact above. |

Details of the audit

There has been a tradition of local work to address health inequalities in Islington through the health action zone. A public health specialist was given the role of leading HEAs for the PCT, and senior management team support was established. Some no-recurrent funding was available for an audit, which was then commissioned from an external academic organisation.

The key partners involved in the audit joined an advisory group. The group included hospital clinicians, a GP, the nurse leading the National Service Framework for CHD, a PCT commissioner and the sector lead for CHD. The group was chaired by a public health specialist.

Coronary heart disease (specifically cardiac revascularisation services) was chosen as it is a major national and local priority accounting for about 20% of all deaths in Islington (260 per year) and 700 hospital admissions per year. The audit built on previous work of primary care groups. It is also an issue for which there is evidence of effective interventions available, and (pragmatically) a relatively small-scale topic that also links to the Healthcare Commission's standards.

The audit considered the population of patients registered with a GP in Islington. The audit considered the equity dimensions of age, sex, ethnicity and locality. Admission to hospital with CHD was used as the measure (proxy) of need. Three types of procedure

Figure 2 Procedure/need ratios by locality

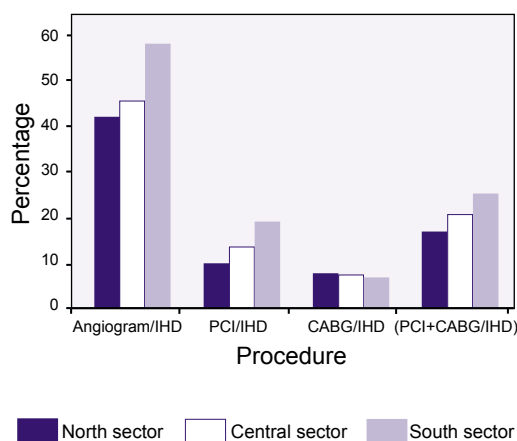
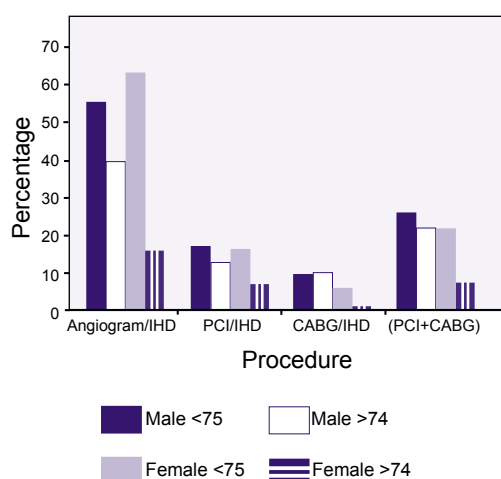


Figure 3 Procedure/need ratio by age and gender (2003)



(angiogram, percutaneous cardiac intervention and coronary artery bypass) were examined, and investigation/intervention ratios were calculated (number of procedures/total admissions). The data on ethnic coding were insufficient for analysis.

The audit found that overall revascularisation rates for Islington as a whole increased from 620 to 740 per million population between 2002 and 2003, but this was still only 50% of the National Service Framework target.

Within Islington there was a north-south gradient, with the southern locality of the PCT having higher procedure rates in relation to need. Figure 2 shows procedure/need ratios by locality.

The audit also showed that older women have low procedure rates in relation to need. Figure 3 shows procedure/need ratio by age and gender.

The main recommendations from the audit were to:

- Explore possible explanations for the inequity identified – looking at clinical practice variation, supply such as staff and facilities, and other patient factors
- Develop referral protocols to be agreed by the cardiac network
- Improve ethnic monitoring
- Re-audit to assess whether inequities have been reduced.

The findings and recommendations were widely discussed by the CHD LIT and clinicians within the provider units. The findings informed the LDP process and supported the appointment of an intervention cardiologist.

