Health & Social Care Bill 2011
House of Lords report stage

Briefing note 13

The changing data requirements of the market: implications for public health functions of the abolition of geographic areas and responsibilities

In the consultation document *An information revolution* the government sets out an ambitious strategy for improving the information available for service users and providers and for monitoring the provision of care.[1] Both measures will be undermined by proposals in the Health and Social Care Bill to abolish primary care trusts (PCTs), which are geographically based, and substitute clinical commissioning groups (CCGs), which will not be geographically based. If the Bill is passed, no organisation will have overall responsibility for commissioning, providing and monitoring care for the populations of contiguous geographical areas.

The consequent loss of information and loss of area based responsibilities will make it impossible for the Secretary of State to promote a comprehensive health service and will impede the ability of the National Commissioning Board (NCB) to monitor the provision and outcome of care to the population and the performance of CCGs.

In particular, they will be unable to fulfil their duty to monitor inequalities or the extent to which vulnerable subgroups within the population are being denied care. It will also impede inter-relationships with local authorities who will be responsible for public health and for commissioning some services for geographically defined populations.

The proposal to abolish contiguous geographically based units of administration conflicts with the government's undertaking to accept the NHS Futures Forum's recommendation that 'boundaries of commissioning groups should not normally cross those of local authorities'.[2]

This briefing explains why it is essential that the Bill is amended to give CCGs responsibility for commissioning and monitoring care for geographically defined populations in contiguous geographic areas. It explains how geographically based data are compiled and why they are needed for resource allocation, and the implications for commissioning and monitoring of inequalities in access to care and its outcome.

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[1] Department of Health. Liberating the NHS: an information revolution. 2010. http://www.dh.gov.uk/en/Consultations/Liveconsultations/DH_120080

[2] Department of Health. Government response to the NHS Future Forum. June 2011. Paras 3.46 to 3.48.

Background

The Bill would abolish the current geographically based PCTs and strategic health authorities as units of administration and replace them with CCGs which would not be geographically based structures. Attention has so far focused largely on the risks to the financial viability of commissioning groups arising from maldistribution of high cost patients, management costs, and efficiency savings. We show here how a change to new structures, in which commissioners would cease to have responsibilities for all residents of geographical areas, would require new data collection and information systems based on groups of individuals rather than geographical populations.

1 Geographical data are the backbone of all public health and other NHS functions

Since 1948 the unit of NHS administration and service provision has been on the basis of covering all people living within specified geographic boundaries, each contiguous with each other. This has formed the basis of all public health and service provision functions including:

- a Resource allocation
  Population-based resource allocation formulae for distributing funds to the NHS at regional and local level
- b Service provision and staff planning
- c Monitoring the uptake and outcome of services
  - i Monitoring uptake of services such as child health, dental and mental health and immunisation and screening
  - ii Monitoring hospital treatment rates and their outcome
  - iii Infectious disease and their control
  - iv Health protection and promotion
  - v Monitoring access to care
- d Monitoring the health of populations
  - i Population trends in disease incidence and prevalence, mortality and life expectancy
  - ii Use of cancer registers and other registers used to monitor specific diseases and conditions
  - iii Monitoring of inequalities in health
  - iv Epidemiological and other research.

2 Data about the population of a defined geographical area are the core requirements of NHS public health and service functions

To monitor the functions listed above, rates are constructed based on a denominator population which consists of all residents in a specified geographical area. Data about geographical areas from regional to local authority down to small area level are compiled from a number of sources, starting with the previous census and adding in more recent data about health and the factors which can affect it. All of these are population based and some are not directly related to health services, despite their implications for the population's health. They include migration, crime, education, housing, employment and environmental factors. As well as being used individually, they are used to compile the area-based Indices of Deprivation (IMD) for local populations. In England, they are compiled for local authorities, 6,780 middle layer super output areas, and 32,482 lower layer super output areas (LSOAs).[3] [4] There can be considerable variation between the socio-demographic characteristics of people living in close proximity even within the relatively small LSOAs (around 1,500 people). IMD scores are not suitable measures of individual socio-economic status when detached from the rest of their local population (a phenomenon known in epidemiology as the ecological fallacy).

a Impact of proposals in the Bill for non-geographically based CCGs on the compilation and collection of data

CCGs would not assume responsibility for all the health care needs of residents in a geographical area. The Bill does not define CCGs on a geographical basis. Instead, CCGs would be responsible for the care of people registered with GPs who are part of their CCG. Even at present GP practice lists are not geographically based, but PCTs set practice boundaries and practices are required to accept patients from within the geographical areas of PCTs.[5] Current arrangements for practice based commissioning are based on the characteristics of the populations of PCTs.

