Population Needs Assessment for primary care: guidance on the use of data sources

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### Document Control

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### Other Related Documents

- Primary Care Data Sources Document

### Comments to

nss.LIST@nhs.net

### Document History

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Purpose
This document aims to provide an outline of an approach to population needs assessment for primary care. The focus is on the data sources available to support this process. More details of these data sources are provided in an accompanying document.

Policy context
The 2018 GMS Contract outlines the clear role that GP clusters will have in quality planning, quality improvement and quality assurance. This builds on Improving Together, a quality framework for GP clusters in Scotland, which offers a route to continuously improve the quality of care that patients receive by facilitating strong, collaborative relationships across GP clusters and localities.

Improving Together describes the agreed ‘intrinsic’ and ‘extrinsic’ functions of GP clusters in Scotland. The intrinsic function refers to the role of GP clusters in improving the quality of care in their cluster through peer-led review. The extrinsic function refers to the critical role GP clusters have in improving the quality of care in general practice and influencing HSCPs regarding both how services work and the quality of services.

Clusters are different sizes and influenced by local circumstances and geography. Therefore, population needs assessment is one tool to assist this process, specifically to identify population needs and inequalities and so assist in helping identify areas where improvement might be focused, inequalities tackled and care planned.

As well as morbidity (disease) and mortality, cluster improvement outcomes may include specific groups of people, eg frail elderly, or those with specific diseases eg, diabetic patients, or specific situations eg workplace. Population needs assessment can help identify which outcomes need to improve for these groups and to guide the choice of interventions to be prioritised in relation to the needs of the whole population.

Definition of ‘need’
It is not straightforward to define “need”; felt need (want or desire) is different from expressed need (demand), which is different from need set against standards (normative need). People with apparently high levels of need may not ask for or be provided with care/services. It is also important to be aware that providing services often generates demand. For example setting up a new mental health outreach service may lead to a large increase in the number of people identified with mental health care needs.

A useful definition of need is “the capacity to benefit from care”. This definition is a reminder that the focus in needs assessment should be on interventions that can produce real benefits and on identifying people who could benefit from receiving those interventions. It also emphasises the need for evidence that services are effective and likely to produce benefits.
Broad principles of undertaking population needs assessment

The purpose of population needs assessment is to gather the information needed to understand the type and distribution of care required for a population to gain the maximum benefit from that care. This requires an understanding of the health and wellbeing needs of the population and what care is currently provided by whom, in order to support improvement through primary health and care services and other initiatives, including self-care.

Population needs assessment should not be considered in isolation. It is useful to consider the interaction between the :-

- needs of the population (made up of individual needs),
- intervention available (treatment, enablement, care),
- organisation delivering interventions (combination of humans, resources, intellectual capacity)
- involvement of individuals (patients and carers), agencies and organisations.

In summary population needs assessment involves three stages:

1. Assess the level of need for care, which can include a variety of services.
2. Describe the current pattern and level of supply of provision of this care/service.
3. Identify the extent of the gap between need and supply or care/service.

The understanding gained from population needs assessment is then used to help make decisions about how to prioritise allocation of resources (people, time, money) to meet the needs that have been identified, alongside other ways in which people’s health and care needs are met, such as self-care or community support. Population needs assessment is one component of the larger process of quality planning.

There are three approaches to undertake each of the above stages:

a) Epidemiological: based on quantitative data to estimate the size and composition of the population of interest, including information on place, over time, and by key population subgroups; the level of need (as indicated for example by the prevalence of disease, disability or adverse life circumstances) and the current provision of care/services to meet those needs.

b) Comparative: comparisons across time or between different geographies or population groups to establish potential needs by identifying areas or groups where there is relative under- or over-provision.

c) Consultative: mainly qualitative information to help understand the views of stakeholders (patients, public, professionals, policymakers etc) about current needs, options and priorities for future provision.

In general, all three approaches are needed for population needs assessment and subsequent decision-making. The older people needs assessments carried out by the Scottish Public Health Network\(^1\) and by NHS Ayrshire and Arran\(^2\) both provide good examples of these approaches.
Preparing for a needs assessment
Preparation for a needs assessment will include consideration of the local circumstances and background to the commissioning of the needs assessment, identification of stakeholders, agreeing the scope of the needs assessment, identifying the necessary time and other resources to carry out the needs assessment and considering what data sources are available.

It is important to identify, involve and engage key stakeholders early on the needs assessment process to ensure that the work will be the central means of decision-making (and/or resource allocation) and that the output will be fully integrated into the subsequent decision making processes.