Key learning points

- There was a significant need to promote the use of HEA corporately within the PCT. The CHD HEA provided a concrete example to demonstrate the importance of equity within the process of service development with the PCT Board and PEC. The report was sent to all GP practices and followed up with equity training.
- The audit focused on a certain element (acute) of the CHD care pathway; the primary/secondary interface was not covered. The intention is to undertake a more comprehensive equity audit of the care pathway in the longer term.
- The equity audit demonstrated the need for significant improvement in information systems, including data availability, recording and analysis of data. There were a number of limitations in relation to:
 - Measure of need – CHD prevalence would be preferable
 - Population base – residents rather than registered patients would be preferable
 - Geography – localities were considered rather than wards
 - Equity dimensions – there was no deprivation dimension and data on ethnicity were inadequate.

| Hull and East Riding – coronary heart disease audit | |
|--|---|
| Aims and objectives | The audit aimed to pilot the technique of HEA as a method that informs policies concerned with reducing health, and to support the implementation and evaluation of the National Service Framework for CHD. |
| Contacts | Dr Andrew Taylor, West Hull PCT Andrew.taylor@whpct.nhs.uk |
| Partners involved | The audit covered Hull and East Riding, comprising four PCTs: West Hull, Eastern Hull, Yorkshire Wolds and Coast, and East Yorkshire. |
| Time period | The audit was undertaken during March 2004 to January 2005. |
| Summary of audit and its impact | The audit defined inequalities in coronary heart disease and risk factors and their relationship to levels of deprivation, and reviewed provision of selected services against this pattern of need. |
| Further information | A report, <i>CHD health equity audit (Hull and East Riding)</i> , is available from the contact above. |

Details of the audit

The core project team comprised a health economist, two epidemiologists, two health information analysts, PCT commissioning manager, health service researcher and a public health specialist.

Inequalities in coronary heart in Hull and East Riding were examined in terms of differences between:

- Local population and national average/ targets
- Most and least deprived areas within Hull and East Riding.

The framework for the CHD equity audit involved:

- Agreeing definitions of health equity as:
 - Equity in health outcome – the absence of systematic disparities in health (or in the major social determinants of health) between groups with different levels of underlying social advantage/ disadvantage
 - Equity of access (opportunity) – to services for equal need
- Profiling inequalities and the pattern of need as measured by premature CHD mortality, deprivation (as measured by the Index of Multiple Deprivation, IMD) and CHD risk factors (smoking, obesity, eating habits, physical activity, blood pressure)
- Auditing of selected services from within the National Service Framework for CHD

(smoking cessation, 5-A-Day pilot scheme, school meals, CHD drugs, CHD hospital admissions). Aspects of these services were audited in terms of both equity of outcome (based on literature on effectiveness) and equity of access (based on local information).

Two methods and sources underpinned the audit framework:

- Analysis of need and service use according to levels of deprivation, based on the IMD for 2004 – IMD scores for super-output areas and wards were ranked into quintiles to define five deprivation bandings that were used in the various analyses
- The *Health and lifestyle survey 2003 Hull and East Riding*, conducted by the Public Health Development Team, provided certain information on the health, lifestyle and service use of the population served by the PCTs.

Some key findings

Pattern of inequalities

People living in Hull experience significantly higher levels of premature CHD deaths than the national average, and the rate of decline in mortality has been lower.

Levels of smoking in Hull are high compared with the national average. In West and Eastern Hull 32% of men are smokers compared with 28% nationally; 27.9% of women in West Hull and 34.2% of women

in Eastern Hull are smokers compared with 25% of women nationally. There is a marked gradient in levels of smoking according to deprivation. Almost three times as many people smoke in the most deprived areas in Eastern Hull (41%) compared with the most affluent areas of East Yorkshire (14%). The gradient is particularly steep in West Hull.

Levels of obesity increase with deprivation. The pattern is particularly marked for women. Women in the most deprived groups were twice as likely to be obese and five times more likely to be morbidly obese than women in the least deprived groups. Also, people in the most deprived groups are more likely to be underweight compared with their more affluent counterparts.

Potential for reducing health inequalities

A faster rate of improvement in CHD health status in the most deprived areas in Hull compared with the least deprived is required to meet the national targets. Smoking and obesity were disproportionately concentrated in those living in the most deprived areas. The following actions were identified:

- City-wide strategies aimed at reducing smoking and obesity
- Strengthening the smoking cessation service in terms of improving coverage and cessation rates of disadvantaged smokers
- Increased investment in school-based programmes for improving diet and physical activity
- Targeting the most deprived children and families, and including the implementation of forthcoming new nutritional standards for school meals
- Systematic roll-out of the 5-A-Day scheme across the most deprived wards – research is required to examine and identify the barriers to fruit and vegetable consumption in communities with high levels of deprivation, to inform the design of activities that address inequities in diet
- A development programme to support CHD prevention and management in primary care, including a review of chronic disease management.

