Pan Scotland Workforce Planning Assessment and Recommendations
FINAL

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1. Executive Summary

The Pan Scotland Workforce Planning Portfolio was established in May 2012 through a recognised need from Scottish Government and amongst senior NHS Scotland (NHSS) Executive's to have an improved aggregated picture of NHSS workforce planning & development. The Pan Scotland Programme Director role is for two years, this document summarises the findings from the portfolio and makes draft recommendations. *Everyone Matters:2020 Workforce Vision is* the workforce policy for NHSScotland, it supports our 2020 Vision for Healthcare in Scotland and our Quality Ambitions. The findings and recommendations from the Pan Scotland work are congruent with the priorities for action in *Everyone Matters 2020 Workforce Vision Implementation Framework and plan 2014-15*

In recent years NHSS has made great strides in improving workforce planning, CEL 32 (2011) replaced HDL52 (2005) as the NHSS Workforce Planning Guidance, and widely introduced the 6 Step Workforce Planning Methodology as the underpinning workforce planning methodology. The 6 Steps has supply and demand modelling at its core, with gap analysis the central step in developing a workforce action plan. Significant improvements have been made around data quality, however there remains work to be done to achieve consistent recording of workforce data across all NHSS Boards. To take cognisance of the developing integration agenda a comparison with Social Care data sets has been undertaken as part of the data quality work.

The overarching premise of the Pan Scotland work was to improve qualitative and quantitative workforce intelligence to better understand current and future workforce need. Establishing consistent supply and demand methodologies was a primary goal to establish an improved understanding of capacity & capability within the sector labour market. This document focuses on underpinning infrastructure which is transferable across staff groups and organisations.

In 2012 an extensive programme of visits was undertaken across NHSS Boards to establish the workforce priorities and understand the service perspective around developing a Pan Scotland portfolio of work. The evidence and intelligence gathered shaped and influenced recommendations on a future model of Pan-Scotland workforce planning and the objectives for the portfolio.

The portfolio of work has been developed through a high level of engagement with NHSS Boards and collective working with NHSS Workforce Planners via the newly established Workforce Planning Forum, a series of recommendations under the following themes;

1. Workforce Information & Intelligence including risk reporting
2. Workforce Planning Process and Infrastructure
3. National Workforce Planning Forum
4. Education (supply) determinants
5. Develop Medical workforce intelligence

The healthcare environment is constantly changing, improving and developing, with a complex multi-generational workforce delivering clinical and non-clinical roles across NHSS. These five themes focus on the development of adaptive, underpinning structures, and recommendation of an NHSS Workforce Intelligence Infrastructure which will enable workforce planning to respond to changing demand, and strategic priorities. The recommendations are based on evidence and research to support the on-going development and integration of workforce planning as a core planning function within NHSS Boards.

D.Donald – Programme Director Pan Scotland Workforce Planning (March 2014)

2. Background and context

This document summarises the work of the two year Pan Scotland portfolio and represents an objective overview of NHSS workforce planning and makes recommendations for on-going improvement. The focus is on quality and underpinning structures which can be adaptive to changing circumstances, policies, and political imperatives. It should be noted that whilst this portfolio of work was established to make improvements within NHSS healthcare workforce planning the integration agenda is accounted for in the scoping of the work.

To progress the portfolio findings this document makes recommendations for the establishment of systematic processes which are robust and adaptive to a wide range of information, policy and planning requirements across all staff groups.

NHSS healthcare workforce planning is dependent on the provision of quality source intelligence from NHSS Boards therefore developing information & intelligence structures based on population need and patient pathways is central to the findings, therefore this document makes recommendations relating to governance and reporting structures.

NHSS Workforce Planning was first described in HDL 52 (2005) National Workforce Planning Framework Guidance 2005. This guidance published in November 2005 provided NHS Boards with core guidance to embed workforce planning as a key element of wider planning systems. Since 2005 NHSS Workforce Planning & Development has grown and developed, those who lead this work within Boards have gathered an extensive level of expertise and knowledge on the NHSS workforce. In recognition of the maturing of the portfolio, HDL 52 (2005) was reviewed in 2011, leading to the publication of CEL 32 (2011) which uses the 6 Step Workforce Planning Methodology as a systematic approach which can be applied across all environments, and staff groups. The methodology provides a consistent approach at all levels of NHSS workforce planning from small service development to larger redesign projects. The recommendations in this document aim to augment the information & intelligence infrastructure which supports CEL32(2011)

Healthcare workforce planning is a portfolio of work which is continually improving to achieve a proper balance between the supply and demand of the different categories of health workers through the short, medium and longer term. The range of service provision and the diverse geography make effective workforce planning in the health sector complex in part due to the wide range of roles and staff groups. This complexity means workforce planning is not an exact science, and the assessment of influences on which workforce plans are based inevitably involves a series of assumptions about how the various supply-side and demand-side factors might evolve in the future. These assumptions require regular updating and a broadening of their scope to take into account changing economic, population and health service delivery contexts, to ensure be relevance in assessing the impact against the wide range of drivers which influence the workforce.

Everyone Matters:2020 Workforce Vision is the workforce policy for NHSScotland, it supports our 2020 Vision for Healthcare in Scotland and our Quality Ambitions. The findings and recommendations from the Pan Scotland work are congruent with the priorities for action in *Everyone Matters 2020 Workforce Vision Implementation Framework and plan 2014-15 which are*

- *Healthy Organisational Culture*
- *Sustainable Workforce*
- *Capable workforce*
- *Integrated workforce*

- *Effective leadership and management*

In particular workforce planning needs robust information and intelligence to support sustainability, for example in 7 day service provision.

3. Context and International Research for NHSS workforce planning

To better understand our direction of travel and where we are going it is important to acknowledge where we have been to see where lessons can be learnt and improvements can be made. Therefore context and research play an important part in any development and future vision.

To effectively plan our future workforce the provision of quality workforce intelligence is essential, but the context and dynamics of information and intelligence is much broader than purely workforce reporting. Population demographics and epidemiology are the primary determinants of service need, and therefore ultimately influence workforce requirements. Population distribution, deprivation profiles and epidemiology trends are an inherent part of the 'workforce planning story' and the required information and intelligence structure to ensure effective planning.

3.1 International Workforce Planning Research

It is important to contextualise NHSS workforce planning with current global perspectives on workforce planning research, these are described below. It is accepted that Workforce Planning is dependent on good intelligence, however the historical development of different systems and processes for recording and coding within each NHSS Board has led to some variance in how the NHSS workforce is described and ultimately reported. To achieve greater consistency, there is agreement within NHSS to establish a core data set supported by governance and quality measures, this is consistent with the direction of travel of a number of Organisation for Economic Co-operation and Development nations (OECD), the USA and Canada.

Recently published workforce planning research has a consistent focus on data quality and the establishment of a common core data set. The World Health Organisation (2010) describes through its work within the Collaborating Centre on Health Workforce Planning & Research recommendations for a core data framework based upon four key data elements, these are:

1. the demographics of the population;
2. epidemiologic parameters such as health risks and population morbidity;
3. the care required to meet the health needs of the population and
4. the productivity of providers.

This information, enables the development of an analytical framework which provides equations to measure two independent elements: provider supply and provider requirements. These elements are further clarified as:

Provider requirements (demand) - that is, the number of a given kind of health care provider required to deliver a given set of services to a particular population based on their levels of need—are estimated using demographic, epidemiologic, level of service and productivity data.

Provider supply is an estimate of the number of providers that are or will be available to deliver health based on the size of the current stock of these providers, flows in and out of supply, and the levels of participation (e.g. active in providing patient care vs. those who are

working solely in administration, education, research etc.) and activity (e.g. working full-time vs. part-time) among providers (Birch et al., 2007).