Under the proposals in the Bill, GPs and hence CCGs will be allowed to recruit, patients from anywhere in the country, initially on the basis of practice lists. This means that CCGs would be able to pick patients, potentially choosing the healthiest from within the same small areas. Thus they will move even further away from geographical population denominators and operate with different sets of registered clients and unrepresentative populations, depending on their responsibilities.

In contrast, some public health functions (as yet to be fully specified) are to move to local authorities, whose responsibilities are for their resident geographic populations. Local authorities are expected to commission services from CCGs, which would in turn commission services from a range of private providers. This multiplicity of arrangements will result in a loss of a 'National' Health Service, and importantly, geographic population denominators. It will create a need for a multiplicity of person-based denominators. It will make responsibility for patients and the data and information about them even more difficult to monitor, especially given the abolition of the NHS National Programme for IT in 2011.

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[3] Department for Communities and Local Government. The English indices of deprivation 2010. 2011 http://www.communities.gov.uk/publications/corporate/statistics/indices2010

[4] Office for National Statistics. Neighbourhood statistics. http://neighbourhood.statistics.gov.uk/dissemination/

[5] NHS choices. NHS general practitioners http://www.nhs.uk/NHSEngland/AboutNHSservices/doctors/Pages/GP-FAQs.aspx

These organisational changes underpinning the NCB and CCGs mark a shift to insurance-type health system structures which have no geographical borders. Much discussion has so far centred on the size of the population and how to manage CCGs 'cherry-picking' the healthiest patients (known as risk selection). However, this fundamental change in the loss of geographical boundaries will require new and highly complicated information and data collection systems. The implications of this for the duties of the Secretary of State have not been recognised.

Moving from geographically-based to person-based commissioning has a number of disadvantages and carries with it major problems related to the availability of information to support it. These problems are so significant that they will make it impossible for the Secretary of State, the NCB, and CCGs to fulfil core duties, including the need to have regard to inequalities within the population.

b Limitations of data from GP registrations compared with population-based data

A shift to core data based on GP practice registrations rather than geographically based data would lead to a number of problems including:

i Stability and reliability

There are questions about the reliability of GP systems as a population denominator because of 'list inflation'. They may contain data about people who have moved or died and the capitation system by which GPs are paid offers no incentive to rectify this. In future this situation is likely to be made worse by enrolment and disenrollment by and of patients.[6] A study of Health Maintenance Organisations (HMOs) in the United States showed a disenrollment rate of 14%, with disadvantaged patients being particularly vulnerable and higher disenrollment rates in areas with many competing HMOs.[7]

In contrast, under the current system, there may be some inaccuracies in population estimates but these are derived from processes far removed from that of funding NHS care. This means there is no incentive to let them rise. In future as patients will be able to move at will between CCGs this will lead to instability in both population numerators and denominators.

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[6] Munro J, Sampson F, Pickin M. Nicholl J. Patient de-registration from GP lists: professional and patient perspectives. 2002 University of Sheffield. http://www.sheffield.ac.uk/polopoly_fs/1.44079!/file/MCRU-deregistration-2002.pdf

[7] Riley GF, Ingber MJ, Tudor CG. Disenrollment of Medicare beneficiaries from HMOs. Health Affairs 1997;16(5):117-124.

ii Representativeness

CCGs will be list-based. Even if a CCG includes only GP practices located within a defined area such as that of a local authority, not all patients registered with the practices will live in this area. Some borough residents will be registered with a GP outside the area (fringe patients). Given the incentive for GPs/ CCGs to choose the healthiest people, there are questions about the representativeness of practice-based data and their validity for use as denominators for mortality rates, disease incidence rates and service utilisation rates.

iii Socio-economic data

There are few data collected about the socio-economic characteristics of people registered with GP practices, which use a variety of IT systems. Even if data such as patients' occupations are recorded in them, they are not recorded consistently or aggregated nationally, apart from within databases compiled from practices using the same system. In addition systems differ from each other and hospital episode statistics (HES) in the ways in which they code clinical conditions. As a result, the NHS register contains few clinical and socio-demographic data.[8] More detailed data from GP systems are not aggregated nationally because of the variety of IT and coding systems in use. This will create problems where CCGs include practices with a variety of different GP clinical information systems.

c **Problems in deriving practice based data from HES**

Few national data collection systems include an individual's GP practice as a data item.

i The main national system which does record GP codes is HES.[9] Although this can be linked to the registration of births and deaths, there are few socio-economic data and no data about wider health issues recorded at a national level.

ii A significant issue is the accuracy and reliability of HES data[10] which will now be the main data source for resource allocation. Further, HES is likely to deteriorate in future if the proportion of care commissioned from private providers rises. Previous experience has shown that data about NHS care commissioned from private providers has been under-reported to HES and there

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[8] Dixon J, Smith P, Gravelle H, Martin S, Bardesley M, Rice N et al. A person based formula for allocation commissioning funds to general practices in England; development of a statistical model. BMJ 2011;343:d6608. http://www.bmj.com/content/343/bmj.d6608