Further analysis of social disparities in the prevalence of CHD risk factors and quality of

CHD primary care services was needed, based on the use of new GP information systems and Quality and Outcomes Framework data. More in-depth analyses will be required to assess equity of access to secondary care. Preliminary analyses of social disparities in access to CHD drugs and hospital admissions for CHD treatment indicated that those living in deprived areas had greater access than those in the least deprived areas – however, the factors influencing access need to be investigated.

CHD strategy development

The findings and recommendations of the audit were documented within the Director of Public Health's Annual Report 2004, and the report was discussed within the PCTs and partnership forums, including PEC and Board meetings, and the CHD LIT. The audit also informed PCTs' discussions of developments in primary care.

Key learning points

- The DH's HEA self-assessment tool (Department of Health 2004b) was used by Hull PCT PEC and Board members. This was very important in increasing understanding and commitment at a strategic level.
- The CHD project provided the opportunity to pilot the technique of HEA. Our experience suggests that the use of HEA potentially provides a more systematic approach to integrating health inequalities within mainstream planning and service delivery.
- However, effective use of HEA depends on:
 - Commitment – by Boards, PECs, directors, medical staff and others
 - A clear model of HEA that covers population-based health programmes and projects, primary health and social care, as well as secondary care
 - Effective links to key mainstream planning groups and forums
 - Technical expertise and capacity, including epidemiology, audit, research and evaluation and health information systems
 - Routine information systems and audit mechanisms, as well as specific studies that can be used to investigate social and ethnic differentials.

The lack of local monitoring information with respect to prevention and community-based activities that take account of social position and ethnicity is a major constraint for undertaking audit of services beyond secondary care.

There is a need to invest in health intelligence and evaluation, with the support of the Public Health Observatory, in areas such as local target setting and projections, use of

the new GP information systems and patient electronic records, and health and lifestyle surveys. Stronger links with the Public Health Observatory and/or relevant academic units would be valuable.

Further use of HEA should be undertaken in collaboration with Hull City Council, and topics should be relevant to shared priorities and targets.

| <i>Huddersfield: health equity audit of mental health service use and provision for adults of working age and older people</i> | |
|---|--|
| Aims and objectives | Aim: to analyse local mental health service use and provision against known inequalities. Objectives: <ul style="list-style-type: none"> • To analyse service provision and use according to age, gender, ethnicity, geography and deprivation • To analyse gaps in service provision defined by key stakeholders • To make recommendations based on the outcome of the audit. |
| Contact | Fiona Jorden, Public Health Associate Specialist, South and Central Huddersfield PCTs |
| Partners involved | Huddersfield PCTs, South West Yorkshire Mental Health Trust, and Mental Health Partnership Board (LIT) |
| Time period | First cycle completed September 2004. |
| Summary of audit and its impact | The audit mapped equity of mental health service use and provision for adults of working age and older people living in Huddersfield, and contributed to an ongoing service redesign across the South West Yorkshire Mental Health Trust. |
| Further information | Two reports are available from the contact above: volume 1 maps service use; volume 2 maps service provision. |

Details of the audit

The key people involved were the Public Health Associate Specialist, the Director of Public Health, Deputy Director of the Mental Health Trust and two clinical information analysts. Service users were involved through the voluntary sector and through the Mental Health Partnership Board (LIT).

The topic was jointly commissioned by the two PCTs and the Mental Health Trust in the light of plans for future service redesign and reconfiguration across the Mental Health Trust.

The audit comprised two stages, as follows.

Profiling indicators of mental health and service contact

The equity profile was undertaken using the four dimensions of age, gender, ethnicity and geography, and examined deprivation indicators known to influence levels of mental health. It considered conditions treated mainly by community and primary care services, and conditions treated by specialist mental health services.