The further augment the breadth of intelligence to support planning the World Health Organisation (WHO) also described variables which demonstrate the influences which determine future health workforce requirements, typically these include; demographic growth and change, health policy and related legislation, technological change; burden of disease; service provider utilisation; relevant service quality standards; organisational efficiency; public demand and expectations and availability and means of financing. The WHO model is presented below.
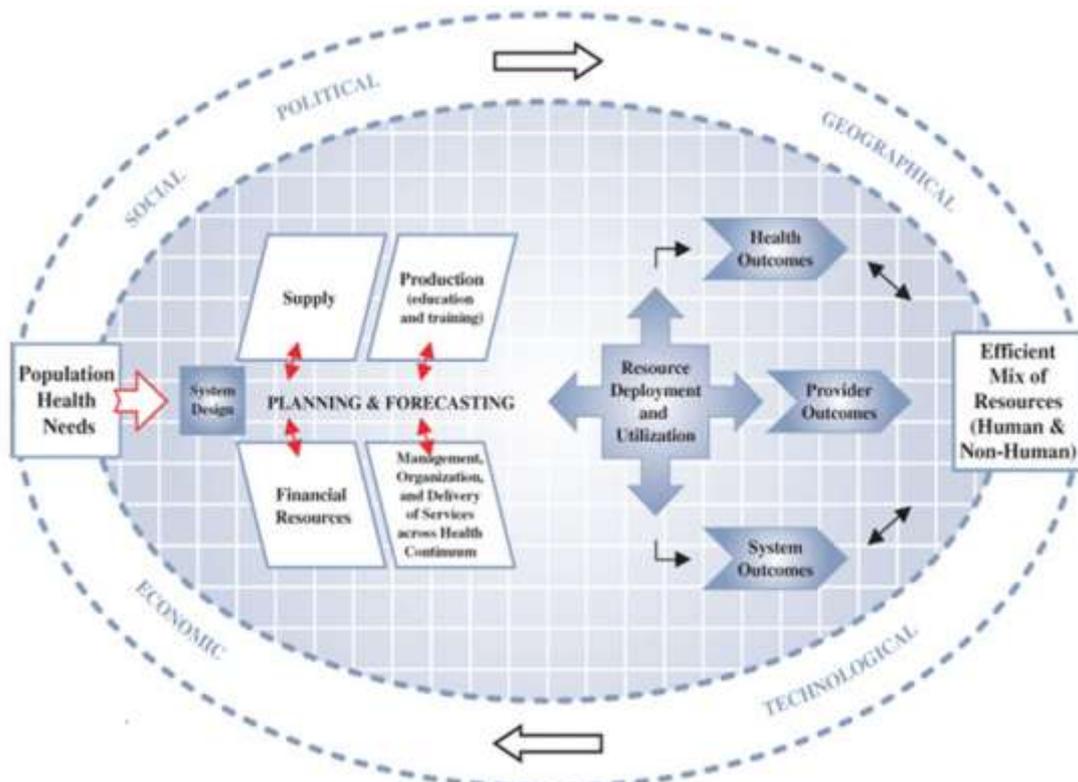
The model presented above demonstrates the interrelationship of a range of planning processes, and performance outputs and outcomes. The WHO methodology is further reinforced by the Bipartisan (2013) report which describes demand for healthcare services can be described as a function of three components;

1. population size and geographical distribution
2. the incidence and prevalence of all diseases and illnesses and the skill mix and intensity of health services required
3. the factors which affect the utilisation rates

To further refine the influencing factors the Bipartisan research in the USA includes the recommendation to take account of adjustment factors as follows;

- Health workforce supply
- Scientific advances and technological innovations
- Access to healthcare
- New service delivery patterns
- Evolving practice patterns

These adjustment factors described are central to determining the demand implications of new models of care, policy changes, the required composition of the workforce, the fiscal influences and other advances. Additionally it is important to understand the impact these variables will have across our diverse geography, and different service models at local, regional and national level, all of which have an influence on workforce design.

The Kings Fund – Time to think differently work (2013) further reinforces the importance of workforce planning being led by population factors and state as the population demographic ages and lifestyle change so does the epidemiological profile which then directly affects service. The Kings Fund describes the key factors influencing future disease profiles as follows;

- *Increase incidence in arthritis and rheumatoid conditions, sight & hearing loss, dementia*
- *Impact of deprivation*
- *Impact of lifestyle – alcohol, illegal drug use, inactivity and obesity*
- *Complex co-morbidities*
- *Antimicrobial resistance*
- *Many diseases will become easier to treat, changing the treatment pathway*
- *Threats of communicable disease*

There are significant synergies between the WHO, and Bipartisan findings, with both using supply & demand methodologies and a move towards prediction rather than assessing future workforce need based on past utilisation. Ono et al (2013) reviewed prediction models used across 18 OECD Countries takes the debate further and describes that some models have tried to move beyond current health service utilisation to "needs-based" models to provide better estimates of current and future health workforce requirements. They describe the development of "needs-based" planning models, as taking account of information about unmet care needs or any gap between the actual use of services and their recommended use (according to current clinical guidelines) to improve estimates of current health care needs, and use information on trends in risk factors and the incidence/prevalence of different diseases to improve estimates of future workforce requirements. The review assesses while "needs-based" models try to overcome clear limitations with the more traditional "utilisation-based" models, they do face the challenge of coming up with reliable estimates of current and future health care needs, which are subject to normative judgements and high uncertainties.

Research suggests that prediction looks set to become a core element of workforce planning practice, however few existing models adequately address the geographic distribution of health care providers within a country, research demonstrates that many countries focus their projections and recommendations at a national level, although there are potential imbalances across regions. Some countries deal with this issue through decentralised planning systems at a regional level, based on national guidelines (e.g. Germany). Some countrywide projections also try to address this issue by taking into account the mobility of health care providers within the country (e.g. United States) or by accounting for differences in training capacities across regions (e.g. France), assuming that there is a higher likelihood that health care providers will practice in the region where they have been trained. These factors are important when examining influences to workforce sustainability, but also provide indicators for education provision. There are clear opportunities for NHSS and integrated structures to develop scenario planning and forecasting methodologies as part of the maturing of workforce planning practice and service development.

The recently published Audit Scotland Report (2013) – NHS Financial Performance 2012/13 is consistent with the research findings and stated that because boards have to meet annual financial targets, their focus can be on breaking even each year. The report described the need to focus more on long-term financial planning to change the way services are delivered to meet the challenges of population changes, technology advances and decreasing budgets.

3.2 Population intelligence

The research evidence base demonstrates the importance of population based planning to ensure services reflect local population need, epidemiology profiles and geographic variance.

The most recent General Registrar Office for Scotland (2012) publication of demographic trends describes Scotland's population as 'reaching an all time high of 5,313,600 people'. Across Scotland, a small population increase at the national level means varied results across council areas. Aberdeen City and the City of Edinburgh saw the greatest percentage increases between 2011 and 2012 with 1.1% and 1.0% respectively. The council area with the greatest decrease in population was Argyll & Bute where the population declined by 2,030 (-2.3%); most of this fall was due to changes in Armed Forces personnel.

The National Records of Scotland (2013) projected population statistics show the population of Scotland is projected to rise from 5.31 million in 2012 to 5.52 million in 2022, and continue to rise to 5.78 million by 2037 an increase of 9 per cent over a 25 year period. The impact of this is shown in the table below.

Over the next decade, 28 per cent of the projected increase in Scotland's population can be attributed to natural increase (more births than deaths) while 72 per cent of the increase is due to assuming the continuing net migration to Scotland.

Between 2012 and 2022 the number of children aged under 16 is projected to increase by 4 per cent from 0.91 to 0.95 million. As the Scottish population continues to age so that the proportion of people aged 65 and over is now the same as the proportion of those under 16 (17%).