[9] Information Centre for Health and Social Care. About HES. http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=87

[10] Information Centre for Health and Social Care. When (not) to use HES data. http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=1004

are problems with data quality and coverage in general.[11] This was a particular problem in the case of data recorded in HES from independent sector treatment centres.[12] [13] There have also been problems with returns from other private sector providers used to reduce numbers on waiting lists.[14]

iii Socio-economic data for geographical areas cannot be re-analysed to provide corresponding data for CCGs as there are only limited data about individual socio-economic characteristics in HES and the NHS register, although HES does include age, sex, and (incomplete) coding of ethnicity. This will make it difficult to measure inequalities in the uptake of care within and between groups. HES does not capture encounters with the NHS that take place outside hospital and there are few community based systems which do this. This is an important gap at a time when the focus of government policy is to move services into community settings.

3 How the change in information requirements required by the new structures and consequent lack of information will undermine the Secretary of State's duty to promote comprehensive care and monitor inequalities

a Resource allocation and commissioning

The Bill would change the basis of resource allocation and commissioning from area based populations to individuals registered with GP practices. This enables and entails a switch from needs based funding to the management of financial risk and likely denial of care to people who are not accepted by the constituent practices.

A series of resource allocation formulae have been constructed over the years to allocate funds to local authorities and to area-based NHS authorities. These formulae have been subject to constant revision and refinement over past decades since their introduction in 1976. In the case of the NHS, the aim has been "to secure, through resource allocation, that there would eventually be equal opportunity of

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[11] Mason A, Street A, Verzulli R. Private sector treatment centres are treating less complex patients than the NHS. *Journal of the Royal Society of Medicine* 2010;103:322-31.

[12] Healthcare Commission. Independent sector treatment centres: the evidence so far. 2008. http://archive.cqc.org.uk/_db/_documents/Independent_sector_treatment_centres_The_evidense_so_far.pdf

[13] Healthcare Commission. Independent sector treatment centres. A review of the quality of care. 2007. http://archive.cqc.org.uk/publications.cfm?fde_id=504

[14] Kings Fund. Independent Sector Data Quality Workshop. 2008. http://www.ic.nhs.uk/webfiles/Key%208/IS%20information/080415_IS%20DQ%20workshop%20held%20on%2027%20Mar-08.pdf

access to health care for people at equal risk"[15] and to tackle historical geographical inequalities by reallocation at a manageable rate.

The formulae mainly used data on service utilisation by age and sex and on standardised mortality ratios at a time when there were few data on morbidity. Although there are diagnostic data about the conditions for which people receive hospital care, there is no clear link between these and the need for resources to treat them. These formulae have acknowledged limitations,[16] but the change of allocation to GP practices and to CCGs based on groups of practices would create fundamental new problems. These were highlighted in a recent BMJ article exploring formula for allocating commissioning funds to general practices.[8] Crucially with respect to risk selection, the picking and choosing of patients, and then applying area deprivation scores to individuals instead of to area based populations as part of the adjustment will not overcome risk selection. Instead, it will distort resource allocation and lead to inflated allocations to CCGs whose practices selectively recruit healthy patients from deprived areas.

There were other problems with the practice-based formulae published in the BMJ[17]

- i They cover only acute hospital care and thus exclude mental health, maternity and community services, but there is a need for diagnostic data from non-hospital services.
- ii The proposed new formula uses data from two years to estimate costs of hospital care in the subsequent year, rather than the need for care. Therefore, there is no attempt to modify historical patterns of inequalities.
- iii There are no data on individual social characteristics, just an area-based IMD score for the area where each patient lives.
- iv At the same time, GP practices are expanding their borders and will not cover populations of geographically defined areas, meaning that it will become more difficult to monitor the accuracy of practice lists. This will create a need for additional expensive monitoring of such lists, especially in areas with mobile populations.
- v Data about privately funded non-NHS care will not be captured.
- vi The proposed formulae do not predict need, only service use, and there is enormous variability in the extent to which people use services for a particular need.

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[15] Department of Health and Social Security. Sharing resources for health in England. Report of the Resource Allocation Working Party (the RAWP report). London: HMSO, 1976. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4121873

[16] Galbraith J, Stone M. The abuse of regression in the National Health Service allocation formulae: response to the Department of Health's 2007 resource allocation research paper. Journal of the Royal Statistical Society Series A (Statistics in Society) 2011;174:517-528.