Data sources (for a comprehensive summary of data sources, please see here)

Summary
A range of different types of data sources are available for population needs assessment. Primary care data are/will be available through SPIRE. Routine secondary care data, such as hospital admission data may help to assess aspects of service use. Data are available periodically from surveys such as the Scottish Household Survey. Estimates of particular needs may be available from surveys carried out locally as part of research studies. Sometimes it may be necessary to use research studies carried out elsewhere and apply them locally, though in this case careful consideration needs to be given to how applicable the study is to local circumstances. Sometimes high quality data from elsewhere are combined with local demographic data to provide modelled data. Examples include modelled estimates of smoking prevalence produced by the Scottish Public Health Observatory\(^3\) (although it is important to note that such synthetic estimates should not be used to monitor progress). Some surveys are carried out by advocacy groups with an interest in a particular kind of need. These are often useful, though users should be aware of the risks of conflicts of interest. Finally, in the absence of any data it may be necessary to rely on expert opinion on the extent of local needs.

Notes on use of data
Whatever data sources are used, it is important to be clear about where the data came from and to be aware of the strengths and limitations of those data. One important approach to population needs assessment mentioned above is the comparative one. In order to make comparisons it is essential to ensure that indicators are defined in the same way in different areas or groups. The provision of nationally consistent indicators is one of the important strengths of health profiles.

Data may be crude or adjusted. Crude figures are based on simple counts without any further adjustments. Adjusted figures have been processed in a way that takes account of differences between different areas, times or groups. For example, age and sex standardised figures have been adjusted so that comparisons of such figures take account of difference in the age and sex composition of populations. A comparison of two populations with a very different average age may show that the older population has a higher prevalence of dementia. This will be reflected in higher rates of demand for dementia services. However in terms of understanding the
reasons for this variation, age-standardisation may show that when the figures are adjusted for age, there is no difference in the prevalence of dementia between the two populations. **For the purposes of needs assessment there is generally more interest in establishing the level of need. For this purpose crude (unadjusted) figures are more relevant. However if the purpose is to understand the reasons for variation then adjusted figures are more meaningful.**

**Inequality** is an important aspect of need-
- Low average levels of need may conceal wide variations, with some groups having much higher levels of need.
- Examination of inequality usually focuses on socioeconomic inequalities, but it is important that other population characteristics (such as age, gender, ethnic group or disability) may also be important sources of inequality.

Most often, inequalities are examined using the Scottish Index of Multiple Deprivation (SIMD), an area-based measure of concentrations of material deprivation. A simple measure of inequality would be the gap in a particular measure (for example mortality) between the 20% of the population living in the most deprived data zones and the 20% in the least deprived data zones. This is an absolute measure of inequality. A more detailed guide to measures of inequality is available from the Scottish Public Health Observatory.

### A. ASSESS CURRENT AND FUTURE LEVELS OF NEED

The first step in population needs assessment is to gather information on the level of current need in the population being considered. This can be combined with information on previous trends to project likely future levels of need.

#### 1. DEVELOP A DEMOGRAPHIC PROFILE OF THE POPULATION OF INTEREST

A first step in understanding the level of need is to describe the demographic profile of the population of interest. This profile should include current and projected future population sizes; the current and future composition of the population by age, gender, geographic location, urban-rural location, household composition including marital status and for specific population subgroups, such as ethnic group.

Other information can be derived from the basic demographic profile, such as dependency ratio (the number of dependents <16 years plus the number over retirement age divided by the number of working age). Information is available (from the Scottish House Conditions Survey) on household tenure and on numbers of pensioner households.

**Main data sources**

The main data source to support the development of a demographic profile is the Census. National Records of Scotland (NRS) publishes a large amount of detailed information about the Scottish population which relates to the Census year (2011). The data are also used by NRS to produce mid-year population estimates and population projections for other years. (These estimates are also available through other routes such as Scottish Neighbourhood Statistics.) Population estimates are available down to data zone level (the data zone is the smallest geographical unit...
routinely used for population estimates, and is a small area with a median population of around 750 people).

GP practice populations are available from the Primary care team at ISD.

2. GATHER INFORMATION ON INDICATORS OF NEED IN THE POPULATION OF INTEREST

As discussed above, it is important to note the difference between need and supply (or utilisation). Unfortunately many indicators of need are based on a combination of supply, demand and need for services (for example numbers of attendances at a clinic for care of the elderly, or numbers of looked after children). It is often not possible to find an ideal indicator of need that is unrelated to supply and demand, but when using indicators of need it is important to consider how they might have been influenced by supply and demand factors.