The age of the population of Scotland was as follows:

  • *17% of people were aged under 16*
  • *66% of people were aged 16 to 64*
  • *17% of people were aged 65 and over.*

The number of people aged 75 and over is projected to increase by around 28 per cent in the first 10 years of the projection, form 0.42 million in 2012 to 0.53 million in 2022, and then projected to continue rising, reaching 0.78 million in 2037 and increase of 86 per cent over the 25 year period. As a result the dependency ratio (the ratio of people under 16 and over pensionable age to those of working age) within the population also alters and will rise form 59 per 100 in 2012, to 66 per 100 in 2037. This rise is mainly due to the increase in the population of state pension age.

Life expectancy in Scotland has improved significantly in the past 25 years. People born today can expect to live to 80.6 for women and 76.1 for men. However, these figures are still well below most of the other European Union (EU) countries.

Estimated and projected age structure of Scotland's population, mid-2012 and mid-2037
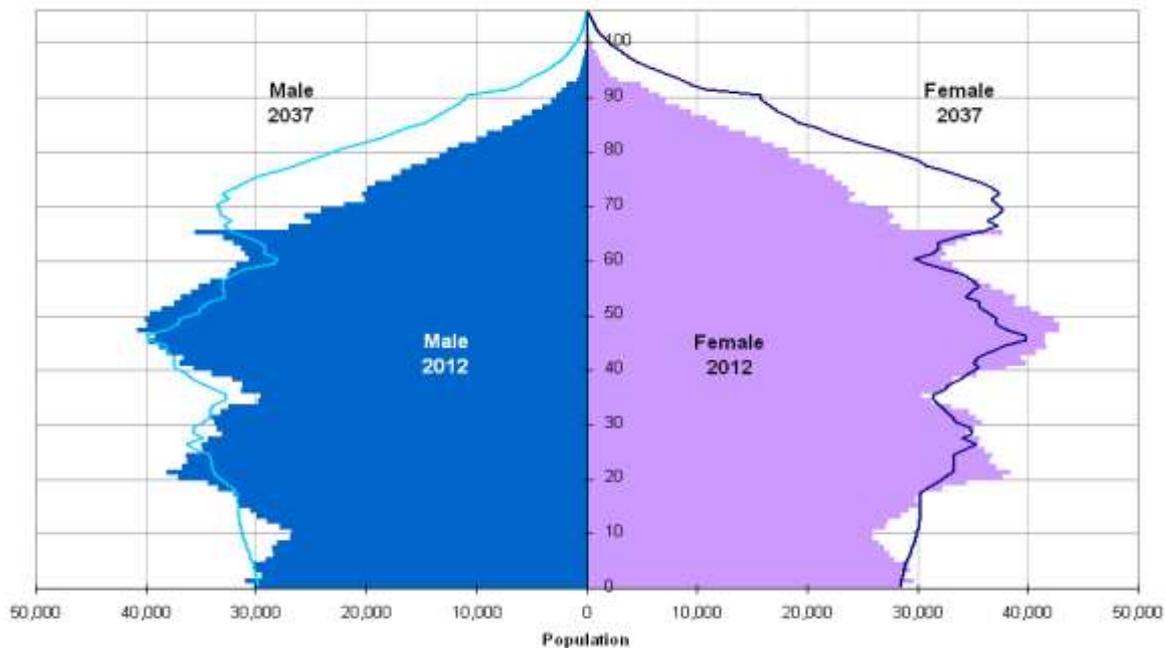
The number of households is also increasing partly as a result of the ageing population and also because more people are living alone or in smaller households. This increase though is at its lowest level in ten years. Thirty-eight per cent of dwellings in Scotland are entitled to a Council Tax discount because there is only one adult living there (alone, with children or with adults who are exempt for Council Tax purposes). The proportion of people living alone is higher in urban areas and in more deprived areas. This has implications across health and social care in relation to physical, emotional, social and mental wellbeing.

The aging population, inequalities and poor health in our population drive high levels of hospital admission, GP consultations and a use of a wide range of other health related services.

A recent study by Barnett *et al (*2012) found that in Scotland 42 per cent of the population had at least one long term condition and 23 per cent had two or more. The study also identified that the onset of multi-morbidity occurred 10-15 years earlier among those living in deprived areas; people in these areas are also more likely to experience mental health problems alongside physical illness or disability than people in affluent areas.

The Global Age Watch Index (October 2013) which ranks 91 countries in terms of wellbeing of their older populations (defined as individuals <60 years) In the study the UK is 13th out of 30 countries. This study acknowledged that for many countries population aging and how to ensure the wellbeing of older citizens presents gloomy predictions, with fewer people of working age available to look after an older society. These predictions are based on the assumption that with age comes expensive morbidity, the study highlights the need for better global data on the comparison between life expectancy, and years of 'healthy' life expectancy to gauge success of interventions to address the long term needs of an ageing population, and track progress on morbidity compression.

The National Statistics Publication for Scotland (2012) Scottish Index of Multiple Deprivation (SIMD) is the Scottish Government's official tool for identifying those places in Scotland

suffering from deprivation. It divides Scotland into 6,505 small areas referred to as datazones, each containing around 350 households, as result the SIMD can be used to target policies and resources at places with greatest need, as a result it is particularly helpful for workforce planning. The SIMD 2012 shows that multiple deprivation in Scotland has become less concentrated overtime. In SIMD 2004, nearly half of all the datazones in the most deprived 10% across Scotland were in Glasgow City. In SIMD 2012 this has dropped to 35.8%, with corresponding rises in other Local Authority areas.

The most deprived datazone in Scotland in 2012 is the Ferguslie Park area *(datazone S01005249)* of Paisley. The other areas in the top five most deprived datazones are;

- Possil Park, Glasgow City
- Keppochhill, Glasgow City
- Paisley Ferguslie area *(datazone S01005265)*
- Parkhead West and Barrowfield area, Glasgow City.

There were 742,200 people living in the 15% most deprived areas of Scotland. The least deprived datazone was the Craiglockhart area of Edinburgh.

Our population profiles further augmented by epidemiology and disease profiles provide an overview of key influencing factors determining workforce deployment patterns, and workforce capacity & capability requirements to meet demand.

General Registrar Office for Scotland (2012) report the *Causes of death in Scotland* in 2012 as; more than half of all deaths were due to the so-called 'three big killers'. There were 15,864 deaths from cancer (29% of all deaths), 7,541 deaths from ischaemic (coronary) heart disease (14% of all deaths) and 4,475 deaths from strokes (8% of all deaths).

Since 1980, the total number of deaths from these causes has reduced, falling from 65% of all deaths during 1980-82 and 1990-92, to 58% during 2000-02 and to 51% in 2012. However, the number of deaths from cancer rose by 14% (from an average of 13,903 per year in 1980-1982 to 15,864 in 2012.

Other health indicators – from National Statistics Publication for Scotland - Scotland's Health Survey (2013) are described as lifestyle factors, such as obesity and physical inactivity, and increasing the burden of chronic disease, some examples are as follows;

In 2012 one in four adults aged over 16 was a cigarette smoker, 25% of men and 24% of women, with those aged 25-22 years most likely to smoke (29%).
A quarter of men and 18% of women drink alcohol at hazardous or harmful levels

Almost two-thirds of adults (64.3%) of adults aged 16 years and above are either overweight or obese (BMI of 25kg/m2 or above) One in six children were at risk of obesity on 2012.

