NHS Pharmaceutical Care Services Planning

Introduction to Data Sources and Use

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1. **Health Needs Assessment - Overview**

1.1 **Background**

Health needs assessment is a systematic approach to identifying the health and healthcare needs of a population in order to inform service delivery.

Health professionals are well acquainted with the assessment of individual patient needs and prioritising those needs in order to develop individual care plans. Such care plans are an everyday part of modern healthcare. The assessment of health need is just as important at a population level where it is used to both inform the planning of services and to assess the impact of service development.

Health needs assessment forms a cornerstone of public health practice where the emphasis is on maximising health gain at a population level and can be defined as the systematic approach to ensuring that the health service uses its resources to improve the health of the population in the most efficient way. This involves the identification and characterisation of the needs of a population and prioritisation of these needs to inform the planning and delivery of services. Pharmaceutical care needs assessment narrows the focus of need to the provision and use of medicines and pharmaceutical services.

In its widest sense pharmaceutical care needs assessment sets out to: assess what pharmaceutical care services are needed by the population; what services are currently provided; define and quantify the gap in service provision and; describe plans to close the gap. However, we can also take more focussed approaches considering care for particular patient groups e.g. those requiring palliative care, for those in particular places e.g. a particular community pharmacy or acute hospital or those at particular times e.g. service needs out of hours.

1.2 **Aims of pharmaceutical care needs assessment**

1.2.1 The overarching aim of the pharmaceutical care needs assessment process is to assess local needs for pharmaceutical care services and identify where there is a mismatch with current provision in order to inform service development. This planning cycle is summarised in Fig 1.

1.3 **Principles of pharmaceutical care needs assessment**

1.3.1 Pharmaceutical care needs assessment should:

- Be developed robustly in a transparent process
- Engage key stakeholders
- Describe services in terms of person, time and place
- Tackle historical inequality in service provision and uptake
- Be responsive to new sources of information and data and changing models of practice
- Support national developments and changes in service provision e.g. emphasis on shifting chronic care to the community setting
- Be valid and reliable across the NHS Board area
- Follow a nationally agreed framework
Fig. 1 Pharmaceutical care needs assessment process

Start → Identification of population pharmaceutical care needs → Characterisation and quantification of existing pharmaceutical service provision → Identification and characterisation of areas of under provision → Action plan to bring service delivery in line with population needs → Implementation of the plan → Evaluation

Adapted from Scottish Needs Assessment Programme (SNAP) – Needs assessment in primary care: a rough guide².

The following sections of this resource pack focus on illustrating how the key national and local datasets identified through a development programme can support the evidence base for NHS Board Pharmaceutical Care Services Plans.
2 Context Setting for Pharmaceutical Care Needs Assessment

2.1 Introduction to the NHS Board area

2.1.1 The first stage in any needs assessment is to describe the main health indices and population demographics of the NHS Board area in order to gain an overall picture of the population and its health and outline the context within which pharmaceutical care services are, and need to be, delivered.

2.1.2 This background information should include the NHS Board population, e.g. age, sex, ethnicity, deprivation and health (major causes of morbidity and mortality), as well as population trends and proxy measures of health, e.g. life expectancy, presence of long term limiting illness. In NHS Boards with a large geography or significant differences in urbanisation or demography it may be useful to consider subsets of the NHS Board population e.g. based on Community Health Partnership (CHP) boundaries. Appendix 1, Table 1 provides a list of all the national core data provided on the CDRom to support this stage of the needs assessment.

2.2 Current provision of pharmaceutical care services

2.2.1 The current pharmaceutical service available in the NHS Board should be described in terms of what is available, from which locations and at what times. It is important that this description is clear and understandable by those outside of pharmacy and the NHS.

2.2.2 For community based services it may be useful to describe services in terms of core and additional (locally negotiated) services. This includes general data describing the service as a whole e.g. pharmacy numbers and locations, overall annual prescriptions dispensed, range of services offered. Consideration should also be given to the resources (premises, manpower) available to the service e.g. pharmacies with consulting areas, numbers of supplementary prescribers, trained technicians etc. Much of this information will be available locally but it is important to make sure that it is in a collated form and that the information is up to date. Where this is not the case a cross-sectional survey may be required. Appendix 1, Table 2 details the core data required to be collated locally for this purpose in addition to the national core data available on the CDRom.

2.2.3 For the managed care service description of what services are provided is important. It may be useful to consider the service in terms of procurement and supply, clinical pharmacy services, medicines information and management. Further division within these may be appropriate e.g. specialities. Again resources should be described in terms of premises e.g. number of acute service sites, location of aseptic preparation suites and manpower e.g. numbers and grades of pharmacists and support staff. Appendix 1, Table 2 details the core data required to be collated locally.
2.3 Current provision of general medical services (GMS)

2.3.1 The relationship between pharmaceutical and medical services is strong and the location of GP practices has historically played a significant influence over the geographical location of community pharmacies. Appendix 1, Table 1 defines the national core dataset to be used in describing the current General Medical Services (available on the CDRom).
3 General Factors to Consider in Data Interpretation

3.1 Pharmacy populations

Community pharmacy catchment areas and resultant populations are not currently defined. Data potentially useful in assessing the pharmaceutical care needs of populations in Scotland can be aggregated by GP practice, community pharmacy, hospital or postcode (and thereby to CHPs and NHS Boards). For hospital services the geographical boundaries of service provision are generally clearer although for specialist centres or for those providing services to neighbouring NHS Boards users may routinely come from outside of the host NHS Board.

3.1.2 Research indicates that the vast majority of journeys for community pharmacy prescription services begin and end at home\(^3\).

3.1.3 In developing the resource pack datazones\(^*\) have been chosen as the main geographical node for population data aligned to a patient’s place of abode. Datazones are designed to be of compact shape, contain households with similar social characteristics and are primarily based on primary school catchment areas. As such they are useful, fixed, geographically defined populations that generally fit well with local communities and local authority boundaries\(^4\).

3.1.4 In addition, existing data can be aggregated by GP practice, community pharmacy, hospital or postcode (and thereby to CHPs and NHS Boards) and mapped to these zones which is potentially useful when assessing the pharmaceutical care needs of local populations until such time as there are more clearly defined community pharmacy patient population profiles. In the future, with 100% capture of the Community Health Index (CHI) number\(^*\) on dispensed prescriptions, data can be patient specific and provide a much richer data set for planning purposes. This ability is being supported through the ePharmacy Programme. In the meantime, the datazone is the chosen descriptor.

3.2 Access to pharmaceutical services

3.2.1 If need for pharmaceutical care was the same throughout the population it would be possible to agree the principles of access to care e.g. by the notional number of a population that each community pharmacy or pharmacy service should provide care for or by a maximum distance that individuals should travel in order to access a service. However, need is not uniform across a population and consideration of travelling distance is likely to be very different in an urban situation to a rural one so these two factors alone cannot be used to inform the geographical spread of pharmaceutical care services across an area.

3.2.2 Research in Scotland undertaken by the Scottish Consumer Council in 2002 indicated that 90% of respondents either agreed or strongly agreed with the statement that the location of their community pharmacy was convenient\(^5\). This figure is in line with a UK wide survey undertaken as part of the Office of

\(^*\) Data zones are groups of Census output areas which have populations of between 500 and 1,000 household residents, although some effort has been made to respect physical boundaries.