For all of the potential indicators of need that are identified, it is important not only to think about the average level of need, but also about the extent of inequalities. Expressing need as the absolute numbers of people likely to benefit is generally more useful than giving proportions. For example it may be useful to be able to say that there are 450 people in your area who are classified as suffering from fuel poverty than to say that 15% of your population suffer from fuel poverty.

Consider comparing need with other clusters with similar population profiles.

Indicators of need may relate to life circumstances (such as the physical and social environment), to measures of health status (such as self-reported health) or to the presence of risk factors for poor health (such as smoking).

2.1 Describe life circumstances –physical, social and economic

Many indicators of the physical and social environment provide information about needs. Information on the physical environment could include such things as the number of people who live within 500m of a landfill site, or indicators of housing quality. In relation to the social environment, the Scottish Index of Multiple Deprivation (SIMD) provides a summary measure which identifies concentrated areas of material deprivation. It combines data from seven domains (income, employment, education, housing, health, crime, and geographical access) to rank Scottish datazones in order of deprivation. Detailed information at small area is available on the SIMD website. Individual components of the SIMD may provide important additional information such as identifying high levels of access deprivation. SIMD does not identify individual material deprivation and it does not identify material deprivation which is geographically dispersed, as often happens in rural areas. There is at present no ideal way of identifying such dispersed deprivation.

There are a wide range of indicators of social and economic disadvantage. These include measures such as the proportion of the population that claim pension credits (available by age, year and council area from the Scottish Neighbourhood Statistics website); the proportion of people over the age of 65 years that receive attendance
allowance; the proportion of the population suffering from fuel poverty (Scottish House Conditions Survey), the proportion of people that receive disability related benefits such as disability living allowance or the percentage of working age population claiming Jobseekers Allowance. Needs in relation to support at home can be obtained from data on community care assessments (from a quarterly Scottish Government survey). Data on the number of carers are available from the Census and the Scottish Household Survey.

Data gaps
An important data gap relates to the availability of socio-economic information at an individual level.

2.2 Describe health status
Indicators of health status provide information about current levels of health, disease and disability. ISD’s Primary Care Information Dashboard shows data from QOF/TQA, including the potential for High Health Gain Dashboard, which give information about patients with various long term conditions. More information about data sources for specific health areas is available from the Scottish Public Health Observatory (ScotPHO) website. Some of these indicators are based on service utilisation (for example hospital admissions) and as noted above it is important to consider whether these may have been affected by supply or demand factors rather than need.

Overall measures of health status include measures of average life expectancy (LE, the length of time someone can expect to live) and of healthy life expectancy (HLE, the length of time someone can expect to live in good health). These are available from National Records of Scotland (NRS, for LE) and from the Scottish Public Health Observatory (for HLE 14). NRS publishes data on overall mortality and for mortality due to specific causes like Coronary Heart Disease, stroke and cancer. NRS also publish statistics on excess winter mortality. Self-reported health is a useful overall measure of health status and is available from the Scottish Health Survey.

ISD holds national information on unscheduled care, hospital admissions and discharges. It should be noted that this is also a measure of supply of services, so may be distorted by the availability of specific local services.

ISD also publish information on the volume and type of prescribing by GP practice.

Qualitative data
Are there any surveys that have been done locally/ nationally to understand needs of local GPs, practice staff, clusters, patients, other professionals. Does your Health Board have a public engagement process with relevant outputs? Don’t forget ‘hard to reach’ populations eg. homeless- can you find out about their needs? Consider Third sector organisations and surveys/ outputs they might have produced.

Data gaps
There are a number of important data gaps in relation to health status. For example there is a lack of information on disability of various kinds as well as limited information about mental health and illness.

2.3 Describe levels of risk factors
Assessing the prevalence of risk factors in the population has the advantage of having a clear and direct link to possible interventions designed to reduce such risk factors. It is important to understand how the risk factor is linked to outcomes relevant to people (without this, reducing risk factors is of little benefit). It is also important to have good evidence that there are interventions addressing these risk factors that can produce real benefits for people in terms of better outcomes. Measuring risk factors may be appropriate, but it should be remembered that it also creates the risk of an undue focus on individual approaches to improving health at the cost of neglecting structural, community and societal factors.

**Tobacco consumption**
Smoking is perhaps the most important individual behavioural risk factor for poor health and is linked to a wide range of poor health outcomes. Methods are available to estimate smoking related mortality and estimates are published by ScotPHO.

**Alcohol consumption**
Self-reported alcohol consumption is available from the Scottish Health Survey at council level. The methods used to estimate self-reported consumption have been improved but it is likely that they still under-estimate true consumption. Information on levels of hazardous and harmful drinking are available from the Scottish Health Survey and may also be available in some areas by extracting data from primary care systems. A summary of data sources is available from the ScotPHO website.