Data sets included population profiles, census data, Townsend data, and data on out-patients, postnatal depression, care programme approach, GP prescribing, admissions, Mental Illness Needs Index

data (estimates of ward prevalence for schizophrenia, affective disorders and other conditions), community psychiatric nurse contacts data, hospital readmissions data and suicide data.

Assessment of current service provision

A structured questionnaire was devised and completed by service providers (including acute provision, housing services, employment, self-help and user groups). Various guidance documents were used as the basis for defining effective service provision (such as CRD Report 21: *Scoping review of the effectiveness of mental health services*, York: Centre for Reviews and Dissemination, University of York, 2001).

Key findings

The audit raised new research questions around the differential access of services across the different dimensions. It identified a number of examples of disproportionate use of services – either lower or higher than expected numbers of people accessing services. Cross-cutting themes of institutional racism, causal factors, cultural factors and adequacy of service provision were identified.

Specific service recommendations were made across different populations within Huddersfield, including black and minority ethnic communities, older people, and those on a low income. Interventions were identified within the recommendations and based on evidence of effective practice, for example:

- Need for services to detect postnatal depression among women from South Asian communities
- Improved provision for males aged 35–44 years suffering depression
- Low attendance at out-patient department by minority ethnic communities – suggesting a need to redesign out-patient services to be more effective, appropriate, accessible and culturally sensitive
- Further investigation to understand higher

rates of admission in one deprived ward, particularly during holiday periods

- Further studies to understand the disproportionate numbers of males and black and minority ethnic communities admitted under the Mental Health Act
- Need for accurate recording of ethnicity data.

The findings and recommendations were reported to the Mental Health Trust and Partnership Board to influence their ongoing service redesign and reconfiguration. The equity audit informed a major service redesign and reconfiguration across a Mental Health Trust which spans six PCTs locally. It is difficult to quantify changes in investment made as a result of the audit, as this was one of a series of drivers for change. However, the audit responded to the request by the Mental Health Trust for local information to influence resource investment and reallocation, and thus had a significant impact on these areas.

Progress has not yet been reviewed as the redesign and reconfiguration is still under way, but this is intended in the future as part of an ongoing cycle. There are plans to repeat the audit following the service redesign to assess changes and improvements.

Key learning points

- Analysing the data oneself instead of relying on information specialists was easier, quicker and answered the questions more fully
- Using a patient pathway approach helped to provide boundaries and some logic to the report
- Not all the routinely collected data supported comparison against all four inequity dimensions, but these sources were included to allow questioning of the source as a potential indicator of inequity
- The use of synthetic data extrapolated where data were unavailable enabled the process to progress
- Service users and carers on the Partnership Board were very supportive of the process and welcomed feedback on the findings.

Plymouth PCT – neighbourhood-based equity profile for coronary heart disease

| | |
|--|--|
| Aims and objectives | Plymouth's Public Health Team has produced a health equity profile of CHD. This is to inform the work of the Plymouth Area Cardiac Group and, in particular, to enable them to complete an HEA for CHD to address inequities in services across the neighbourhoods of the city. |
| Contact | Robert Nelder, Public Health Information Specialist Robert.Nelder@phdu.nhs.uk |
| Time period | The audit started in October 2004 with the decision to produce an equity profile of CHD in Plymouth. A first version of the audit was completed in February 2005. The profile was presented to the Plymouth Cardiac Group in May 2005. Some specific further analyses were requested, which are currently being completed. |
| Summary of audit and its impact | An equity profile has been produced. This contains detailed information on CHD mortality, morbidity and hospital activity, as well as recommendations for changes in CHD-related services. Additional activity analysis is being carried out to allow the cardiac group to consider changes to the planning, commissioning and delivery of services. |
| Further information | A report, <i>Coronary heart disease: a neighbourhood-based equity profile of Plymouth tPCT</i> , was produced by Plymouth PCT's Health Equity Profiling Group in April 2005. |

Details of the audit

Plymouth city has a larger-than-average burden of CHD mortality for men compared with England and Wales as a whole, and an even greater burden for both men and women when compared with the south-west peninsula.

The CHD health equity profile was carried out to examine the burden of mortality and morbidity, the impact of deprivation, the pathways for access to secondary care services and the equity of secondary care provision.

The report was produced by the PCT's health equity profiling group. This group consists of members of the PCT's Public Health, Commissioning and Primary Care teams.