\(^*\) CHI – Community health index is a computerised index of patients within the NHS in Scotland.
Fair Trading’s review of the control of entry regulations and retail pharmacy services in the UK which demonstrated that 89% of people found the location of their pharmacy easy to get to from home, 86% from their GP practice, 58% from work and 61% from where they went for food shopping. It would seem therefore that NHS Boards already have an existing network of community pharmacies which for the vast majority of users already provide convenient access.

3.3 Travel time

3.3.1 The travel time and distance from the local populations place of abode, nearby GP practices and workplaces needs to be taken into account when considering the need for a new community pharmacy contract or service. Research indicates that most people (86%) are within 20 minutes travelling time of their pharmacy whilst 44% are within 10 minutes. Data from this survey also showed that 47% of respondents reported that they travelled by car, 42% walked and the vast majority (83%) started and ended their journey from home with only 8% travelling from their place of work.

3.3.2 This data is broadly supported by a UK wide survey which showed that 56% of respondents reported being a short walk from a pharmacy, a further 22% further than a short walk but less than one mile. The reported mean distance of travel to a respondent's pharmacy was 0.8 miles. When travelling to a community pharmacy 54% of respondents reported travelling by foot, 36% drive themselves, 3% drive others, 5% travel by bus and 1% by bike.

3.3.3 Research also suggests that individuals have a regular community pharmacy that they use to fulfil their pharmaceutical care needs. Information from a telephone survey of a random sample of UK residents indicated that 94% of respondents had a 'usual chemist' and that 88% had used this for their last prescription. This behaviour is supported by the sub analysis of Scottish data that indicated that 59% of respondents felt it was important or very important to use the same community pharmacy for the dispensing of repeat prescriptions.

3.3.4 Given that the majority of pharmacy users begin their journey to the pharmacy from home it would seem most appropriate to take into account geographical siting of community pharmacies in relation to patients' homes and their GP surgeries. Further to this, it is helpful to consider the populations within an NHS Board area that can reach a community pharmacy within a 20 minute travel time by car, live distances of up to one, five and ten miles from an existing pharmacy and the co location of GP practices as key factors when assessing the network of pharmacy services available. It should be noted that these times of travel and distances do not represent an agreed standard of service provision to be aimed for but reflect the current broad norm of provision based on published data.

3.4 Contracted Hours of Service

3.4.1 When considering the hours and days on which pharmaceutical care services should be routinely available from community pharmacies it is important to consider the wider local picture of provision including GP practice opening times, GMS out of hours provision, location of extended hours pharmacies and the different requirements applicable to each element of pharmaceutical
care services. The relationship between these services and community pharmacy may well change over time as the core areas of the new community pharmacy contract are fully implemented. To date Scottish research confirms that peak hours for visits to community pharmacies are between 9 am - 12 noon (43%) and 2 - 5 pm (32%).

3.4.2 Most NHS Boards should have completed a review of out of hours pharmaceutical services either in response to the commitment to do so in The Right Medicine: a Strategy for Pharmaceutical Care in Scotland or as part of a wider review of out of hours services in response to the implementation of the new GMS contract. There is an Out of Hours Pharmaceutical Service Needs Assessment Toolkit available on the Scottish Specialists in Pharmaceutical Public Health (SSiPPH) website, as well as examples of NHS Board reports.

3.5 Equity

3.5.1 Equity of provision includes access (e.g. hours of service, disability, infirmity), age, gender, ethnicity and socioeconomic status. As pharmacy moves from a largely supply based service to delivering a wider pharmaceutical care service it is important that services reach those who need them most.

3.5.2 Needs of different populations vary according to differing disease burdens e.g. cardiovascular disease displays a social gradient with increasing levels of disease moving from social class I to V and of differing lifestyle behaviours. The same is true with ethnicity where different ethnic groups display different levels of cardiovascular risk factors e.g. smoking and disease. In order to ensure that pharmaceutical care services are accessible, meet treatment goals and deliver health improvement, NHS Boards need to ensure that local planning reflects the diversity of needs within the local population.
4 Characterisation of Pharmaceutical Care Needs – Data Sources

4.1 National core data sources

4.1.1 During the development programme a wide variety of data sources were investigated to aid the characterisation of pharmaceutical care needs. The data to support the process has been separated into three groups: national core data sources which are supplied on the CDRom; local core data which should be accessed locally and; supplementary data sources which may be accessed locally where available and appropriate.

4.1.2 National core data sources include:

- Census data
- General Register Office data (GRO)
- Scottish Prescribing Activity data (SPA)
- Scottish Morbidity Recording data (SMR)
- Quality Outcome Framework data (QOF)
- Practice Team Information data (PTI)

4.1.3 A listing of the national core data to be used is provided in Appendix 1, Table 1. Appendix 3 provides a summary of these data sources including a description of the main data collected and their strengths and weaknesses.

4.2 Local core data sources

4.2.1 Core local data sources focus on key descriptors of the current pharmacy service. Local core data sources include:

- Geographical location of community pharmacies already agreed through the existing planning process
- Opening hours for existing community pharmacies
- Involvement in historical locally negotiated community pharmacy services e.g. out of hours provision, services for substance misusers, oxygen, palliative care, smoking cessation
- Locations of hospital pharmacy services
- Geographical location of community hospitals
- Geographical location of sites receiving medicine supplies from hospital pharmacy services
- Description of each of the hospital services provided including the level of service provided, hours and locations of provision and quantification of the workforce associated with the particular service

4.2.2 These data are defined in Appendix 1, Table 2.
4.3 Supplementary data sources

4.3.1 In addition to the core datasets defined it is likely that NHS Boards will wish to supplement these data to further refine their descriptions of particular pharmacy or related services.

4.3.2 Suggested supplementary data specific to community pharmacy, general practices and disease states have been defined in Appendix 2.

4.3.3 In addition the following data sources may be useful, where available and appropriate:

- Local survey data
  - Some NHS Boards undertake regular local lifestyle surveys which can provide information on local health behaviours.

- Published survey data
  - Published research and reports may provide useful information e.g. in characterising pharmacy users or in providing additional epidemiological data regarding diseases and mortality.

- Un-published survey / evaluation data (so called grey literature) e.g. local needs assessment of out of hours pharmacy services

4.4 Validity and reliability of data sources

4.4.1 All data have their own strengths and weaknesses and it is important that those involved in the process are aware of the limitations of the data being used so that informed decisions can be made both about population need and future services. Whilst it is outwith the remit of this resource pack to provide an in-depth critique of these strengths and weaknesses a brief overview of the data, where it comes from, how it is collected and generic strengths and weaknesses is provided in Appendix 3.
5 Assessing Population Needs for Community Pharmaceutical Care Services

5.1 Chronic Medication Service (CMS)

5.1.1 CMS covers the continuity of pharmaceutical care for patients with long term conditions. It allows patients with long-term conditions to register with the community pharmacy of their choice for the provision of their pharmaceutical care as part of a shared care arrangement between the patient, their community pharmacist and their general practitioner.

5.1.2 The need and uptake of CMS may be affected by a number of variables, including:

- Epidemiology of chronic disease in the area
- Registration criteria for CMS i.e. rate of referral by the GP
- Patient acceptability of the CMS i.e. rate of take up by the patient

5.1.3 Until the new contract matures there is limited information available on some of these factors and it is necessary to concentrate on the main driver of need which will be the epidemiology of chronic disease in the area. This can be further augmented by estimating the prevalence of a number of chronic conditions and the need for chronic prescriptions. By using these combined data a picture of estimated need for CMS is generated in advance of the availability of individual patient specific data by postcode.

