

FINANCE COMMITTEE

DEMOGRAPHIC CHANGE AND AGEING POPULATION INQUIRY

SUBMISSION FROM NHS NATIONAL SERVICES SCOTLAND

Background

1. It is clear from consultation carried out for the National Information and Intelligence Strategy that our **Information Services Division's (ISD's)** key stakeholders regard managing the impact of an ageing population as one of the greatest challenges facing health and social care services in Scotland. For this reason, it is at the forefront of our strategic thinking and planning.

2. ISD has recently reconfigured its structure and priorities to reflect these challenges. For example the fact that older people often have several conditions and social care needs calls for a response at the level of the whole person and an understanding of the patient pathway as a whole. Thus a new Health and Social Care Pathways team has been set up to help take forward this new agenda.

3. These new developments build on a firm analytical and knowledge foundation established over several years. In particular, in the early years of the last decade ISD information and novel analysis techniques formed the basis of the Chief Medical Officer's Expert Group on Healthcare of Older People ('Adding Life to Years') as well as making strong contributions to the Kerr Report and subsequent governmental strategy documents such as Better Health, Better Care.

General

What is your view of the effects of demographic change on the sustainability of funding for (a) health and social care

4. ISD costs data (the 'Cost Book') provides a solid baseline for mapping forward the likely financial impact of an ageing population.

5. Work carried out for the Integrated Resource Framework has made great progress in assessing the true costs of caring for the older population across health, social care and within different sectors of health care (for example it was estimated that almost one third of total spend for older individuals was for unplanned inpatient admissions).

6. The great unknown is the precise extent to which an older population will lead to greater demands on health and social care services. As life expectancy increases, it is likely that an eighty year old in twenty years time will be healthier than an eighty year old now - but we do not know precisely how much healthier.

7. Some of the most valuable information to inform this debate and to begin to model future demand has been the analyses of Healthy Life Expectancy carried out by the Scottish Public Health Observatory. One of the main ScotPHO resources is

the Health and Wellbeing Profiles: <http://www.scotpho.org.uk/comparative-health/profiles/2010-chp-profiles>. These provide information on a wide range of indicators for health and its determinants, and many are directly relevant to the challenge of aging (e.g. people aged 65+ with intensive care needs/receiving free personal care at home, people aged 65+ hospitalised for falls/having multiple hospitalisations, people aged 60+ claiming pension credits). The profiles are used as a tool for planning services locally by a wide range of professionals in health, social care and other council settings.

What public services will individuals increasingly call on and in what way?

Further, what planning is being done, or should be done, to address this?

What weight should be given during the annual budget process to demographic trends and projections?

8. One of the major trends over past decades in changing patterns of access has been the long-term increase in emergency admissions to hospital and to a lesser extent attendance at A&E. Analysis suggests that these trends may not reflect inherent needs for care but relate to the way the system of care operates. This can make reactive care a more straightforward option than the anticipatory, preventive care which would serve the long-term needs of older people better. In such a context, planning becomes as much a matter of changing the way services are delivered as of assuming that service delivery models are unchanged and projecting forward on that basis.

9. With steady increase in patients receiving home oxygen over recent years **NSS** commissioned the Scottish Public Health Network (ScotPHN) to undertake a national needs assessment of the home oxygen service to increase understanding of the clinical need, how this is likely to change over time and to contribute clinical and public health views to current discussion between the Scottish Government, NSS and NHS boards on future service delivery.

10. It has highlighted the complexity of the provision of home oxygen with a range of factors including the different patient groups and the large number of conditions where home oxygen is prescribed. What is clear, however, is that patients with Chronic Obstructive Pulmonary Disease (COPD) are the main users of home oxygen. The prevalence rate of COPD has actually increased over recent years, particularly in the oldest age groups. This, in conjunction with population ageing and increased numbers of older people, means that the estimated number of people living with COPD has increased substantially over the last 20 years from 31,149 cases in 1989 to 83,314 cases in 2009 (Figure 17). There is no evidence yet of this increase in prevalence slowing down.

11. As a result of the needs assessment, our **Health Facilities Scotland Division** has co-ordinated a substantial reorganisation of the Home Oxygen Service to run in a more clinically appropriate way with more robust patient assessment and providing better value for money.

What data is collected (and what should be collected) with respect to (a) health and social care and what use is made of this (or should be made) to forecast what funding will be needed.

12. ISD is responsible for NHSScotland's national data collections and these are set out below. Perhaps the most powerful element is that most of these data sets are now CHI-seeded allowing patient-linkage and the tracking of patient journeys - and the linkage to social care data.

The following is not an exhaustive list.