Other factors affecting the population's health include the economic profile. The evidence on the links between unemployment and health is stark: a recent systematic review by Roelfs D et al (2013) summarised that, *on average, mortality rates increased by 63% for those experiencing unemployment compared to those in continuing employment*. Negative health impacts are also seen where employment changes to become less secure or rewarding. Although there is a clear relationship between income and health for individuals within societies, the impacts of recession on the health of whole populations and on health inequalities are less clear. There is evidence that some aspects of health tend to get worse during recessions (e.g. suicide) and others improve. There is also evidence that some of the negative health impacts of recession may be delayed (e.g. cardiovascular disease and health inequalities). The economic downturn may impact on chosen dates of retirement with some staff potentially choosing or needing to work longer.

These and other data sources help to influence service demand variables which will ultimately shape the NHSS workforce at local, regional and national level. It is also important to remember that the factors highlighted above will all potentially impact on workforce availability and will represent health indicators within local labour markets.

Care is continuously changing and advancing, science and technology are developing at an unprecedented pace, workforce planning and preparation of the workforce to meet future care needs to be an integral part of integrated planning process supporting the Route Map to the 20:20 Vision – 12 Priority Areas for Action shown below.

ROUTE MAP TO THE 20:20 VISION

12 PRIORITY AREAS FOR ACTION

Quality of care	Primary Care
	Integrated Care
	Safe Care
	Unscheduled & Emergency Care
	Person Centred Care
	Care for Multiple & Chronic Illnesses

Health of the Population	Early Years
	Health Inequalities
	Prevention

Value & Financial Sustainability	Innovation
	Efficiency & Productivity
	Workforce

11/02/13

The changing dynamics of healthcare is reflected in the NHSS workforce plans which highlight work to strengthen community services, and improve assessment and management of acute episodes underpinned by alternatives to a hospital stay which take account of increasing acuity and increasing dependency within certain population groups. There is a focus on the interface between hospital and community services which may involve the development of new services, extending existing services and removing the current barriers between acute and primary care. Changing acuity and managing the care of patients with complex conditions is reflected in the future skills requirements of the workforce with a growing view that many professionals need to have a broad skill set across acute assessment, common co-morbidities and mental health.

New medical and information/communication technologies will profoundly change the workforce; they will change what the work is, where it can be done and who does it. Technology puts power into the hands of patients and means more care can take place outside the hospital Imison & Bohmer (2013). This will ultimately impact on workforce skill sets and model of deployment but also act as a conduit to coproduction.

The aging population also presents new dynamics within the workforce, by the year 2020 for the first time in modern history there will be four generations in the workplace; Baby Boomers, Generation X, Generation Y and the Millennial Generation (AARP 2007). A generation is described a group of people who are programmed at the same time in history, because they each come from a unique and distinct era, each has its own perspective on business critical issues such as leadership, communication, problem solving and decision making. The Multigenerational workforce will bring a new dimension to workforce planning with opportunities to capitalise on the strengths of each generation. There is a considerable amount of research on generational theory which provides an important evidence base for future workforce planning.

This wide range influences all need to be accounted for within workforce planning metrics and methodologies. This demonstrates the complexity but also the need for workforce planning to be a central component of all planning processes, and reinforces the need for systematic and robust underpinning structures which are flexible to changing priorities.

The international research demonstrates consistent messages on the need to develop population led, needs based workforce planning, which uses an epidemiological and population distribution evidence base. The recommendations in this document are consistent with the research, and international direction of travel. The recommendations also lend themselves to future development in joining intelligence sources which capture performance and innovation. In addition the intelligence recommendations would be transferable to integrated structures.

4. Pan Scotland Portfolio – what has been developed?

4.1 Information and Intelligence

The Pan Scotland recommendations aim to improve workforce intelligence and information, to develop supply and demand profiling and provide a more complete picture of the NHSS workforce, and the drivers which influence required capacity and capability. The gathered research evidence base suggests the need for an intelligence continuum which accounts for all the key influences. This section will describe a systematic approach to NHSS information and intelligence to inform planning.

> *Key to effective workforce planning is establishing consistent and sustainable underpinning structures to capture and report workforce planning intelligence. A key goal is the early identification of risks to sustainability and continuity, and the development of subsequent action to be taken to reduce/avert risk.*

Research findings support the need for a consistent minimum common core data set, and the requirement to have a sustainable infrastructure to facilitate aggregation of intelligence at regional and national level.

Supply and demand modelling is integral to workforce risk assessment. Developing our supply and demand data aims to provide improved intelligence on the differing labour markets influencing NHSS. Establishing robust supply and demand intelligence across NHSS will require the co-ordination of a wide range of information sources.

Demand information based on current and future population and service profiles is key to understanding workforce supply need and education requirements. Our demand variables are affected by a range of influences; the demographic structure of the population, the pattern of future disease and illness, how technology will impact on the treatment pathways,

treatment practices and the type, and volume and pattern of services will all influence the shape of the workforce.

Workforce supply can be affected by a range of influences including geographic, sector competition within specific staff groups, and the impact of competing UK and international labour markets. These variables include core workforce intelligence from SWISS/eESS, and vacancy management information to enable a better understanding of recruitment trends, changing workforce demand and where supply channels are not meeting demand

The varied geography and populations within Scotland require different models of service delivery to meet care needs, and local populations have a bearing on labour market availability and competition across sectors, further supporting the need for multiple intelligence sources to inform planning and assess sustainability. This collective intelligence can enable potential sustainability risks and recruitment hot spots to be identified earlier than currently happens.

4.2 Common Core Data Set

Workforce accounts for the largest allocation of the NHSS revenue budget it is therefore imperative that this financial investment is accurately described and accounted for. NHSS Boards are responsible for the provision of all source NHSS workforce data, this data is used by the Information Services Division (ISD) for published statistical reports.

In line with published evidence NHSS has agreed to establish a common core data set to deliver consistent workforce reporting across NHSS. The delivery of this will be governed by an information & intelligence accountability structure to ensure workforce data quality management is an inherent part of NHSS working practice.

A primary challenge in the provision of NHSS workforce data is that information used to undertake workforce planning comes from a range of sources, however none of these has as its primary purpose the description or planning of the workforce. For example within NHSS a range of data sources are used to workforce plan including payroll, SSTS, existing HR systems, bank systems, finance systems, clinical systems, and NES-Pinnacle. These data structures add a high level complexity to data collection.

The implementation of eESS provides a consistent technical solution to the management of workforce/HR data, but the system remains reliant on the input of accurate intelligence.

To deliver a Common Care Data set two levels of intelligence have been identified. The first level is a set of core variables agreed through consultation with NHSS Information Services Division (ISD), Scottish Government, the National Workforce Planning Forum (NWPF) membership and are presented in Annex 1. A focused piece of work was undertaken to ensure these variables had synergies with Social Services Scotland Council (SSSC) data enabling alignment for integrated planning across employers within community settings. These variables are currently within SWISS/eESS, the aim of this work is to apply quality controls to the consistent coding of the agreed Core Variables, with the ultimate goal of '*report once, use often'.*
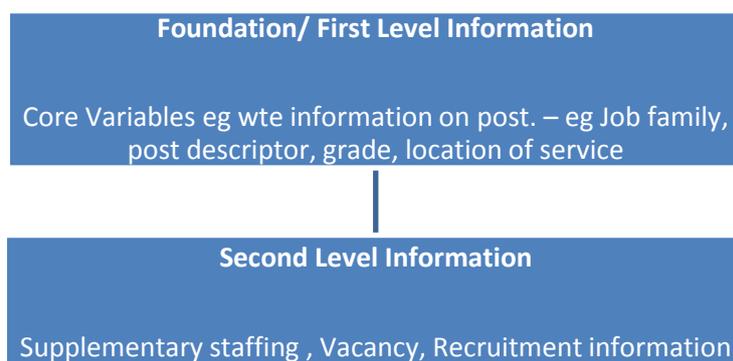
A key variable which is currently underutilised within NHSS is the *Location of Service.* Accurate recording of the *Location of Service* field will support improved intelligence in relation to the balance between acute care and community based roles, and offer a greater understanding of the workforce delivering within integrated structures, and the shift of capacity for acute to primary care.