5.1.4 For the purpose of planning for CMS two of the core data sources are used; SPA data and PTI data. These may be supplemented with other data. An example of how the core data sources and supplementary sources can be used to consider coronary heart disease (CHD) is provided in Appendix 4.

5.1.5 Prescribing is affected by a variety of factors, some behavioural, some structural and others linked to need. Of these, age, gender and deprivation are the key influences on need for prescribed chronic medication as they are the factors that largely influence the epidemiology of a large number of chronic diseases. Estimating the need for chronic prescriptions will provide information both on predicted dispensing activity and can be used as a proxy measure of disease burden.

5.1.6 Age and gender specific prescribing indices, in the form of ASTRO-PU and STAR-PU‡, have been utilised in England and Wales both to predict prescribing budgets and in analysis of prescribing quality. In Scotland whilst a similar approach has been used to help inform national budget allocation formulae use of this data to predict need for prescribed medicines has been limited.

5.1.7 Recent moves by ISD to collect the CHI number from dispensed prescriptions will in the future provide a rich source of information both to estimate need and to inform the development of prescribing quality indicators. In the

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‡ ASTRO-PU – Age, sex and temporary resident originated prescribing unit – a standardised prescribing unit based on age, sex and temporary residency

STAR-PU - Specific therapeutic group age-sex related prescribing unit – a therapeutic group specific standardised prescribing unit
meantime ISD have produced age and gender specific rates of prescribing for
total items and for BNF chapters 1-4 for use in Scotland. These rates are
based on a random sample of prescriptions maintained by ISD for the whole
of Scotland and have been adjusted for 2005 rates of overall prescribing. BNF
chapters1-4 represent the majority of prescribing in Scotland and therefore
may be used as a predictor of need for pharmaceutical care services for
patients requiring chronic medicines.

5.1.8 In deciding on this approach the development programme explored and
rejected alternative options and methods of analysing SPA data to provide
age and sex specific rates of repeat prescribing. For example consideration
was given to identifying repeat medication prescriptions through disease state
or medication but agreement of a valid list of diseases or drugs was found to
be extremely difficult.

5.1.9 Data from the SPICE database§ has been used to calculate the rate of repeat
prescribing for under and over 65 year olds (Table 1). This data is based on a
large Scottish sample of 20 million prescription items and is the most robust
source of data available currently.

Table 1. Proportions of repeat and acute prescription items for patients aged
under and over 65 years (source ISD).

<table>
<thead>
<tr>
<th>Age Band</th>
<th>Acute prescriptions</th>
<th>Repeat prescriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 65 years</td>
<td>3,343,638 (28%)</td>
<td>8,433,344 (72%)</td>
</tr>
<tr>
<td>Over 65 years</td>
<td>941,104 (9%)</td>
<td>9,420,404 (91%)</td>
</tr>
</tbody>
</table>

5.1.10 Applying SPICE repeat prescription data to the age and gender specific
prescribing rates calculated from the ISD national prescription sample allows
estimation of the total prescription items by datazone likely to be issued on a
repeat basis annually. It is worth noting that there are limitations to this
approach, chiefly that what is estimated is the maximal need for the CMS as it
is assumed that all repeat prescriptions could be included in the service.

5.1.11 PTI data is used to provide prevalence rates of disease by age and gender.
The chronic diseases specified are those linked to the new GMS contract.
Application of these rates to datazone populations provides an estimated
prevalence of these diseases and conditions by datazone to offer the second
core data source for CMS.

5.1.12 Other potential sources of data were utilised during the development
programme. SPA data was analysed at GP practice and dispensing
pharmacy levels to estimate prescribing trends at drug group and individual
drug levels. For diseases and conditions, additional information was extracted
from QOF data from the new GMS contract. In addition the use of SMR1 data
to supplement core data sources allows hospital based interventions to be
included in analysis of population needs. Examples of how this data can be
used to supplement the core dataset is provided in Appendix 5.

§ SPICE – Scottish programme for improving clinical effectiveness in primary care
5.2 **Acute Medication Service (AMS)**

5.2.1 AMS is the provision of pharmaceutical services for acute episodes of care. It provides patients with access to the pharmacy of their choice for the dispensing of acute prescriptions and associated counselling and advice.

5.2.2 The need and uptake of AMS may be affected by a number of variables, including:

- Epidemiology of AMS diseases and conditions
- CMS uptake and activity
- Cross border dispensing activity
- Transfer of MAS related dispensing from historical dispensing activity
- Levels of loyalty of patients to specific pharmacies for AMS

5.2.3 Given the lack of reliable data to predict many of these variables it was agreed that the need for this service required to be considered in combination with CMS. Therefore the methodology used for CMS is repeated for AMS to provide estimates of the number of AMS prescriptions received annually by datazone. In reality there will be a balance between prescriptions being dispensed through CMS and AMS and data from the services once implemented will be used to further refine these estimates.

5.3 **Minor Ailment Service (MAS)**

5.3.1 MAS is the NHS management of common clinical conditions. It enables eligible people to register with the community pharmacy of their choice and have their common conditions treated by their community pharmacist on the NHS without the need to visit a GP.

5.3.2 Whilst minor ailment schemes have been piloted elsewhere in the UK the Scottish *Direct Supply of Medicines* (DSoM) pilots in Ayrshire and Arran and Tayside are the largest of such schemes and provide the most valid information with respect to the new contract.

5.3.4 Factors that may affect the need and uptake of MAS include:

- Eligibility criteria for MAS
- Size of the Scottish population
- Epidemiology of minor ailments
- Rate of uptake of MAS
- Historical service provision

5.3.5 For the purpose of planning, a core dataset of estimated uptake of the MAS service based on the DSoM pilot data and the PTI dataset is used. Whilst post pilot and early national implementation data are collected analysis of these data is yet to be undertaken. As this analysis takes place the rates of uptake used in the planning process will be further refined.

5.3.6 Usage of MAS is driven by both the rate of registration with the service by eligible individuals and the utilisation of the service by those registrants. DSoM pilot data indicates a range of registration rates. Researchers evaluating the early pilots report that this variation is likely to be due to the differences in approaches to advertising the service and proactivity of local
clinicians and pharmacists in developing it. Given that MAS is a core element in the new community pharmacy contract the pilot rates of registration may well be under estimates of final uptake, which may reach 30% of the GP population.

5.3.7 Using utilisation rates from the pilot DSoM data rates of service utilisation are estimated for different age groups of the population (Table 2). The application of the predicted registration rates to datazone populations and utilisation rates to these predicted registrant populations provides an estimate of potential utilisation of the new service. It is worth noting that estimates based on this approach are likely to have two main limitations. The first relates to the estimated level of uptake which from pilot data may be as low as 6%. The second is the lack of data available to describe the impact of deprivation on the rates of registration and uptake of services.