The profile examined CHD equity on the basis of the Townsend material deprivation score assigned to each of the 43 neighbourhoods in Plymouth, and considered the differences (over time) between three neighbourhood groups ('most deprived', 'middle group' and 'least deprived'). The profile has focused on mortality, morbidity (as represented by angina and AMI admission rates), and secondary care

services provided to meet this need.

The profile shows that the directly standardised mortality rate for CHD in the most deprived third of neighbourhoods is almost double that of the least deprived third. These differences have remained unchanged over the past 7 years.

The admission data show that the greater health need of the most deprived group is attracting greater and increasing emergency admissions, but this is not matched by attracting greater elective admissions.

In 2003, admissions for angina in the most deprived third were double the number for the least deprived group, and represented twice the gap seen in 1997.

Angiography rates are correlated with angina admission rates for the three deprivation neighbourhood groupings, such that higher angina rates attract higher angiography rates, providing evidence for an equitable response.

With the caveat of smaller number effects, there is no evidence that higher rates of angina and AMI admissions in the more deprived group are correlated with higher

rates of revascularisation procedures. This provides evidence of inequity.

On the basis of this profile, further contextual data and evidence will be gathered, particularly from those involved in service delivery. Suggested areas for action identified are:

- Maximising primary prevention programmes for deprived people and neighbourhoods, and recognising the evidence that behaviour change in deprived groups is harder to achieve without practical support
- Undertaking an equity study to examine health promotion services, primary care and secondary preventive services for CHD to identify how to address the higher death rates and angina admission rates in the most deprived neighbourhoods
- An investigation into the reasons why the most deprived groups tend to access secondary care through emergency pathways – to assess whether this is due to access issues, primary/secondary care referral pathways, differences in prescription and use of preventive interventions, readmissions, or differences

in accessing definitive revascularisation procedures

- An investigation into the reasons behind the mismatch between revascularisation rates and the angina and AMI admission rates among the most deprived neighbourhoods.

The cardiac group will use the results of the profile, combined with their knowledge of local service provision and evidence of effectiveness, to progress the equity audit beyond the straightforward profiling stage. It is likely that the opportunities afforded by practice-based commissioning will enable the cardiac group to recommend targeted interventions in specific areas of the city.

Learning points

Although a considerable amount of work has gone into the production of Plymouth's CHD health equity profile, it has become clear that its production is probably the most straightforward part of the HEA cycle. The real challenges lie in stages 3, 4 and 5 of the HEA cycle: agreeing effective local actions; agreeing priorities for action; and securing changes in investment and service delivery.

| Sheffield West PCT – health visitor audit | |
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| Aims and objectives | To ensure that under-fives and their families in Sheffield West PCT are allocated an equitable resource of health visitor support. |
| Contact | Dr John Skinner, Public Health Research Manager, Sheffield West PCT |
| Partners involved | None directly, but informal advice from neighbouring PCTs. |
| Time period | Started in January 2005, ongoing. |
| Summary of audit and its impact | Reallocation of health visitor resources to meet neighbourhood needs. |
| Further information | A report is available from the contact above. |

Details of the audit

Key people involved in the audit were the Public Health Research Manager, Health Visitor Project Manager, Health Visitor Manager and Health Analyst. The project was managed by the Health Visitor Steering Group and carried out by public health research analysts.

The topic was chosen by the Director of Public Health, driven by the shift from practice-based to geographical working.

The health visitor resource was measured by questionnaire to estimate time spent in Sheffield West PCT neighbourhoods. Need was measured as numbers of under-fives; numbers of clients on income support; and use of link workers.

It was found that resources at the neighbourhood level were not allocated entirely according to need. As a result, health visitor services were realigned at the neighbourhood level – weighted for numbers of under-fives, deprivation, and use of link

worker. This was a redistribution of existing resources.

A further audit to assess impact will be undertaken in 2 years.

Key learning points

- Separating the audit from the broader picture of health visitor resourcing on a geographical basis proved complicated.