Cancer information

13. *Primary prevention:* ISD supplies statistics which are used to support health promotion campaigns aimed at reducing the risk of cancer, for example, a recent Cancer Research UK press release about skin cancer trends and the dangers of sunburn. Another example of primary prevention is the use of cancer registration data by clinical geneticists to identify persons with high familial risk of cancer.

Screening and early diagnosis

14. ISD supports our **National Services Division** to commission cost-effective cancer screening programmes which may prevent some cervical and colorectal cancers occurring, but should also lead to earlier diagnosis of already established cancers (breast, cervical and colorectal). ISD is also supporting the Detect Cancer Early (DCE) Programme Board to establish a process for monitoring progress towards achieving the targets of the DCE initiative. Cancers detected at an early stage, either through screening or timely presentation and referral, often require less complex and costly treatment, and have a much better prognosis than advanced cancers.

Health service planning and monitoring:

15. ISD has prepared projections of cancer incidence up to 2020 which have been used to support radiotherapy planning, but are needed for rational planning of all the personnel, equipment and facilities required for diagnosis and management of all aspects of the 'cancer journey'. <http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Statistics/Cancer-Incidence-Projections-Scotland-to-2020.pdf>

Hospital admissions

16. The SMR (Scottish Morbidity Record) data sets are long-standing data sets detailing patient admissions to general hospitals, maternity hospitals and psychiatric in-patient facilities as well as out-patient attendances. The SMR01 data set for general hospital admissions goes back to 1968 and is linked on a patient basis back to 1981 allowing very powerful analysis of long-term trends.

Accident and emergency

17. The accident and emergency data set is a recent innovation. A current development is linkage to NHS24 and Scottish Ambulance Service data as well as to inpatient admissions to enable tracking of patients through the unscheduled care system.

Waiting times

18. ISD holds and analyses waiting times data across a range of settings from community mental health teams to cardiac surgery.

Care Home Census

19. This is currently a count of individuals resident in a care home. From 2013 this will be carried on a patient-basis

Continuing Care Census

20. Patients receiving NHS care that is ongoing, non-acute and over an extended period in a hospital, hospice or care home.

Delayed Discharge Census

21. This is a monthly census, published quarterly, of patients considered clinically ready for discharge but for whom discharge has not taken place, and the reasons for this.

NHS Costs Data

22. The Costs Book records all hospital, community and Family Health Service expenditure for all territorial NHS Boards and for Special Boards with patient care responsibilities (Golden Jubilee, State Hospital). At present this is reported at specialty level, by hospital, for each NHS Board. Ideally, patient level costs would be recorded but in the absence of these, ISD are developing a methodology that allows the specialty level costs to be mapped down to individual patient level depending on the treatment each patient receives. This 'patient level' costing allows pathways and patient treatments to be more accurately modelled and examined on the basis of, for example, patient age group.

Financial Resource Allocation

23. The resource allocation formula developed by the NHSScotland Resource Allocation Committee and maintained by ISD allocates funding on the basis of health need, taking into account the age, gender and additional needs of the Board population to distribute funding equitably across NHSScotland.

Pharmacy data

24. This data set contains details of all prescriptions dispensed in the community in Scotland. A recent development has been the availability of the CHI number on dispensing data enabling linkage at patient level. This opens up possibilities of analysis in areas such as patient safety (identification of unsafe patterns of prescribing) and polypharmacy,

Dental data

25. Details of dental registrations and treatments carried out by NHS dentists in Scotland.

Linkages

26. ISD's data holdings currently cover a large proportion of the patient's journey of care. As outlined below, major gaps relate to GP data, community care and linkage to social care data.

27. However, we are on the threshold of being able to track patients throughout the major part of their journey of care. At present records are linked or linkages are being developed for various sectors of the patient journey. For example:

ACaDMe

28. This warehouse contains linked data on hospital admissions, cancer registrations and deaths.

Pharmacy data

29. Data on community dispensing is linkable at patient level to hospital admissions.

Unscheduled care

30. A new development will allow linkage of NHS24, Scottish Ambulance Service, A&E and emergency inpatient admission to enable tracking of patients throughout the system of unscheduled care.

Care home data

31. A new programme of work is exploring the relationship between care residence and emergency admission to hospital.

Gaps

32. As identified in the National Information and Intelligence Framework, the major data gaps for the care services in Scotland relate to access to GP practice data and linkage to social care data. National negotiations are currently under way to enable carefully controlled sharing of access to GP practice data.

33. In terms of linkage of health and social care data, progress is being made as part of work being carried out for the Integrated Resource Framework.

34. More generally, information on care delivered out in the community has proved very difficult to collect on a national and consistent basis.

35. Information on carers and information on self-care remain major issues to be addressed.

Health and social care

To what extent are preventative policies such as the Change Fund key to addressing demographic pressures on the provision of health and social care?