Table 2: Direct Supply of Medicines annual rates of consultation by age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Annual consultation rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>3.12</td>
</tr>
<tr>
<td>5-15</td>
<td>2.33</td>
</tr>
<tr>
<td>16-59</td>
<td>1.44</td>
</tr>
<tr>
<td>60+</td>
<td>0.72</td>
</tr>
</tbody>
</table>

5.3.8 In the development programme estimates of GP contact rates for minor ailments were also analysed to provide GP contact rates for the 27 conditions originally catered for in the pilot DSoM (Appendix 6). The list of minor ailments was categorised using the PTI read code system and PTI data analysed to produce age, gender and deprivation specific rates of consultation. The national core dataset includes the total estimated rate of MAS conditions by datazone whilst the rates for individual conditions can be used as a supplementary source of data.

5.3.9 Whilst this information is useful in providing estimates of activity taking place through GP practices that might be eligible for MAS it should be noted that it does not provide a direct linkage to need as it does not include any information regarding those who self medicate or guarantee that this activity will be transferred to MAS.

5.3.10 Supplementary data may be available locally from local direct supply schemes and services using Patient Group Directions (PGDs).

5.4 Public Health Service (PHS)

5.4.1 PHS outlines the contribution of pharmacists to health improvement and medicine safety. It engages community pharmacists in the task of health improvement for individuals and local communities. Initially it is not topic specific but instead is based around provision of general healthy living advice and engagement with national health education campaigns.

5.4.2 The core indicators for the PHS are defined by the deprivation category of the datazone. Additional core indicators include levels of self reported illness, rates of teenage pregnancy and rates of smoking.
5.5 Additional Services

5.5.1 Additional (locally negotiated) services are those negotiated at individual NHS Board level, but with reference to nationally agreed indicative benchmarks for both service specification and payment. They include a range of services available to the public but not necessarily from every community pharmacy. They cover:

a) collection and delivery services;
b) disposal of pharmaceutical waste;
c) domiciliary oxygen supply services;
d) emergency hormonal contraception services;
e) substance misuse services;
f) needle exchange schemes;
g) out of hours rota;
h) palliative care scheme;
i) pharmaceutical advisory services to Care Homes;
j) smoking cessation services.

5.5.2 The national core dataset defined for the assessment of additional, locally negotiated, services is provided in Appendix 1, Table 2. Supplementary information is likely to be available locally and should be utilised to help inform development of these local services.

5.5.3 For other services and developments it is necessary to gain agreement locally on the methodology required to assess the population needs. Resources available through the Public Health Department, Pharmacy Directorate and other relevant groups and organisations, such as Local Authorities should be used to bring expertise to this process. The SSiPPH generic needs assessment toolkits may also help to inform this local assessment of needs.
6 Assessing Population Need for Hospital Pharmaceutical Care Services

6.1 Context for pharmaceutical care needs assessment

6.1.1 The Right Medicine: a Strategy for Pharmaceutical Care in Scotland emphasised the clinical role of hospital pharmacy staff. Publication in 2006 of ‘Patients and their medicines in Hospital’ defined the governance standards to which hospital services should operate and provides a framework for future service delivery, taking on board developments such as extended prescribing rights.

6.1.2 In developing pharmaceutical care services for the hospital pharmacy service it is important to consider not only the current model of provision but how local services will respond to the health policy emphasis on preventative action backed up by the continued shift in care delivery to the community setting.

6.2 Data sources to support pharmaceutical care needs assessment

6.2.1 Whilst hospital activity data relating to clinical activities is robust (SMR data) systems for measuring pharmacy related activity are less so.Whilst good examples exist they remain in the minority and locally driven.

6.2.2 The National Medicines Utilisation Unit, ISD, is currently working with the service to develop a national data system to support data collection relating to hospital medicines usage. This data will be valuable in the future as a proxy measure of activity for pharmacy based hospital services.

6.2.3 At present data available will be limited to those national datasets already described. Of particular relevance will be the expected rates of chronic disease and SMR data describing hospital activity and identification of pharmaceutical care needs.

6.2.4 In addition to these national sources availability of local data held within the service should be examined. Examples would include audits and service development plans.
7 Workforce and Capacity Planning

7.1 Background

7.1.1 *The Right Medicine: a Strategy for Pharmaceutical Care in Scotland* identified the need for increased focus on workforce planning across pharmaceutical services.

7.1.2 Limited data regarding workforce capacity, the lack of standards relating to workload planning and rapidly changing modes of practice in pharmacy have historically limited workforce planning activity.

7.1.3 Work to develop competency frameworks in pharmacy and the implementation of Agenda for Change in the managed service will help develop further understanding of service human resource needs.

7.1.4 The work currently being undertaken to develop the e-health record will also potentially provide useful activity information for the future.

7.2 Hospital capacity planning

7.2.1 In the hospital service some good examples of what can be achieved are evident in both the cancer and aseptic services.

7.2.2 The work undertaken in 2002 by the Association of Trust Chief Pharmacists to develop a capacity planning model to assist activity planning for chemotherapy provision remains a key example of good practice. This work has undergone further development through the work of the Chemotherapy Advisory Group set up to review and make recommendations for chemotherapy provision across Scotland for 2011-2015.

7.2.3 Work within the West of Scotland Cancer Network (WoSCaN) illustrates how use of epidemiological data to predict the incidence and prevalence of common cancers, combined with the use of anticipatory treatment pathways along with a capacity planning model for chemotherapy provision can be used to predict service pressures and needs.

7.2.4 The Standardised workload statistics and their application to capacity planning for aseptically prepared products dispensed from pharmacy, published in draft in March 2006 by the Aseptic Services Specialist Interest Group, provides a further example of how pharmaceutical service tasks can be categorised and matched to staff competencies / skills and quantified to aid service planning.

7.3 Community pharmacy capacity planning

7.3.1 Implementation of the new community pharmacy contract is driving a fundamental review of capacity planning and limits the usefulness of any historical resource.

7.3.2 The new contract is being underpinned by investment in electronic systems of recording activity e.g. e-MAS and it is anticipated that as the contract matures these data will provide a useful resource to aid capacity planning.
7.3.4 Work will need to be undertaken to supplement these electronic data in order to inform the development of capacity planning models for community pharmacy practice in Scotland.
8 Data Analysis

8.1 Use of Geographical Information Systems

8.1.1 The core dataset has been developed with the aim of providing a minimum dataset to NHS Boards to use to inform their local planning process. Analysis of the dataset as a whole at datazone level remains, however, a daunting prospect if traditional tables and graphical presentation approaches are used.

8.1.2 One tool, a geographical information system (GIS), is an excellent resource to display complex data, via morbidity mapping**, in several dimensions to mixed audiences successfully. GIS is considered an efficient and effective approach to support local planning.

8.1.3 GIS allows consideration of service availability and need across both disease and condition, from a service element perspective or by travel time or distance from services. The outcome of such analysis is to identify unmet needs and resulting gaps in service provision in the context of persons, place and time.

8.1.4 GIS resources across NHS Scotland are limited. Whilst most NHS Boards have the software, this is not standardised and there are differences in the level of support and activity taking place. Work is ongoing to establish how best to support NHS Boards to facilitate the preparation of the Pharmaceutical Care Services Plan.

**Morbidity mapping – Displaying health data based on defined geographical populations using coded maps
9 Data Sources in the Future

9.1 Data development

9.1.1 Changes in information availability that may help in the characterisation of community pharmacy services in the short to medium term e.g. the linkage of CHI number to individual patient prescribing data, the ePharmacy Programme and the move to a single patient health record combined with the maturation of the PCS contract over time will mean that the way in which pharmaceutical needs are assessed will change. In the hospital service the ongoing work to develop more robust systems of national pharmaceutical information management is likely to impact significantly on the planning process.