- There was a need to focus the steering group on the audit process – not just the profile.
- The results of realigning the health visiting resource were contentious and needed to be handled sensitively by nursing managers.
- There was a lack of outcome measures to show that the audit process had reduced inequalities.

| Sheffield West PCT – audit of district nursing services for the over-75s | |
|---|--|
| Aims and objectives | To ensure that over-75s discharged from hospital have a fair allocation of district nursing resources from Sheffield West PCT. |
| Contact | Dr John Skinner, Public Health Research Manager, Sheffield West PCT |
| Time period | Started in September 2003; completed January 2004. |
| Summary of audit and its impact | Reallocation of district nursing service across PCT practices. |
| Further information | A report is available from the contact above. |

Details of the audit

Key people involved in the audit included the Public Health Research Manager, Director of Operations and the Health Improvement Manager. The topic was chosen by the Director of Public Health. No quantifiable evidence existed of how resource related to need.

The equity profile was based on discharge rates, numbers of staff (whole-time equivalent) by practice, and deprivation data on the percentage of clients living in 'poverty postcodes'. The profile drew on sources from local hospital admissions databases, nurse management records, and local authority data on benefit claimants. The profile was carried out by public health research analysts and commissioned by the Older People's Steering Group

As a result of the audit, the district nursing service was realigned between GP practices according to need. The service was redistributed within existing resources. A re-audit is planned in 2 years.

Key learning points

- As a first HEA, it was useful to pick a small-scale study with reliable data sources and where there was an existing mechanism for change.
- The results of realigning the district nursing resource were contentious and needed to be handled sensitively by nursing managers.

Great Yarmouth PCT and Waveney PCT – Using the Gini coefficient and slope index of inequity to track changes over time in inequities for key health indicators

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|--|---|
| Aims and objectives | To determine if inequity and health needs are changing, and to evaluate the impact of any proposed interventions to reduce inequities in key health indicators as part of the ongoing process of service planning, development and monitoring. |
| Contact | Dr Alistair Lipp, Director of Public Health, Great Yarmouth Teaching PCT and Waveney PCT Alistair.lipp@gtyar-pct.nhs.uk |
| Partners involved | Waveney PCT, Suffolk Support Services, Eastern Support Services, Eastern Region Public Health Observatory. |
| Time period | Ongoing. |
| Summary of audit and its impact | On an annual basis (or where appropriate), the inequity of a composite health measure (directly age/sex standardised rates, percentage uptake, etc) is measured using the Gini coefficient and the association with deprivation is tested using the relative slope index of inequity. Any change in equality is highlighted and reasons for the change investigated. Profiles have been undertaken on a range of topics including cervical screening, flu vaccinations and orthopaedic in-patient admissions. |

Details of the audit

The team involved in the audits included the Director of Public Health, Public Health Consultant, Public Health Research Officer, Information Analyst, Prescribing Analyst and the Health Protection Unit.

The aim of the programme is to match service provision with the need to achieve health equity. As far as possible, inequity is measured as a matter of course for each key health indicator: for example, uptake of cervical screening and flu vaccine at practice level, and hospital emergency admissions at both practice and ward levels.

This allows the PCT to identify areas of need (wards, practices or other area measures) that might benefit from targeted resources or improved focus. Subsequent routine measurement of inequity allows the monitoring of inequities in the system to identify any changes and begin investigative action to understand why. This then enables the design and implementation of an appropriate intervention.

Equity profiles have been undertaken on the following topics: cervical screening uptake, flu vaccine uptake, teenage pregnancy

rate, COVER (cover of vaccination evaluated rapidly) uptake, hospital emergency admissions, all-cause mortality, circulatory disease mortality, CHD mortality, Quality and Outcomes Framework indicators, hospital orthopaedic in-patient admissions, acute myocardial infarction rates, revascularisation rates, etc.

Profiles were produced using routine data sources. The data sets used included prescribing data, hospital episode statistics, IMD and standard returns (KC53, etc). The Gini coefficient was calculated as a measure that quantifies the extent of inequity and changes over time. The relative slope index of inequity is calculated to examine the relationship to measures of deprivation.

The findings are considered on a regular and systematic basis by the different planning and management forums to inform their decisions about developments and resource allocation.

The *Health Atlas* report profiled a full range of areas and key indicators, and was used to provide a detailed picture of health inequities for the local strategic partnership. It was used to inform decisions about Neighbourhood Renewal investment and targeting of the most deprived areas.