The second level will provide detail of vacancies, supplementary staffing use and recruitment intelligence.

Together these two levels of intelligence will support workforce profiling, labour market intelligence trend analysis and risk assessment. Consistent application across NHSS will enable aggregation across organisations to examine the workforce across specific services, regions and nationally. This work also lends itself to development of information & intelligence functions within HR and offers potential opportunities to develop roles and career pathways to meet intelligence needs.

4.3 Structure for Common Core Data Set

A structure for a common core data set is presented in two levels shown below,

Foundation/ First Level Information

Core Variables eg wte information on post. – eg Job family, post descriptor, grade, location of service

Second Level Information

Supplementary staffing , Vacancy, Recruitment information

4.4 First Level Information

This level is dependent on the consistent application of the Core Variables, with all fields shown in Annex 1 being populated with accurate data. The Core Variables are sub divided into Non-Medical and Medical staff groups. This fist level presents the primary information about a post, such as job family, grade, age and location of service.

These Variables include detail of medical sub-specialty; this is of particular importance to enable a detailed profile of direct clinical care capacity & capability by medical speciality to be mapped across NHSS as part of supply and demand modelling. The ongoing developments to support improvements in the quality of medical job planning intelligence will support population of the speciality variables within Medical Workforce.

A recommendation is to develop guidance to establish consistent coding of the Core Variables across NHSS Scotland, this will improve reporting and ease aggregation of intelligence.

4.5 Second Level Information

The second level adds intelligence to describe the total workforce required to deliver service and care. Collectively level 1 & 2 information will present a complete picture of the total workforce capacity and capability requirements.

Accurate vacancy reporting is an important factor in highlighting supply challenges, and unique difference in local, regional and national demand and labour market availability. Capturing information on supplementary staffing enables the total whole time equivalent (wte) required to provide safe, effective care to be described. The generic headings are as follows;

- Vacancy reporting – application of consistent reporting
- Supplementary staff use - wte (Bank, Agency, Locum, Overtime).
- Recruitment & Retention - premia application, and information in relation to hard to recruit posts

Vacancy information is a key demand variable which contributes to describing labour market demand and availability. The agreed NHSS definition of a vacancy is; *A vacancy is a post which has been cleared for advert after being through the redeployment process (internal or external advert) and remains a vacancy until an individual starts in the post*. This definition is consistent with HR procedures, and system processing.

Vacancy reporting is quarterly, the rational for this is to take account of the timeframe for NHSS recruitment processes, including redeployment. Work has been undertaken to improve the breadth and depth of vacancy reporting within NHSS. An initial revision of the Nursing & Midwifery vacancy data collection was developed in partnership with ISD in August 2012. This work asked for additional information for example the number of vacancies unfilled for over 3 months.

This revised process within Nursing & Midwifery facilitated improvements to the quality of Nursing & Midwifery vacancy reporting the intention is to roll this methodology out to other staff groups.

Accurate reporting of vacancies is integral to determining sustainability risk assessment and labour market profiling. It therefore contributes to a suite of activities to build workforce intelligence in relation to supply and demand.

Collectively this two level common core data set provides primary intelligence within a more comprehensive information & intelligence structure.

4.6 Tiered Model of Workforce Intelligence

To further build intelligence it was important to find a simplistic way of capturing all of the available data which influence service delivery and workforce supply and demand. The Tiered Model is an intelligence continuum which is consistent with International research and the utilisation of available data.

The Tiered Model was devised as a way of corralling intelligence, but also supporting an information methodology consistent with 6 Step workforce planning. The model offers a mechanism to co-ordinate intelligence in an ordered way, so that similar data sources are housed together. The model can be used for all aspects of planning and puts the patient/population as the primary driver.

The Model attached as Annex 2 uses 4 Tiers of Information to demonstrate a workforce intelligence continuum.

The Tiers focus on a supply & demand model and has education and development need as an informed output. Layer by layer this model uses intelligence to inform a range of services based on population led intelligence. Tier 1 of the model could capture intelligence sources which have the potential to be used for planning across the public sector.

Tier 1 – Population data - has the potential to be used across public sector services as this offers high level intelligence from a range of sources which inform service design and provide detail of population variables.

Tier 2 – Public Sector/Service Intelligence - will present information sources which influence service planning, for example;
- Policy information
- Performance measures and data
- Patterns of disease, prescribing data
- Service utilisation/capacity
- Service redesign
- Capital planning
- Location/level of services
- Local Delivery Plans and Service Plans

Tier 3 – Workforce/Labour Market Intelligence
This tier will be informed by the population and service intelligence, and use information sources from the core variables to enable comparison and aggregation of data across NHSS.

It will include intelligence from;

- Core Variables (level 1)
- Vacancy, supplementary staff and recruitment data (level 2)
- Labour Market Intelligence
- Medical Job Planning
- New role development
- Workforce Plans

Tier 4 – Education needs
This tier is an output of tiers 1-3 to provide structured workforce based information to inform education needs at Local, Regional and National level. This has the potential to support more cost effective planning of educational development for the new and existing workforce, and target resources where they are needed based on evidence.

The Tiered Model has been well received during consultation, and its use is being included in the development of work within the 20:20 - Everyone Matters. It has the potential used create an intelligence pathway to inform a range of projects, using population and epidemiology intelligence to develop service and healthcare roles. This intelligence continuum takes account of the key factors which drive changes in healthcare delivery and spend related to the supply of the healthcare workforce. These influences include changing treatment practices, drug innovation, advances in technology and developments in equipment and surgical techniques and health status of the population. A good example of this in practice is the changing profile of the Radiotherapy workforce where advances in treatment, increased early diagnosis, and improved treatment outcome have radically changed the demand for, and design of services and the skills profile needed to deliver care and treatment.

The Tiered Model offers a consistent model for gathering this intelligence and has the potential to be further developed to capture improvement and innovation intelligence to influence early adoption of changing care and treatment pathways, and the impact on education provision. The model could be applied across organisations and providers.

<u>4.8 Risk methodologies – developing a consistent framework</u>

To further build the intelligence picture risk assessment is the qualitative and/or quantitative evaluation of the likelihood and consequence of a risk occurring.

Risk analysis aims to;

- examine risks in detail to determine the extent of the risks and the relationships among them;
- classify risks into sets of related risks and ranks them according to importance;
- evaluate all identified risks to estimate the likelihood of occurrence, consequence of occurrence, and time frame for necessary mitigation actions.

NHSS Boards have been using the 5x5 Risk Methodology - National Patient Safety Agency (2008) to establish a more detailed profile of the medical workforce. The 5x5 is a well-established methodology and is used by a wide range of organisations including NASA. The 5x5 uses a risk matrix as a graphical representation of the likelihood and consequence scores of risk. The matrix consists of a graph containing rows and columns, the rows show *likelihood* scores and the columns the *consequence* scores. Each cell in a risk matrix can be represented by a priority score NASA (2009). The matrix requires qualitative and quantitative intelligence to support capture of variables beyond the traditional numerical sources. The use of the tool requires detailed knowledge of the services being assessed to take account of current and future practice. The methodology therefore requires partnership working with service to be effective.

The experiences of using 5x5 have been shared with NHSS workforce planners and is now the methodology being adopted across NHSS. The Scottish Government Small Occupational Group work is also using the 5x5 as the principal tool to access NHSS capacity & capability within the target staff groups. An important aspect of using the 5x5 tool is the objective moderation of returns and agreement of acceptable tolerances. This work augments the 6 Step Workforce Planning Methodology by aligning a systematic approach to risk assessment.