9.1.2 As a result, this programme is the beginning of a process of development of more sophisticated methods and tools to help inform future pharmaceutical care needs assessment.
### General NHS Board area data:

<table>
<thead>
<tr>
<th>Item</th>
<th>Information Specification</th>
<th>File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NHS Board Population – Numbers and Age Profile.</td>
<td>General Register Office for Scotland (GROS) mid 2004 population estimate by age and gender for each NHS Board and Scotland. 5-year age bands from 0 to 89 and over 90 with percentage of population in each age band.</td>
</tr>
<tr>
<td>2</td>
<td>NHS Board Population – Trends.</td>
<td>GROS 2002 based annual population projections by age and gender for each NHS Board and Scotland from 2005 to 2018. 5-year age bands from 0 to 89 and over 90.</td>
</tr>
<tr>
<td>3</td>
<td>NHS Board Population – Ethnicity.</td>
<td>Census 2001 data. Ethnicity of population by age group and gender for each NHS Board and Scotland showing numbers in each group and the percentage of minority ethnic groups. Age bands: 0-4, 5-7, 8-9, 10-11, 12-14, 15, 16-17, 18-19, and 5-year age bands from 20 to 89 and over 90.</td>
</tr>
<tr>
<td>4</td>
<td>NHS Board/Local Authority – Life Expectancy.</td>
<td>Life expectancy for Males and Females at birth and age 65 for each NHS Board, Local Authority area and Scotland.</td>
</tr>
<tr>
<td>5</td>
<td>NHS Board Population – Deprivation.</td>
<td>Numbers and percentage in each Scottish Index of Multiple Deprivation (SIMD) quintile for each NHS Board and Scotland. Based on 2004 population estimates at Data Zone level.</td>
</tr>
<tr>
<td>6</td>
<td>All Cause Mortality.</td>
<td>Standardised Mortality Ratios in those aged under 75 years, 2004 for each NHS Board and Scotland.</td>
</tr>
</tbody>
</table>
### General NHS Board area data (Continued):

<table>
<thead>
<tr>
<th>Item</th>
<th>Information Specification</th>
<th>File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td><strong>Cancer</strong> – Incidence and Mortality.</td>
<td>Numbers of registrations, with crude and age standardised incidence rates by age, gender and year of diagnosis from 1980 to 2002, for each NHS Board and Scotland. &lt;br&gt;Numbers of deaths, with crude and age standardised mortality rates by age, gender and year of death registration from 1980 to 2004, for each NHS Board and Scotland. &lt;br&gt;Information for: All malignant neoplasms (ICD10 C00-C96 excluding C44), Breast (C50), Colorectal (C18-C20), Lung (C33-C34) and Prostate (C61).</td>
</tr>
<tr>
<td>8</td>
<td><strong>Coronary Heart Disease</strong> – Incidence and Mortality.</td>
<td>Numbers of cases, with crude and age standardised incidence rates by age, gender NHS Board and year from 1995 to 2004. &lt;br&gt;Numbers of deaths, with crude and age standardised mortality rates by age, gender NHS Board and year of death registration from 1995 to 2004. &lt;br&gt;Information for: Ischaemic Heart Diseases (ICD10 I20-I25).</td>
</tr>
<tr>
<td>9</td>
<td><strong>Self-assessed Health Status.</strong></td>
<td>From 2003 Scottish Health Survey. Self-assessed general health, prevalence of long-standing illness and acute sickness by NHS Board and gender.</td>
</tr>
<tr>
<td>10</td>
<td><strong>Number of people with self-assessed long term limiting illness.</strong></td>
<td>Number and percentage of people with a long-term limiting illness by NHS Board. Census 2001.</td>
</tr>
</tbody>
</table>
### Data Zone:

<table>
<thead>
<tr>
<th>Item</th>
<th>Information Specification</th>
<th>File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Data Zone Map for NHS Board.</td>
<td>Geographical boundaries of each datazone.</td>
</tr>
<tr>
<td>13</td>
<td>Deprivation.</td>
<td>Data Zone ratings using the Scottish Index of Multiple Deprivation (SIMD) 2004. By Data Zone and NHS Board showing SIMD quintiles, Deciles and score.</td>
</tr>
</tbody>
</table>

### Current Pharmacy Service Data:

<table>
<thead>
<tr>
<th>Item</th>
<th>Information Specification</th>
<th>File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Geographical Location of Pharmacies.</td>
<td>Dispensing contractors by NHS Board as at 31/12/2005 showing dispenser code, dispenser name and postcode.</td>
</tr>
</tbody>
</table>

### GP Practice Data:

<table>
<thead>
<tr>
<th>Item</th>
<th>Information Specification</th>
<th>File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Geographical Location of GP Practices, List Sizes and Dispensing Practice Indicator.</td>
<td>GP Practices by NHS Board showing GP Practice code, postcode, name, list size at 31/01/2005 and 2006. With indicator to show whether or not dispensing practice.</td>
</tr>
</tbody>
</table>
### Core Pharmacy Services:

<table>
<thead>
<tr>
<th>Item</th>
<th>Information Specification</th>
<th>File Name</th>
</tr>
</thead>
</table>
| 16   | Estimated Acute Medication Service (AMS) and Chronic Medication Service (CMS) Prescription Item Volume by Data Zone. Estimated number of Minor Ailment Scheme (MAS) consultations | By NHS Board and Datazone:  
– Estimated prescription item numbers through AMS  
– Estimated prescription item volume through CMS  
– Estimated number of MAS consultations | 16_HB_Datazone_AMS_CMS_MAS.xls |

17  Estimated Local Prevalence of Chronic Disease.  
Data for Hypertension, Asthma, Diabetes, CHD and Anxiety & Depression. Prevalence estimates at NHS Board, Local Authority, Scottish Parliamentary Constituency and Intermediate Geographies. | 17_HB_LA_SP_IG_Est_Prev.xls |

### Public Health Service:

<table>
<thead>
<tr>
<th>Item</th>
<th>Information Specification</th>
<th>File Name</th>
</tr>
</thead>
</table>
| 18   | Smoking Prevalence.  
Prevalence of smoking by NHS Board and gender from 2003 Scottish Health Survey. | 18_HB_Smoking_Prev.xls |
| 19   | Maternal Smoking.  
Smoking at booking by Local Authority area. | 19_LA_Smoking_At_Booking.xls |
| 20   | Teenage Pregnancy.  
Teenage pregnancies by NHS Board and Local Authority area by age bands 13-15, 16-19 and 13-19 for 1991/92 to 2002/03. | 20_HB_LA_Teen_Preg_91_03.xls |
## APPENDIX 1: CORE DATA FOR PHARMACEUTICAL CARE NEEDS ASSESSMENT