Figure 4 Cervical screening: falling uptake 2000–04 (Great Yarmouth Teaching PCT) – cervical cancer screening uptake rate by GP practice

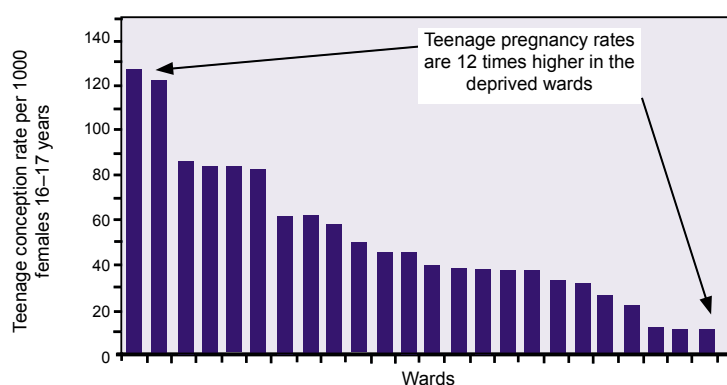
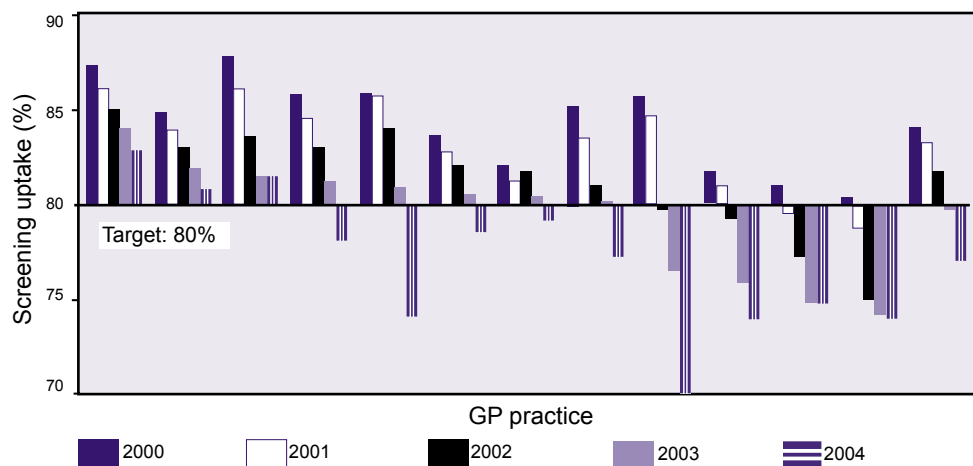


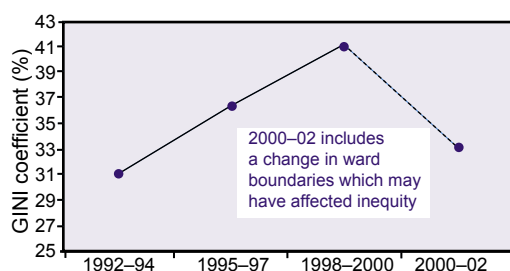
Figure 5 Teenage conception rate 1992–2000 by ward (Great Yarmouth Teaching PCT)

The report also achieved widespread local media coverage and raised understanding and awareness about local inequities and actions.

Considering cervical screening uptake, routine monitoring showed that uptake was falling, inequity was increasing, and uptake was falling more quickly in the more deprived areas. This has led to the development of a survey to understand the reasons for the decline in uptake (Figure 4).

Analyses with respect to teenage pregnancies demonstrate a very gradual overall decline for the PCT (Figure 5). However, marked inequities are highlighted between wards,

Figure 6 Great Yarmouth teenage conception rate as GINI coefficient over time, 1992–94 to 2000–02 (Great Yarmouth Teaching PCT)



and use of the Gini coefficient allowed us to track the extent of these inequities over time (Figure 6). Targeted development of sexual health services is addressing the widening gap.