The application of consistent Risk Methodologies, needs to be part of a managed process, which describes a systematic approach to risk reporting, risk escalation and mutual agreements to mitigate against identified risk. This would require;

- *Description of consequences of risk*
- *Ownership of risk*
- *Risk escalation and communication of risk*
- *Management of identified risk, and impact on associated workforces*

It would be helpful if the methodology was used in policy planning to assess the workforce implications of emerging policies as they are being developed. This work is also linked to improved vacancy collection and national aggregation of recruitment trends, described in 4,5. Risk Methodologies are closely aligned to the description of intelligence within the Tiered Model which can highlight changes in population based demand, and models of service delivery. Developing and understanding of risk will support the development of supply and demand modelling, with gap analysis providing risk based intelligence which informs recruitment decisions and education requirements, demonstrated below;

<u>Supply and Demand model</u>
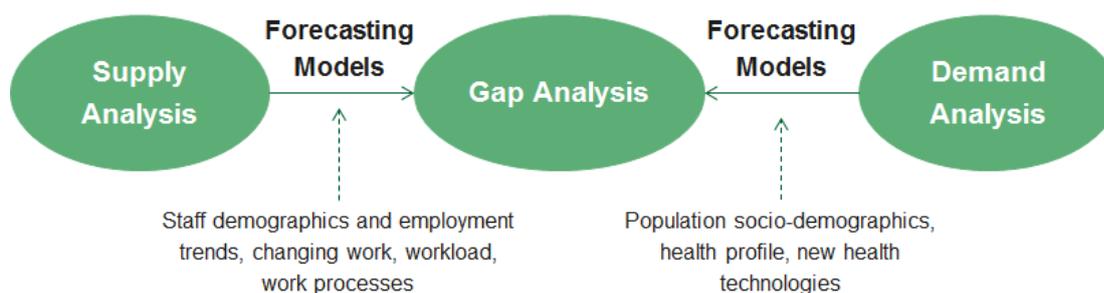
<u>4.9 Labour Market Intelligence (LMI)</u>

Throughout this document the layers of intelligence have been built to support a systematic approach to intelligence across NHSS. Robust LMI is one of the key objectives. LMI is quantitative or qualitative fact based analysis or interpretation about the past, present or future structure and workings of the labour market and the factors that influence it. It is an essential part of the collective workforce planning information and intelligence framework. Having access to a more informed picture of labour market supply availability matched to predicted demand allows sustainability issues and trends to be better understood and planned against.

LMI is needed to inform on:

- *economic and labour market conditions;*
- *education, qualifications, training and skills;*
- *current and future demand and supply of labour and jobs;*
- *vacancies and recruitment; and*
- *assessment and description of workforce risk*

LMI is important to augment our local understanding of the supply profile within national and international labour markets. To achieve this we require to gather more detailed intelligence from NHSS Board recruitment teams, and being aware of trends across the 4 UK Countries and international markets. This would also support risk intelligence, and allow development of recruitment trend analysis. A number of strands of work are contributing to developing LMI and establish a mechanism for collating this intelligence and using it to inform planning.

Geographic location, particularly in our more remote areas can create unique challenges for recruitment and retention. In more remote & rural environments the immediately available labour market is based within a smaller population pool. Attracting a workforce into more remote environments is challenging and has to be balanced with individual lifestyle choices to ensure retention.

UK and international labour markets are becoming more competitive, making it increasingly important to have an understanding of the labour markets we are operating within. This can allow for movement across the workforce to be explored and any potential domino effect within labour markets to be identified. The future workforce also needs to be based on future demand, if not there is a risk that the model of care will be driven by the available workforce, not the other way round. It is not possible to separate workforce redesign from work redesign; both need to be undertaken simultaneously. However, it must be acknowledged most who will be working in the NHS in 10 years' time are currently in the NHS today, any workforce redesign needs to focus on re-training or re-assigning the current workforce so they have the skills to deliver new models of care (Albury 2013). An example of this is the

increasing evidence of the need for more generic skills within the workforce to take account of changing population need.

Supply must take account of the current workforce, those in training and new recruits to fully appreciate the available labour markets and the required education investment. One of the key drivers around the development of consistent risk methodologies is to enable early indication of sustainability challenges. In addition within some of the smaller occupational groups staff shortages in one location can lead to the creation of internal competition, and a domino effect within the available labour market.

To support the development of a profile of the NHSS labour market, the Scottish Government commissioned Skills for Health to develop a Scottish Labour Market Intelligence Report. The commission was to provide health sector workforce planners and policy makers in Scotland with an authoritative overview of the current composition of the Scottish Health Sectors Workforce, and to understand the relative development of the sector and the rest of Scotland's labour market economy and provide an overview of the challenges likely to affect the sector over the next 5 - 10 years. The report was completed and made available in January 2014, and offered a comprehensive profile of the healthcare workforce, using non-traditional data sets to create a picture of our labour market.

4.10 Small Occupational Groups

National work has been undertaken to gather better intelligence on the smaller occupational groups, to assess the sustainability, and better understand the longer term service needs of these important staff groups. Part of this work is to understand the evolution of these roles. Some of the smaller groups emerged from historical advancements in care which are now mainstreamed, the premise that advancement today may become core care of the future needs to be accounted as part of this work.

The group uses the 5x5 Risk Methodology tool for all staff groups for risk assessment. The key point of contact with service is the National Workforce Planning Forum, Management Steering Group and Scottish Partnership Forum. The group has had early success in increasing the education intake for Perfusionists and stabilising immediate service based risk.

The group aims to;

- *Assess key drivers and influences on the capacity and capability of the identified workforce group*
- *Assess workforce provision against anticipated supply and demand*
- *Assess future scope of roles, anticipated alignment within other staff groups and capabilities*
- *Assess the impact of current advances on future mainstream work*
- *Assess the education provision aligned to each identified staff group. including new role development and service redesign to meet current and predicted capacity and capability*
- *Assess the quality of workforce data of each identified staff group*
- *Report supply and demand, capacity and capability profiles for each identified staff group and present recommendations to support NHSS service sustainability as required.*

This work is a good example of taking a different approach to workforce planning based on supply and demand, and focused on gathering labour market intelligence. The group meets fortnightly and includes SG, workforce and professional leads, Service, NES and Trades Unions/Professional organisations.

5. NHSS Workforce Planning process and infrastructure

Much of this document has focused on the evidence around developing and improving core information and intelligence for NHSS. Maximising the benefits of any systematic processes depends on the robustness of the infrastructure in which they sit.

Many of the processes and structures which support workforce planning are within NHSS HR functions. The evidence in this document demonstrates that there is great potential to develop information and intelligence functions within this discipline.

There are currently different coding priorities between HR and Finance departments this can lead to some coding anomalies which can have a domino effect across local and national reporting. The anomalies can arise due to budget allocation, coding practice in recruitment teams, and the large number of job descriptions across NHSS.

Work now needs to progress to agree a consistent coding process, guidance and NHSS Board Workforce Data accountability structure to ensure good governance and quality improvement. A systematic NHSS Workforce Information accountability and governance structure needs to be agreed, a plan for developing guidance can then be taken forward.

National data quality work is being developed through the Midwifery/Neonatal, and Community Nursing Data Quality work. A project to examine Medical Data Quality has also commenced, led by the ISD Technical Reference Group it will be delivered in partnership with SG and NHSS, and follow a similar project pathway to the Midwifery and Community Nursing Data Projects. However implementation of this data quality work is dependent on good governance and practice within NHSS Boards.

A key development will be aggregating the information & intelligence at Board, Region and National level to enable geographic difference to be accounted for. The ultimate goal is to map a quality workforce intelligence pathway from Board input to national reporting.