[17] Bevan G. The search for a proportionate care law by formula funding the English NHS. Financial Accountability and Management 2009;25:391-410.

vii The proposed formulae cannot take into account risk selection and non representativeness of populations.

viii The Bill still does not clarify or specify which services will be commissioned by local authorities under different resource allocation formulae.

b Monitoring access to care and inequalities

The proposed abolition of geographic area-based structures as the unit of administration for the NHS and their replacement by CCGs has serious implications for public health functions. Without a remit for monitoring access to care by populations, the Bill effectively abolishes the foundations of a National Health Service. This is because it is unclear how the monitoring of and responsibility for addressing inequalities in access to care and in health promotion and disease prevention strategies both within and between groups of people living in all the areas of England will be enforced and ensured.

Infectious disease control and other statutory responsibilities will also be undermined by abolition of the structures, such as the Health Protection Agency, which are currently accountable to the Secretary of State, and have responsibility for reducing inequalities and for infectious disease control.

Although CCGs would have a duty to monitor and reduce inequalities, the reality is that they will not be able to fulfil this function at a local population level if they are not geographically based. It will not be possible to compensate for the problems of risk selection when modelling differences in access to care. Even if area-based monitoring continues, the fragmentation of responsibilities and provider functions will lead to the erosion of data quality, accuracy, and completeness in the absence of any body accountable for promoting access to services at an area level as the following examples illustrate.

Children’s services and immunisation

The effects on these services are a good illustration of the problems. High uptake of immunisation of at least 90% of the population is essential to maintain herd immunity. Although responsibility for immunisation would be with public health which would be located in local authorities, the services are usually provided by GPs from their surgeries. Monitoring is undertaken by community child health services. These were formerly based in PCTs alongside public health departments but most have now moved, along with other preventive services to hospital or community trusts.

Under the Bill, child health services would be further moved to local authorities. Since the residents of one local authority may be registered with any one of many different CCGs, the local authority would have to subcontract this function to several CCGs. These would in turn outsource the commissioning functions to other bodies, which could contract the service to several providers. Under such a system it would be possible to compare reported differences between immunisation rates for CCGs but the instability of the denominator population raises concerns about the accuracy of data.

Maternity services

Similar considerations apply to maternity services where the key choice is between models of care rather than between providers. Networks of providers are needed to provide this choice as well as ensuring access to intensive care services for the minority of mothers and babies who need them. Because of this, the Royal College of Midwives has called for maternity services to be exempt from competition between providers and for CCGs to group together to commission services for populations.[18]

Cancer registration

To provide cancer information for CCGs, cancer registries would need to be able to identify the numbers of cases of cancer and the population for each CCG. A study by the West Midlands Cancer Intelligence Unit showed that major investment would be needed to retrospectively populate its database with GP codes for 6.5 million records and that in order to fulfil its obligations to monitor trends, it would need to do this for past years. It also pointed to wide differences between the patterns of formation of CCGs within the region, which would impede comparability.[19]

All other services

Under the proposed system of commissioning for individuals, selection bias and lack of sensitivity of ward and output area based variables means that it will be virtually impossible to monitor inequalities, let alone explore reasons for differences observed or propose strategies to address them. Moreover, even if data are returned and published at an area level, as at present, it is difficult to see how a plethora of CCGs and providers would be held to account for area-based responsibilities such as cancer monitoring, infectious disease control, or immunisation coverage. It is also difficult to see how standardised mortality ratios can be constructed and interpreted in a meaningful way, whether for resource allocation or for monitoring.

The same parallels can be drawn for HIV and sexual health, dental public health, and mental health services. As yet undefined services and functions are to be relocated to local authorities, which will then be responsible for commissioning some treatment and care services back from the NCB and CCGs. These would then subcontract commissioning functions to other bodies which in turn will commission services from a plethora of providers.

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[18] Royal College of Midwives. NHS Future Forum. http://www.rcm.org. uk/college/campaigns-events/protect-maternity-services/future-forum/ Accessed 15 December 2011)

[19] Edwards D. Providing cancer information and statistics for clinical commissioning groups. West Midlands Cancer Intelligence Unit. Poster presentation at LARIA/HSUG winter seminar and learning event - NHS and local government intelligence - sharing skills and information for the future. http://www.wmciu.nhs.uk/documents/Cancer_Stats_for_CCGs_Diane_Edwards.pdf

Relationship to *An information strategy* and the *NHS outcomes framework*

The implications of moving to non-geographically based structures were not discussed or even mentioned in *An information revolution*. There is also no reference to them in *The NHS outcomes framework 2012/13,* which relates to holding the NHS Commissioning Board to account and makes no allusion to the problems of deriving indicators for CCGs. This raises serious concerns that the new proposed information strategy will not be fit for purpose.

Conclusion

Public health requires the restoration of the statutory duty of the Secretary of State to secure and provide a comprehensive health service throughout England. From this flows the principle of using area based structures, functions and duties with geographical boundaries. These must be maintained rather than abolished as in the Bill. Without area based structures, the Secretary of State cannot promote a comprehensive health service or monitor and intervene on inequalities in access, resourcing of services and outcomes of care.

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