36. Most of ISD's analytical effort in relation to older people has been geared towards the general policy of 'shifting the balance' and the concrete efforts to facilitate its implementation embodied in the change fund. Examples include:

SPARRA

37. (Scottish Patients at Risk of Readmission and Admission) was initially developed as a direct response to the recognition that too many older people were

being admitted to hospital as emergencies because they were not receiving the integrated, preventative and anticipatory care which they need. SPARRA identifies those patients most at risk of emergency admission so that they can be assessed and if possible receive the care they need.

National Polypharmacy Initiative

38. A related issue is that many older people are being dispensed too many drugs, perhaps in unsafe combinations which may well result in admission to hospital. The latest version of SPARRA incorporates the patient's dispensing history into its predictive algorithm. A pilot is currently in development which uses SPARRA to identify patients who are being dispensed high numbers of different drugs so that their drug regimes can be comprehensively reviewed.

Health and Social Care Data Linkage

39. The ability to track patients' and service users' journeys across the health and social care system has long been something of a Holy Grail in terms of information to help shift the balance of care. Such a linkage has been achieved for specific local authorities involving data which runs through from pharmacy data to A&E attendances through to home and residential care. This allows examination of variation between Boards, hospitals, CHPs, GP Practices, localities etc. Linked patient/client level data allows the interface between the health and social care pathways to be examined.

To what extent are the pressures on health and social care a consequence of an ageing population as opposed to other challenges such as obesity?

40. This has only been evaluated systematically in the context of cancer (see projections link above). In this case, most of the addition burden of cancer by 2020 compared to 2010 will be due to population aging. This is because, while effects of some risk factors such as obesity are growing in importance, others are diminishing, most notably smoking. For other conditions, this question is more difficult to address. However, the information infrastructure and links with Universities which ISD is building through the Scottish Health Informatics Programme mean that there will be greater prospects for understanding these problems in the future. For example, the ability to link the Scottish Health Survey, with its wide range of information on risk factors such as smoking, lifestyle and diet to information on health care use would enable progress to be made.

41. **Our Health Protection Scotland Division (HPS)** plan and deliver specialist national services which coordinate, strengthen and support activities aimed at protecting people from infectious and environmental hazards. An ageing population is of particular concern for HPS as older age itself is an independent risk factor for infection. An aging population means: more infections to treat, more hospitalisation, more antibiotics and therein more antimicrobial resistance. The increasing number of persons over 65 years of age forms a special population at risk for health care associated infections (HAI). The vulnerability of this age group is related to impairment of immune responses, life circumstance issues, such as residence in nursing homes and nutritional status.

42. Morbidity and case fatality associated with HAI is higher in older people as a result of age related frailty arising from multiple co-morbidities and the vulnerabilities described previously. This domino effect in older people makes them a special at risk group with respect to HAI and prevention should therefore be the focus for nursing care. Alongside infection prevention strategies, early detection of these infections when they do occur, with early intervention is critical in their management and control. Intrinsic risk factors in the population receiving healthcare, such as increasing age and multiple co-morbidities have an impact on the ability at a country, hospital and specialty patient population level, to control and prevent HAI.

43. A large prospective study of all HAI in Scotland identified increasing age as an independent risk factor for infection (Reilly et al 2007). Those who were older than 65 years were at risk and there was a linear trend in risk with increasing age thereafter. Alongside increasing age, other important HAI predictors in acute hospitals were specialty, season and gender. So if people are older, in a care of the elderly specialty and it is winter, they are more likely to have HAI.

44. The study also indicated that in long term care hospitals settings where there is a higher average age and different speciality distribution, the types of HAI were different to that in acute care. The most common types of HAI in older patients in these settings were urinary catheter associated infections, skin and soft tissue infections such as pressure ulcers and gastrointestinal infections which were mainly *Clostridium difficile*. In all these infection types the key to protecting older people in healthcare settings is prevention. Care homes are a reservoir for infection in hospitals and thus the whole healthcare collective has a role to play.

45. The **Scottish National Blood Transfusion Service (SNBTS)** is the provider of transfusion medicine in Scotland, supplying high quality blood, tissues, products and services. Predicting future demand for blood components is difficult given the multiple variables which can either increase or reduce demand for blood. In 2011 National Health Service Blood and Transplant (NHSBT) in England commissioned a major study “Drivers of Blood Demand: Red Blood Cells and Platelets” which draws on data provided by SNBTS, NHSBT and the wider NHS. The conclusions reached are judged to be applicable to Scotland. The study predicts an increase in demand for both red cells and platelets over the next ten years, with demographic changes alone resulting in an increased demand for red blood cells of some 16% by 2019/20.