### Table 2: Core data to be collated locally regarding pharmacy services

<table>
<thead>
<tr>
<th>Information required</th>
<th>Specification</th>
<th>Data origin</th>
<th>Deliver mechanism/data supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geographical location of planned pharmacies</td>
<td>Postcode from Family Health Services</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
<td>Local Public Health Unit/ Pharmacy Directorate</td>
</tr>
<tr>
<td>Opening hours for existing pharmacies</td>
<td>Family Health Service</td>
<td>Local Public Health Unit</td>
<td>Local Public Health Unit/ Pharmacy Directorate</td>
</tr>
<tr>
<td>Out of hours provision</td>
<td>Family Health Service</td>
<td>Local Public Health Unit</td>
<td>Local Public Health Unit/ Pharmacy Directorate</td>
</tr>
<tr>
<td>Methadone scheme involvement</td>
<td>Which pharmacies provide the service by contractor code (alternatively name and postcode).</td>
<td>Local Public Health Unit / Drug &amp; Alcohol Team /Pharmacy Directorate</td>
<td>Local Public Health Unit/ Pharmacy Directorate</td>
</tr>
<tr>
<td>Needle and syringe exchange scheme involvement</td>
<td>Which pharmacies provide the service by contractor code (alternatively name and postcode).</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
<td>Local Public Health Unit/ Pharmacy Directorate</td>
</tr>
<tr>
<td>Oxygen supplied</td>
<td>Which pharmacies provide the service by contractor code (alternatively name and postcode).</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
<td>Local Public Health Unit/ Pharmacy Directorate</td>
</tr>
<tr>
<td>Care Home contracts</td>
<td>Which pharmacies provide the service by contractor code (alternatively name and postcode).</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
<td>Local Public Health Unit/ Pharmacy Directorate</td>
</tr>
<tr>
<td>Involvement in historical locally negotiated services e.g. NHS Smoking Cessation services,</td>
<td>Which pharmacies provide the service by contractor code (alternatively name and postcode).</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
<td>Local Public Health Unit/ Pharmacy Directorate</td>
</tr>
<tr>
<td>provision of EHC, palliative care networks</td>
<td>Model scheme involvement</td>
<td>Geographical location of hospital pharmacy services</td>
<td>Geographical location of sites receiving medicine supplies from hospital pharmacy services</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------------</td>
<td>------------------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Which pharmacies provided model scheme services prior to introduction of the new community contract by contractor code (alternatively name and postcode).</td>
<td>Postcodes of hospitals with each assigned a list of the services provided</td>
<td>Postcode</td>
<td>Postcode</td>
</tr>
<tr>
<td>Information required</td>
<td>Specification</td>
<td>Data origin</td>
<td>Deliver mechanism/data supplier</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>---------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>GP practice opening hours</td>
<td>Family Health Services</td>
<td>Local Public Health Unit</td>
<td>Local Public Health Unit</td>
</tr>
<tr>
<td>Planning information</td>
<td>Information regarding local authority development plans should be collated and used to consider the needs of populations in the future e.g. new housing developments, development of ring roads / bi-passes that may produce new environmental barriers between populations and existing services</td>
<td>Local Authority / Planning Department</td>
<td>Local Authority / Planning Department</td>
</tr>
</tbody>
</table>
NHS Boards may wish to supplement the national core data with local supplementary data. Examples of the type of data that may be useful are provided below.

**Table 1 Pharmacy data**

<table>
<thead>
<tr>
<th>Area of Activity</th>
<th>Data</th>
<th>Data origin</th>
<th>Delivery mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Home contracts</td>
<td>Which pharmacies provide the service by contractor code (alternatively name and postcode). Supplementary information, where available, could include number of beds serviced, if a tiered contract is in place the level of service provision.</td>
<td>Family Health Services</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Methadone scheme involvement</td>
<td>Which pharmacies provide the service by contractor code (alternatively name and postcode). Supplementary information, where available, could include the number of users serviced by a pharmacy, number of unused places by pharmacy, information regarding waiting lists for pharmacy scheme places.</td>
<td>Drug &amp; Alcohol Team</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Needle and syringe exchange scheme involvement</td>
<td>Which pharmacies provide the service by contractor code (alternatively name and postcode). Supplementary information, where available, could include the number of users serviced by a pharmacy, number of unused places by pharmacy, information regarding waiting lists for pharmacy scheme places.</td>
<td>Drug &amp; Alcohol Team</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Model scheme involvement</td>
<td>Which pharmacies provided model scheme services before the implementation of the new contract, which service, level of service provision by contractor code</td>
<td>Pharmacy Directorate</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Involvement in other locally negotiated services</td>
<td>E.g. NHS Smoking Cessation Services, NHS provision of EHC, palliative care networks. Which pharmacies provide the service by contractor code (alternatively name and postcode), levels of service and volume of service related activity</td>
<td>Pharmacy Directorate</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Availability of a consultation area</td>
<td>Which pharmacies have a consultation room or private area by contractor code (alternatively name and postcode).</td>
<td>Local pharmacy survey# Information may not be currently available</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Access for the people with a disability</td>
<td>Which pharmacies have access for those in wheelchairs or impaired mobility, loop hearing system installed, adjacent parking by contractor code (alternatively name and postcode)</td>
<td>Local pharmacy survey Information may not be currently available</td>
<td>Local Public Health Unit / Pharmacy Directorate?</td>
</tr>
<tr>
<td>Availability of a health information point</td>
<td>Private or NHS supported, information regarding volume of traffic etc</td>
<td>Local pharmacy survey Information may not be currently available</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>IT facilities</td>
<td>Availability of IT e.g. computers other than the labelling system</td>
<td>Local pharmacy survey Information may not be currently available</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Availability of parking</td>
<td>Is parking available, how far away etc</td>
<td>Local pharmacy survey Information may not be currently available</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Collection and delivery services</td>
<td>Does the pharmacy participate in prescription collection and delivery</td>
<td>Local pharmacy survey Information may not be currently available</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Pharmacist staffing</td>
<td>WTE pharmacists working in the pharmacy</td>
<td>Local pharmacy survey Information may not be currently available</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Extended prescriber status of the pharmacist</td>
<td>Are pharmacists qualified and registered as supplementary prescribers, what services are offered and with which GPs?</td>
<td>Local pharmacy survey Information may not be currently available</td>
<td>Local Public Health Unit / Pharmacy Directorate</td>
</tr>
<tr>
<td>Support staffing</td>
<td>WTE support staff, broken down to MCAs and</td>
<td>Local pharmacy survey</td>
<td>Local Public Health Unit /</td>
</tr>
</tbody>
</table>
Dispensers including details regarding qualifications e.g. NVQ Pharmacy Services level 3 and checking technician

Information may not be currently available

Pharmacy Directorate

Dispensing data
Dispensing data by pharmacy is now available through PRISMs and may provide useful information when considering where to site a particular service e.g. where there is a high load of dispensing for a particular condition / drug.

SPA

Local Public Health Unit / Pharmacy Directorate

# Local pharmacy survey – it may be necessary to complete a cross-sectional survey of local pharmacies to gather this information

**Table 2 GP information**

<table>
<thead>
<tr>
<th>Information required</th>
<th>Specification</th>
<th>Data origin</th>
<th>Delivery mechanism/data supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP staffing data</td>
<td>No of WTE GPs</td>
<td>FHS / Local survey</td>
<td>Local Public Health Unit</td>
</tr>
<tr>
<td>WTE Practice nurses</td>
<td>No of WTE Practice nurses</td>
<td>FHS / Local survey</td>
<td>Local Public Health Unit</td>
</tr>
<tr>
<td>Quality Outcome Framework (QOF) data</td>
<td>Disease practice prevalence data and quality indicator data</td>
<td>ISD website / Local Public Health Unit</td>
<td>Local Public Health Unit</td>
</tr>
<tr>
<td>Dispensing activity data</td>
<td>SPA data by practice</td>
<td>Pharmacy Directorate / Local Public Health Unit</td>
<td>Pharmacy Directorate / Local Public Health Unit</td>
</tr>
<tr>
<td>Dispensing practice activity data</td>
<td>Dispensing practice data</td>
<td>ISD</td>
<td></td>
</tr>
<tr>
<td>Specialist clinics</td>
<td>Details of clinics run by the GP practice</td>
<td>FHS / Local survey</td>
<td></td>
</tr>
</tbody>
</table>
Table 3 SMR 01 data useful in estimating chronic disease epidemiology

For each of the following ICD codes SMR 01 data may be used to provide local counts of patient numbers by hospital, GP practice and datazone i.e. not treatment episodes.