**Healthy weight**
Information on healthy weight is available at council level from the Scottish Health Survey. Some useful information may also be available through local primary care data extraction though under-recording is likely to be an important problem for these data. A summary of data sources is available from the ScotPHO website.

**Diet**
Information on levels of consumption of fruit and vegetables is available from the Scottish Health Survey at council level. A summary of this and other data sources is available from the ScotPHO website.

**Physical activity**
Information on levels of physical activity is available from Scottish Health Survey at council level. The Scottish Household Survey collects information on travel and transport. A summary of data sources is available from the ScotPHO website.

**Other risk factors**
Scottish Patients at Risk of Readmission and Admission (SPARRA) scores provide an indication of the risk of emergency hospital admission among older people.
3. CONSIDER LIKELY FUTURE LEVELS OF NEED
An important part of needs assessment is to consider the likely future level of need as a guide to planning services. One simple way of doing this is to use population projections from NRS and to apply current rates of need to these projections. This can be used to estimate (for example) the number of older people likely to require home care in 2020. These projections take no account of changes to current rates (so if the proportion of older people requiring home care changes then the projections will be wrong).

More complex methods of projection are available which take account of cohort effects and of trends in risk factors. Even these methods do not account for changes like the introduction of new treatments, changes to the organisation of care or unexpected events like economic downturn or other social change.

Data gaps
The main data gaps in relation to risk factors relate to the relative lack of information about social & community care risk factors, eg. frailty, falls.

B. ASSESS CURRENT LEVELS OF SUPPLY/UTILISATION OF SERVICES
The first section of this document described the process of assessing the level of need for a particular community. This second section describes how to describe the current level of service provision so that there is clarity about the extent to which current services are meeting the need and so that the gap between current provision and current need can be identified.

The first step is to describe the current pattern of primary and other health and social care service provision, focusing on infrastructure, the organisation of services and the composition and skills in the current workforce.

The next step is to identify suitable measures of utilisation of current provision, such as primary care consultations.

As a proxy for activity, indicators might include levels of current expenditure, for example spending on housing aids and adaptations such as showers or lifts, free personal and nursing care provision.

An important aspect of service provision is the extent to which access to current services is adequate. Are the right services being delivered at the right time in the right place? Are known effective interventions available to everyone who would benefit and are known effective interventions not being fully implemented?

Consider comparing service provision and use with other clusters with similar population profiles.

Quality of services
Information on experience of accessing GP practice and out of hours services is available from the Health and Care Experience Survey.32

**Data gaps**
There are a number of important data gaps in relation to health service provision. These include information on the services provided in community pharmacy, optometry, by district nurses, primary care mental health teams and other allied health professionals as well as by voluntary and community groups. ISD’s Community Health Activity Data Project 33 aims to improve and develop data on district nursing and community mental health.

**Performance data**
Performance data are important for many reasons, but their relevance to needs assessment is that they may help to identify services that are ineffective or inefficient. For example, information about patients’ perceptions of service quality is available from the Health and Care Experience Survey,34 which also includes a set of relevant indicators. Information on performance may identify opportunities to redirect resources to meet needs more effectively.

**C. ASSESS THE GAP BETWEEN NEED AND PROVISION OF SERVICES**
The first part of this document described how the level and nature of population need in a community might be assessed. The second part outlined the process of describing the extent to which current service provision meets that need. The final part of the needs assessment process is to describe and to understand the size and nature of the gap between need and provision and to inform the process of setting priorities.

**Integrating and making sense of information**
An important final stage of needs assessment is to bring together different information sources to build up a picture of (health and social care) needs. This requires an understanding of the strengths and weaknesses of data sources as well as analytic skills when dealing with quantitative data. ISD LIST colleagues and local public health departments may be useful sources of advice and help.

**Setting priorities**
The results of a needs assessment will be one piece of information that informs decisions about priorities. They should give an indication of the size and impact of a problem in health and social terms. This needs to be combined with information about the effectiveness and cost-effectiveness of available interventions. Decisions about priorities will need to reflect local priorities and circumstances and to be informed by available resources and by what is thought locally to be feasible in practice.

**Finding resources**
Responding to the results of a needs assessment may require new resources in the form of additional investment. However this is not the only option. If a review process identifies services that are ineffective or that could be provided in a more efficient
way then there are opportunities to stop ineffective services and reinvest resources elsewhere or to redesign services so that they can be more efficient.

References:

4 http://www.scotland.gov.uk/Topics/Statistics/SIMD
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