Each NHSS Board is required through CEL 23 (2011) to produce annual workforce plans and projections which describe how their workforce will meet population based service requirements, deliver Scottish Government policy and priorities, and support capital and financial plans. However, it is recognised that as NHSS Board Workforce Plans are annual they do not describe real time supply and demand risk, recruitment intelligence, or reflect cross organisational capacity & capability intelligence based on the patient journey. Each NHSS Board may approach workforce planning slightly differently, which is appropriate as Board narratives are designed to meet organisational need. However, this makes aggregation of intelligence and regional profiling more challenging.

Published annual workforce plans are subject to in year change based on all the previously described altering pressures which arise within a complex environment. The current annual process can therefore be seen as counterintuitive to the iterative on-going nature of workforce planning, it is also thought to inhibit longer term planning. There would be value a move to a 3 year workforce narrative which aligns to 3 year service plans, and develop a consistent *Annual reporting template* to meet the annual reporting requirements of Scottish Government and support annual projection submissions.

It is felt that this devlopment could provide more succinct and consistent model of reporting. This model could also support improved aggregation of information across Local Delivery Plans, Local Unscheduled Care Action Plans, and Capital Planning.

Within the annual process there is the mandated requirement to describe the outputs of the Nursing & Midwifery Workload and Workforce Tools. There is good evidence within the published Workforce Plans that the tools are being used as a core part of workforce planning. Workforce Planers can see the opportunity to further strengthen the use of the tools through joint dialogue, and to use the tools to inform about future workforce need based in new models of care. It was also felt they would be beneficial as part of integrated planning structures with capital (new build) and future service planning.

The need for the use of Nursing & Midwifery tools has been highlighted within recent enquiries and reviews; Francis (2013) described '*standard procedures and practices should include evidence based tools for establishing what each service is likely to require as a minimum in terms of staff numbers and skills mix'*. Keogh (2013) augmented this by reporting *'nurse staffing levels and skill mix will appropriately reflect the caseload and the severity of illness of the patients they are caring for…providing assurance about the impact of care and patient experience'*.

Agreement on NHSS Board quality controls and local accountability structures for workforce reporting and the provision of information and intelligence would further support quality improvement. There is also an identified need to have a detailed profile of the medical workforce, both substantive and in training, this can also be supported through the application of the Common Core Data and through quality job planning. The implementation of eESS will play an important part in delivering consistent information and intelligence.

From a Scottish Government perspective there are a number of projects, and policy developments requiring workforce information, many of which cross over and requiring the same information. It is recognised it would be helpful if there was a central record of all Scottish Government projects requiring workforce information to reduce duplication, and centrally identify projects and policies which will impact on the same workforce groups. For NHS Workforce Data Projects, the ISD Technical Reference Group has the potential to act as the overarching structure to monitor the workforce data requirements of projects.

Within workforce plans there is a need to strengthen the description of education requirements to ensure the workforce has the correct skills and competencies to deliver care and service now, and are prepared for capacity and capability requirements to deliver future models of care. The Tiered Model will help develop this as part of a standardised methodology.

5.1 Capital and policy development

The environment where care is delivered has an influence on both service design and workforce design. The changing healthcare environment and location of where services are delivered will impact on workforce configuration and role design. Examples include the move to single room ward design, the development of regional units and advances in technology which release staff from traditional working environments.

A growing area for consideration in workforce planning is Capital Planning. There is little combined workforce and capital planning research, but drivers like single room polices, secure care environments, availability of interface/intermediate care facilities, and the design and flow of buildings all influence the provision of care and ultimately the workforce. WHO Data describes requirements specific to the creation of capital projections on the development of services and institutions pertain to;

- Health facilities; the current and projected number of health facilities of each type, both those with in-patient beds, and those without and across the wider sector

provision, describing the average capacity of each facility, eg beds, occupancy rates, activity rates.

- Facility staffing; current staffing by type and category of facility, and projected changes to staffing

This adds another interesting dynamic to the information which influences workforce planning. The need for early consideration of workforce planning requirements both supply and demand based on changing capital planning and service configuration is seen as key to improved planning outcomes, and improved understanding of collective labour market intelligence.

The impact of developing policy on the workforce is acknowledged and early indications of any workforce implications as part of ongoing capacity and capability planning will also support improvement in assessing workforce demand.

This taken together with other recommendations all build towards improved workforce demand profiling and assessment of supply.

<u>5.2 Scenario planning to support future planning</u>

Workforce Planners are very keen to develop Scenario Planning, this is consistent with the messages from workforce planning research and developing responses to a wide range of drivers for change. Scenario Planning is not a new innovation, it has a long standing history in military planning and was a pioneering approach to business planning adopted by Royal Dutch Shell, and has gone onto be used as a standard planning tool by some of the world's largest organisations.

Scenarios provide a detailed analysis of current trends and their likely trajectory into the future. Future demand is commonly based on current utilisation models, and how the workforce was structured in the past. Limitations do arise in projecting demand due to the unknown impacts of external factors such as service models, changing technology, new skills, role design and location of services, but finding ways of working past these limitations should be explored to assist in predicting future workforce configuration.

Scenario Planning can be used to consider potential issues and situations in a context that provides the luxury of careful thought and iterative planning rather than 'firefighting' at the point at which a weakness unexpectedly makes itself known. The exercise is particularly valuable because of a human quirk that leads us to expect that the future will likely resemble the past, by using this type of modelling organisations can increase their readiness for the range of future possibilities.

Workforce Planners recognise the need to undertake longer term planning to enable time to prepare the workforce for changing pathways of care, changing acuity and environment of care. They would value undertaking longer term planning exercises to better understand future demand, geographic variation and required workforce supply, and would welcome learning from organisations that have successfully used its methodology for strategic planning.

The future workforce needs to be based on what future care is likely to look like. The majority of the workforce we will have in 10 years is already working for us. A future focus will need to be on role development and preparation within the existing workforce so that they have the skills needed to deliver new models of care, in a range of locations.

In a review of approaches to projecting and forecasting healthcare spending researchers from the OECD (Astolfi *et al* 2012, cited in Appleby 2013) identified three basic projection methods;

- Micro-simulation methods
- Component based models
- Macro-level models

Micro-simulation
These usually take individual people as the unit of analysis, aggregating along various dimensions of characteristics (age, gender, geography, and so on) where desired and simulating behaviours to, for example, reflect the process of ageing. Such models can be used to project total spending on health care, but more often they are used to model the process and outcome of detailed policy options within health care. For example, Astolfi *et al* (2012) report on a *dynamic micro-simulation model* developed by Statistics Canada to assess the impact on acute and home care costs of an outpatient/early discharge strategy for breast cancer surgery patients.

Component based models
These cover a range of approaches to projecting spending with different components of the model using different ways of projecting elements of spending. For example, *cell-based* or *cohort-based models* may split up a population by age, gender, health status, etc, and then multiply the unit costs associated with these 'cohorts' or 'cells' by the projected number of individuals in each cell to arrive at an aggregated spending level.

Macro-simulation
These focus on aggregate health spending only, and typically involve the fitting of a regression line to historic spending trends and then extrapolating this into future years. Such projections may be reasonably accurate in the short term, but much less certain in the longer term.

Wanless et al (2007) also supported the use of scenario planning *there are good reasons to carry out forecasting on a regular basis given the long-term nature of many of the decisions needing to be taken as well as the need to fix short term resourcing decisions in the context of longer term plans. The approach using scenarios to capture particular uncertainties, based on demographic updates, an assessment of the health status and future choices and demands of people and the aggregation of forecast costs seems robust.*

Given the dynamic and rapidly changing environment of health and social care, developing future scenario planning skills would seem advantageous and would support improved education and development planning to prepare our existing and new workforces.