**Cardiovascular**

1. Total for all cardiovascular codes below
2. I00-I02 Acute rheumatic fever
3. I05-I09 Chronic rheumatic heart diseases
4. I10-I15 Hypertensive diseases
5. I20-I25 Ischaemic heart diseases
6. I26-I28 Pulmonary heart disease and diseases of pulmonary circulation
7. I30-I52 Other forms of heart disease
8. I60-I69 Cerebrovascular diseases
9. I70-I79 Diseases of arteries, arterioles and capillaries
10. I80-I89 Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified
11. I95-I99 Other and unspecified disorders of the circulatory system

Sub-categories of interest include:

- Angina pectoris I20
- Chronic ischaemic heart disease I25
- Heart failure I50
- Acute MI I21
- Atrial fibrillation and flutter I48
- Stroke (haemorrhage / infarction) I60, I61, I62, I63, I64
Respiratory Disease

1. Total figs for J40 – J70
2. Chronic lower respiratory disease J40-J47
3. Additional separate figure for J40/J41/J42/J43/J44 (COPD related admissions)
4. Additional separate figure for J45/J46 asthma related admissions
5. Lung neoplasm C33 – C34

Gastrointestinal disorders

1. Total figures K00-K93
2. Digestive malignancy – C15-C26
3. Ulcer Duodenal ulcer K26
4. Gastric Ulcer K25
5. Peptic ulcer K27
6. Gastrojejunal ulcer K28
7. Total for K25 – K28
8. GORD K21
9. Oesophagitis K20
10. Dyspepsia K30
11. Total for K20,K21
12. Irritable bowel syndrome K58

CNS

Bipolar disorders F31
Depressive syndromes F32-F33
Musculoskeletal M00-M99  
Total count

Hypothyroidism

Iodine deficiency syndrome E00 and Iodine deficiency-related thyroid disorders and allied conditions E01

Diabetes Mellitus

1. Total for E10-E14
2. Insulin dependent diabetes mellitus E10
3. Non-insulin dependent diabetes mellitus E11
4. Diabetes mellitus with coma E10.0 and E11.0
5. Total for E10, E11 and E14 (NOS)
6. Diabetes related admissions

Influenza and pneumonia (over 64 years of age) J10-J18

Mental health

Mental and behavioural disorders
- Mental and behavioural disorders due to psychoactive substance use F10-F19
- Schizophrenia, schizotypal and delusional disorders F20-F29
- Mood (affective) disorders F30-F39
- Neurotic, stress-related and somatoform disorders F40-F48
- Behavioural syndromes associated with physiological disturbances and physical factors F50-F59
- Disorders of adult personality and behaviour F60-F69

Dementia
F00 – F03 – Dementia
APPENDIX 3 – STRENGTHS AND WEAKNESSES OF THE DATA

Sources of information

Health Needs Assessments (HNAs) in general use a range of different sources of information and methods to help build up a picture of the health need being examined. Each source used gives a piece of the jigsaw and therefore by assembling a number of pieces you start to show the whole picture. In considering how many different sources to use it is not always necessary to have all the pieces of the jigsaw to see the essence of the picture. You may be restricted by time, resources or the quality of the available data and therefore it is important to select the most appropriate sources to maximise the effort being expended.

Initially it is helpful to consider what routine data are already being collected both locally and nationally which may be helpful. There is a vast amount of data collected nationally. Outlined below are some of the key national information databases with a commentary on their strengths and weaknesses. This has been taken form the Toolkits for Assessing Pharmaceutical Needs of Populations for Palliative Care and Out of Hours Pharmaceutical Services. This data is generally available at a Health Board level and increasingly at a community level. Local Departments of Public Health or CHP management offices are often a good point of contact in the first instance.

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Source / description of the data</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Census Data</td>
<td>A survey of the UK population conducted every 10 years. Provides data on demographics, health, accommodation, cultural, communal establishments, labour, travel and study. Data can be analysed down to post-code sector.</td>
<td>It is quantitative, reliable and provides an understanding of the wide social context.</td>
<td>Poor data on morbidity. It is only performed every 10 years and thus becomes out of date quickly. Data is by postcode which may not match CHP boundaries.</td>
</tr>
<tr>
<td>General Registrar’s Office</td>
<td>Vital events (births, deaths, marriages, adoptions, etc.) recorded annually. The cause of death is recorded (as ICD-9 and 10 codes) down to postcode sector.</td>
<td>It is up to date and reliable.</td>
<td>The small numbers within a postcode annually means the data are easily skewed by unusual cases. Also the data on cause of death on death certificates may be inaccurate. Data is by postcode which may not match CHP boundaries.</td>
</tr>
<tr>
<td><strong>Hospital Activity Data (Scottish Morbidity Records SMR)</strong></td>
<td>This provides information on admission and referral rates for each clinical specialty, waiting times, admissions by diagnostic category and operative procedures.</td>
<td>It is up to date and reliable.</td>
<td>The data is influenced by factors other than morbidity e.g. ease of access, local protocols. The small numbers within a post-code annually means the data are easily skewed by unusual cases. Data are 'episode based' which means that they do not differentiate between one patient with multiple admissions and many patients with single admissions.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Practice Team Information (PTI) (ISD Scotland)</strong></td>
<td>Provides data from a representative sample of Scottish General Practices. It records coded diagnoses and number of patients presenting. It can be used to provide an estimate of prevalence and incidence and primary care team workload. The number of GP practices participating is increasing.</td>
<td>Good estimate of morbidity in the community presenting to General Practice.</td>
<td>Often patients have non-specific complaints which may lead to variation in coding by GPs.</td>
</tr>
<tr>
<td><strong>Scottish Prescribing Analysis (SPA)</strong></td>
<td>Reports on all drugs, dressings and appliances prescribed by medical practitioners and dispensed in Scotland through Community pharmacies. Special requests for specific data sets can be made.</td>
<td>Data available in different report formats (SPA level 1 and SPA level 2). Data reliable and updated 3 monthly. It provides comparison between GPs and with Board and Scottish averages.</td>
<td>Currently not linked to patient or diagnosis and morbidity/mortality data.</td>
</tr>
<tr>
<td><strong>Scottish Health Survey</strong></td>
<td>A cross-sectional survey conducted on a representative random sample of the working population (16-64 years). It provides data on lifestyle, general health, use of health services and other health related issues.</td>
<td>Rich data source conducted approximately every 3 years providing more information than Census on health and wellbeing.</td>
<td>Commenced in 1995 so will take time for a profile to build up. Data representative nationally but extrapolation to local populations is limited.</td>
</tr>
</tbody>
</table>
includes prescribed medication.