Key learning points:

- Health equity audit, based on routine data sources, can be undertaken as a continuous process and embedded within the wider planning and service delivery system. The regular monitoring of inequity and patterns of health needs allows continuous assessment of the progress and effectiveness of any interventions.
- Attention needs to be given to educating members of different planning and management forums about the use of particular measures, such as the Gini coefficient, as a way of tracking changes in the extent of inequities over time and guiding and monitoring patterns of investment.
- Statistical software packages potentially provide accessible tools to enable wider involvement of staff across organisations in the process.

| Camden – health equity audit of rapid-access chest-pain clinics | |
|--|---|
| Aims and objectives | To assess whether there is fair access to rapid-access chest-pain clinics for resident patients of Camden, according to their level of need, with equity considered in terms of age, gender, ethnicity, deprivation and geography; to make recommendations to influence change. |
| Contact | Laura Hague, Camden PCT Laura.hague@camdenpct.nhs.uk |
| Partners involved | University College London Hospital NHS Trust; Royal Free Hampstead NHS Trust; CHD Collaborative. |
| Time period | 2004–July 2005. |
| Summary of audit and its impact | An audit of the extent to which there was equity of access for residents of Camden to the rapid-access chest-pain clinics according to age, gender, ethnicity, deprivation and geography, informing the decisions of the Camden CHD LIT, and raising questions about access of older people to the service and the quality of ethnicity coding. |
| Further information | The full report can be obtained from the contact above. |

Details of the audit

The HEA built on a previous broad piece of work looking at inequalities and focusing on CHD in 2000. The HEA was commissioned by Camden PCT's CHD LIT. The rapid-access chest-pain clinics, based at the Royal Free Hospital and University College London Hospital, were established in 2001 with the aim of providing a quick and early specialist cardiology assessment.

The HEA project team comprised:

- Health inequalities and equity audit officer
- Public health and commissioning manager
- Two consultant cardiologists
- Cardiac nurse specialist
- Representative of the CHD Collaborative.

Input was also provided by Camden PCT's CHD LIT and a broader technical advisory group.

Methods

The overall approach was to define the service needs and service use of Camden residents, and to investigate the extent to which access reflected this level of need (defined across the range of equity dimensions).

Expected needs and actual service use

Prevalence of CHD according to age, gender, ethnicity and geography was judged to be the most valid measure of need. Two surveys

were used as the main sources of prevalence data, and the results compared. The surveys were:

- Health Survey for England (HSE), 1999 Camden and Islington boost (prevalence of treated CHD)
- British Heart Foundation (prevalence of treated CHD by main conditions).

The aim was to construct an expected profile of patients using the service. This involved applying the prevalence figures to the population of Camden (using data from the 2001 census). Index of Multiple Deprivation data were used to measure deprivation: an IMD rank was assigned to each patient record according to where they lived (this rank is relative to the whole of England where super-output areas were ordered from 1 (most deprived) to 32,482 (least deprived). The geography of need (ethnicity and age) was examined by mapping 2001 census data at ward level.

Service use and access was measured using patient clinic referral information (May 2002–April 2004). Mapping software was used to assign patient postcodes to boundary data and to determine deprivation scores for each patient.

The differences between expected and actual profiles (by the different equity dimensions) were analysed using chi-squared tests of the

statistical significance of the differences. The profiles between the two clinics were also compared across the equity dimensions. The poor-quality ethnic coding clinic data limited the value of the equity analysis. The expected service-use profiles were used as 'indicative', given the basis of the estimations.

Main findings

Overall, the findings showed there was equal to the rapid-access chest-pain clinics in terms of gender, ethnicity and deprivation. For example, the plotting of number of referrals against deprivation ranking showed there were more referrals from the more deprived areas of Camden. Given the well established relationship between deprivation and CHD, this pattern indicated that the clinics are responding to expected greater levels of need.

However, the findings indicated inequity of access according to age: the proportion of younger age groups was found to be higher than expected, whereas the proportion of older age groups was lower than expected.

The findings were discussed with the CHD LIT. In particular, the team identified possible explanations for the findings suggesting inequity of access by certain age groups.

Recommendations

- To continue monitoring equity of access to the service
- To improve data collection quality, especially in relation to ethnicity coding
- To assess the importance of the lower level of referral for the older age group in relation to appropriate management of CHD for this age group
- To assess onward referrals for investigation across equity profiles to identify inequity of referrals following clinic assessment
- To conduct further HEA on CHD in NHS areas where the LIT judges there are equity issues.

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