Pharmacy Needs Assessment – summary document

Community pharmacies play an important role, not only in the supply and dispensing of medicines, but increasingly in providing a locally accessible health resource. As society ages, health and social care services, including community pharmacies, face huge and growing challenges to meet demand. In this context, the location and distribution of pharmacies relative to local need is of crucial importance.

The **Pharmaceutical Needs Assessment (PNA)** aims to better enable decision making within the current regulatory frameworks around the provision of pharmaceutical services relative to need across Northern Ireland. This involved the development of a tool that can be used to assess need and provision of pharmaceutical services in bespoke defined localities, as well as facilitating benchmarking analysis.

Engagement

To inform the development of the PNA methodology we first engaged extensively with a range of stakeholders through a public survey and targeted focus groups. This helped us to understand the key factors in determining need for pharmaceutical services and how these factors should be measured. The key findings of this engagement were:

- Amongst a range of valued services, the dispensing of medicines was the most frequently utilised service from community pharmacies.
- The underlying needs driving the requirements for commissioned (including dispensing) and non-commissioned services were largely the same.
- Access to a pharmacy within a 15 minute travel time was considered reasonable, with distance varying in urban and rural areas.
- There was satisfaction with the opening hours currently provided by local pharmacies.
- Factors such as access to transport, distance from GP and age of patient should be considered.
- Any model should be 'future proofed'.

PNA consultation

Having listened to this feedback and used it to inform the development of the PNA, we now want to seek your views on the factors that have been identified and how these have been constructed within the model, to enable the establishment of pharmaceutical need within localities.

For further details on the public consultation, including the consultation questions, please refer to **NI Direct online consultation tool**. Following on from this public consultation and consideration of all responses a final report of the consultation stage will be published.

Key aspects of the PNA

The following sections outline the key aspects of the PNA. For further details on each, please refer to the **Main Report**.

1. Geographical selection

Based on a number of criteria, **Census Super Output Areas (SOAs)** were identified as the most suitable level of geography on which to base the PNA analysis.

2. PNA population base

The foundation of the PNA is an accurate count of the population which generates need. After evaluating the possible options, **NISRA's annual mid-year population estimates** emerged as the most appropriate source to use as the population base for analysis.

3. Age-sex adjustment

To account for the differing needs that arise from differing population age and sex structures in each local area, an age-sex adjustment was developed. Age-sex weightings were created for each SOA using data on pharmaceutical dispensing and GP-registered patients. These were then

applied to the base population to produce an **Age-Sex Needs Index** for each SOA. This index provides an indicator of pharmaceutical service need for each area, relative to the Northern Ireland average, based on the age and sex profile of that area alone.

4. Additional needs adjustment

The PNA also accounts for pharmaceutical needs based on other area characteristics relating to morbidity, health, deprivation and socio-economic factors.

These can be difficult to measure directly so we have used statistical modelling to analyse the relationship between an appropriate demand measure, in our case a proxy pharmacy needs measure based upon volumes of dispensed prescription items, and a range of factors which could be driving that need. After an extensive exercise, a final model, containing 11 key additional need and supply indicators was developed. Using this model, an **Additional Needs Index** was then created, which provides an indicator of additional needs relative to the Northern Ireland average.

5. Total Pharmacy Need

In order to fully gauge the relative need for pharmaceutical services in each area, we then combined the need stemming from population size, age and sex structure, and additional needs into an overall **Total Pharmacy Needs Index.** The process for combining these components for an individual SOA is outlined in Figure 1 below. The same process can be applied to any combination of SOAs to create needs indices for larger areas of interest.

Figure 1: Total Pharmacy Needs Index process for an individual SOA

| SOA base population | → | Weighted using Age-Sex Needs Index | → | Weighted using Additional Needs Index | → | Divided by NI average SOA population | → | Total Pharmacy Needs Index Value |

This index value provides an indicator of overall pharmaceutical service need for the population in the area, relative to the Northern Ireland average.

6. PNA Benchmarking

Benchmarking is an important phase in the PNA process as it enables us to establish what an appropriate level pharmacy provision for a population looks like and then use this as a standard to assess against other areas.

The central benchmarking metric in the PNA is **the number of accessible pharmacies (or Pharmacy Equivalent Units) per head of 'weighted' population**. While this sounds complicated, the concept is fairly straightforward - it allows comparisons to be made between areas in terms of the number of accessible pharmacies available to their populations having first standardised for their level of need. Further detail on how this is calculated can be found in the main report at the link above.

Alongside this, users can use local knowledge and other contextual information, available from the PNA modelling tool (see below), to further inform their assessment.

7. Modelling tool

It is essential that users can easily review and assess the resulting PNA data and key indicators to consider issues surrounding pharmaceutical need. To enable this, an interactive data visualisation mapping tool has been developed using the Tableau business intelligence and analytics platform. The adaptability of the software used will allow future developments to be included as it is more widely used and further key information is identified. For more information on the modelling tool please refer to the main report.

Further information

Further information, including full technical and descriptive detail, and information on the Equality Impact Assessment of the PNA Total Pharmacy Needs Index are included in the main report.