The new General Medical Services (GMS) contract requires GP practices to maintain disease registers and record set data regarding treatment processes and outcomes for registered patients with specified conditions. QOF returns include practice prevalence data for each of these conditions derived from practice disease registers. Practices also supply data regarding the quality of care provided within a subset of these chronic conditions e.g. the proportion of patients on the disease register with CHD who have received smoking cessation advice.

Quality Outcome Framework Data

<table>
<thead>
<tr>
<th>First data widely available at a practice level regarding disease prevalence and treatment. Good coverage of over 90% of GP practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions limited, major exceptions in prescribing terms are gastrointestinal and depression and anxiety. No linkage to individual patient data.</td>
</tr>
</tbody>
</table>

Published Survey Data

<table>
<thead>
<tr>
<th>Includes those published in peer reviewed sources and grey material</th>
</tr>
</thead>
<tbody>
<tr>
<td>May provide information where there are gaps in local knowledge.</td>
</tr>
<tr>
<td>Validity to the population of interest and quality of the data itself are the key issues that users need to be aware of.</td>
</tr>
<tr>
<td>Data Type</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td><strong>Scottish Prescribing Activity data (SPA)</strong></td>
</tr>
<tr>
<td>Dispensing data by pharmacy</td>
</tr>
<tr>
<td>QOF data</td>
</tr>
<tr>
<td>QMAS quality data</td>
</tr>
<tr>
<td>Practice team information</td>
</tr>
<tr>
<td>Scottish morbidity record data</td>
</tr>
</tbody>
</table>
APPENDIX 5  EXAMPLE OF USE OF CORE AND SUPPLEMENTARY DATA SOURCES TO CONSIDER THE NEED FOR A SERVICE FOR PATIENTS WITH DIABETES

N.B. Data quality has been coded as follows:

- **Red**: Data has a very high risk of poor validity and / or reliability and should not be used
- **Amber / Red**: Caution, data to be used only where alternative sources are not available
- **Amber**: Data is useful but with significant caveats
- **Amber / Green**: Data is useful with minor caveats re validity and reliability
- **Green**: Data is useful and displays strong validity and reliability

<table>
<thead>
<tr>
<th>Data</th>
<th>Source</th>
<th>Use</th>
<th>Geographic Focus</th>
<th>Caveats</th>
<th>Data quality / usefulness</th>
</tr>
</thead>
</table>
| DDDs per day for BNF Ch 6.1.1.1 Short acting insulins, 6.1.1.2 Intermediate and long acting insulins Sulphonylureas, biguanides | Scottish Prescribing Activity data (SPA) shows prescribing activity in or in BNF subcategory linked to GP practice. | Disease marker for diabetes where prevalence estimate is calculated from the number of DDDs dispensed on average per day | GP practice or community pharmacy | Crossover between long and short acting insulins will mean that the estimate is likely to be an overestimate | Data quality = AMBER
For GP practice based estimates the QOF prevalence data is likely to be more useful. For pharmacy activity estimates this provides the only utilisation data available based on the dispensing pharmacy and would be useful for the identification of pharmacies with high activity in diabetes where extended local schemes may be appropriate. |
<p>| Diabetes prevalence data from GP practice disease registrations (QMAS prevalence data) | Quality Outcome Framework data | Use to provide local prevalence data by practice for diabetes. | GP practice | Potential unstandardised exception reporting, local disease registers lacking validity and reliability | Data quality = AMBER |</p>
<table>
<thead>
<tr>
<th>Data</th>
<th>Source</th>
<th>Use</th>
<th>Geographic Focus</th>
<th>Caveats</th>
<th>Data quality / usefulness</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM 4- The percentage of patients with diabetes who smoke and whose notes contain a record that smoking cessation advice or referral to a specialist service, where available, has been offered in the last 15 months</td>
<td>QMAS quality data</td>
<td>Indicate potential need for locally negotiated service for targeted smoking cessation advice</td>
<td>GP practice</td>
<td>As above</td>
<td>Data quality = AMBER</td>
</tr>
<tr>
<td>PTI age, sex and deprivation specific rates of diabetes</td>
<td>PTI</td>
<td>Estimate rates of diabetes</td>
<td>GP practice or data zone</td>
<td>National average rates may not be directly applicable to small populations but this may be validated through comparison with QOF returns i.e. apply PTI rates to practice populations and compare expected with ‘actuals</td>
<td>Data quality = AMBER/GREEN</td>
</tr>
<tr>
<td>Hospital discharges (Elective, emergency, in patients and day cases) for Health Board residents only for Diabetes Mellitus (E10 – E14)</td>
<td>Scottish morbidity record data (SMR01)</td>
<td>Provides patient or episode based information on hospital based activity relating to the disease or condition of interest. Use to triangulate other prevalence data and to provide a picture of the degree of secondary care based activity used.</td>
<td>GP practice or data zone</td>
<td>SMR data may reflect ease of access e.g. those closer to the hospital may use the hospital for a suspected emergency whilst in rural areas first point of access may be the GP.</td>
<td>Data quality – GREEN</td>
</tr>
</tbody>
</table>
APPENDIX 6 – MAS CONDITIONS

Gastrointestinal
- Indigestion
- Constipation
- Diarrhoea
- Haemorrhoids
- Mouth ulcers

Respiratory
- Hay fever
- Cough
- Nasal congestion
- Sore throat

Central Nervous System
- Pain
- Headache
- Musculoskeletal disorders
- Dysmenorrhoea
- Travel sickness

Infection
- Athlete’s foot
- Vaginal candidiasis
- Cold sores
- Warts and verrucae
- Threadworms
- Head lice
- Conjunctivitis
Urinary Tract disorders
  • Cystitis

Skin
  • Acne
  • Eczema
  • Psoriasis
The essential services are those for which the specifications and remuneration arrangements are agreed nationally. Essential services comprise:

**Chronic Medication Service (CMS)** – the continuity of pharmaceutical care for patients with long term conditions. CMS allows patients with long-term conditions to register with the community pharmacy of their choice for the provision of their pharmaceutical care as part of a shared care arrangement between the patient, their community pharmacist and their general practitioner.

**Acute Medication Service (AMS)** - the provision of pharmaceutical services for acute episodes of care. AMS provides patients with access to the pharmacy of their choice for the dispensing of acute prescriptions and associated counselling and advice.

**Minor Ailments Services (MAS)** – The NHS management of common clinical conditions. MAS enables eligible people to register with the community pharmacy of their choice and have their common conditions treated by their community pharmacist on the NHS without the need to visit a GP.

**Public Health Services (PHS)** – the contribution of pharmacists to health improvement and medicine safety. It engages community pharmacists in the task of health improvement for individuals and local communities.

The additional services are those negotiated at individual Health Board level, but with reference to nationally agreed indicative benchmarks for both service specification and payment. They cover a range of services available to the public but not necessarily from every community pharmacy. Additional services comprise:

(a) collection and delivery services;
(b) disposal of pharmaceutical waste;
(c) domiciliary oxygen supply services;
(d) emergency hormonal contraception services;
(e) substance misuse services;
(f) needle exchange schemes;
(g) out of hours rota;
(h) palliative care scheme;
(i) pharmaceutical advisory services to Care Homes; and
(j) smoke cessation services.
REFERENCES

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7 The Scottish Executive Central Research Unit. Evaluation of a pilot project for the direct supply of medicines by community pharmacists; Ellen Schafheyutle, Peter Noyce, Christine Sheehy, Lyn Jones, The Scottish Executive Central Research Unit, 2002.