5.3 Regional Planning

In recent years the models of Regional planning have changed, and it is felt there are opportunities to strengthen the role of the regions play in the provision of intelligence. There is an opportunity to strengthen shared labour market intelligence, to better understand sustainability, shared capacity and capability and improve education planning. There are good examples of this working in practice, extending this is seen as beneficial.

Patients access a range of services and are unaware of the artificial organisational borders as they move across services. Workforce planners describe benefits in planning across these pathways including NHS24, National Waiting Time Unit, and Specialist Services. This

could enable the development of more staff rotations, and exposure to different working environments, in particular remote & rural working.

There have also been suggestions about improved intelligence sharing across NHSS Board recruitment teams within regions to better understand shared recruitment challenges, and improve the quality of labour market intelligence. This could be facilitated through existing networks.

A move to develop regional Information & Intelligence hubs (North, East/SEAT, West) to aggregate intelligence from Boards, and reflect the provision of national services within the Region is seen as beneficial. The Hubs could reflect the shared capacity and capability within the Region to and improve understanding of capacity & capability across boundaries to best meet the needs of patients. This would include a description of hosted National services within Regions. The hubs would monitor capacity, capability and workforce sustainability to improve predictive risk reporting. This will require the HR Recruitment teams to share intelligence and work collaboratively as other sectors do in Regional working. This also has the potential to develop roles and career pathways within recruitment teams and offer wider opportunities to network and collaborate.

To further augment the regional profile it would be recommended that the Regional Hubs describe collective education/development and organisational development needs to inform the workplan of internal organisational Learning & Development teams, and advise local education Further Education & Higher Education providers and NHS Education Scotland of workforce capability needs. Establishing Regional Education Collaboratives similar to the one within NHS Greater Glasgow & Clyde would be recommended to promote an open dialogue about education and training requirements.

The mechanisms on developing the Hubs would need to be explored, existing networks and expertise could be capitalised on.

6. National Workforce Planning Forum (NWPF)

The Board consultation undertaken in 2012 as part of the establishment of the Pan Scotland portfolio identified a consistent message that Workforce Planners wanted a forum to enable them to develop their practice and share intelligence. The NWPF is a protected learning environment, a key communication network and peer intelligence resource.

Over the first few meetings the NWPF membership agreed three workstreams;

1. Information & Intelligence
2. Modelling and Profiling
3. Education and Development for workforce planning

The NWPF has a great deal of potential to develop work through its three workstreams, and can be a conduit to building consistent approaches to NHSS Workforce Planning. The education and succession planning of NHSS workforce planning skills is another important aspect of the work of the forum.

The NWPF is a forum for NHSS workforce planners to network, to look ahead and anticipate the impact of key influences on the workforce, consider emerging trends and capitalise on the wealth of intelligence workforce planners hold on a range of issues. It works in a similar way to the private sessions for HR Directors, and Directors of Nursing. The NWPF meets quarterly, with the governance and accountability structure via Strategic HR Directors Forum.

Achievements during the first year;

- Agreement of Core Workforce Variables
- NHSS Workforce Planning Website – Foundation work for the development of NHSS workforce planning website reaching completion, moving to the implementation stage
- Promotion and development of the supply and demand methodology
- Agreement of use of consistent risk methodology across NHSS workforce planning
- Ongoing collective evaluation of workforce planning processes
- Explore good practice in capacity & capability modelling as part of labour market intelligence
- Explore and test Scenario Planning and Forecasting methodologies

7. Education development

Education development to meet workforce need was frequently described in the consultation to develop the Pan Scotland work, the education needs described could be distilled down into five key themes;

1. The personal development and progression of the existing workforce
2. Preparation of workforce supply based on demand profiles
3. The Multi-generational workforce and in particular development for older staff
4. Healthcare Support Workforce Development
5. The development of generalist skills

The use of the 6 Step Methodology and the Tiered model of using information both have an assessment of education needs as an output, it is therefore felt the methodology to support informed education development is in place. This will require an SCQF level to be described on all job descriptions with clear articulation to the Career Framework.

Having access to a single Healthcare Education map across Further and Higher Education, including a description of healthcare aligned National Certificate, SVQ and Modern Apprenticeship education would be beneficial. This will help to demonstrate value across the career framework.

Developing education to prepare for future roles and the need to redress the balance between specialist and generalist was also a recurrent theme. We need to learn from the past and be mindful that skills required to deliver advancement today, will be mainstream tomorrow, develop workforce flexibility and value generalist development, and enable generalist and specialist knowledge need to work in together to meet population need.

Creating a national picture of the aggregated education requirements of NHSS Boards and regions was seen as beneficial. Data available on those in training and a description of NHS linked training provided was seen as a key component of an education map

The development of Regional Education Collaboratives has been described in section 6.

The development of consistent education pathways across NHSS, particularly for Healthcare Support Staff would enable transfer across Boards and facilitate the establishment of clear career pathways. There are good examples of development within the College Network which could be replicated. The need to support nationally and act locally, education developments need to be based on local population need, accessible and flexible, whilst being supported by consistent, service led competency and education frameworks. This is

consistent with the finding of research by the Kings Fund (Imison & Bohmer (2013) which identified '*Successful workforce planning requires national facilitation but local action. A lesson from the 2000's was that roles developed in isolation are difficult to sustain'.* This is also aligned to the current debate about the need for more generic roles to build flexibility, but also greater sustainability and greater onward career opportunities. There is also an association with the need forecasting as the advances of today, may be mainstream tomorrow further pointing to the need for adaptive skill sets, and consistent education development.

8. Medical

The information and intelligence processes and structures previously described apply to medical planning and have the same potential benefits for workforce planning, in particular developing medical profiling. There is a described need to augment the existing intelligence on Doctors in training and the links to the service. There is also a consistent message that there is a requirement for more generalist skills to meet population need, and enable the development of an adaptive skill set based on future care pathways and configuration of services.

The use of scenario planning to anticipate the profile of future skill requirements would also be valued and would support the planning cycle in terms of the time it takes to train for a speciality. A debate about what specialities will be needed in the future, and where there will be areas of growth would be valued, this also links to the desire to develop scenario planning.

Medical workforce planning cannot be done in isolation from other workforce planning and there is a need for greater consistency of process. There should be a medical workforce planning lead within Boards via an agreed Workforce Planning accountability structure.

The development of consistent Job Planning will support NHSS Medical Profiling and facilitate an understanding of the sessional capacity needed to deliver service, this can also feed into trend and risk analysis. A number of NHSS Boards are implementing the *Zircadian Job Planning system*, the feedback from the Boards using the system is very positive.

Improved team planning across NHSS about roles aligned to the medical workforce would influence education planning, and has the potential to improve consistency of role development enabling robust career pathways and competency frameworks to be established. Keys areas for development are Physician Associate, Advanced Nurse Practice and Technician roles.

The Professor David Greenaway – *Shape of Training* review is now published and is consistent with the areas highlighted by workforce planners.

To support Medical Planning improved workforce information & intelligence (in-training and substantive), profiling and analysis should be a priority at local, regional and national level.

9. Conclusion

Workforce Planning is a function carried out within NHSS Boards, the intelligence gathered from local processes is then utilised for different purposes across Scotland. The Pan Scotland work has demonstrated the need for a more cohesive approach to NHSS Information & Intelligence to support a wide range of planning functions. The recommendations take an iterative approach to building a robust intelligence base from a range of sources, governed through an accountable infrastructure. Intelligence development needs to have a population focus, supported by labour market intelligence, and assessment of risk. There is a need to establish aggregated intelligence at regional level to better understand trends, labour market intelligence and risk across organisations.

There is real potential to strengthen workforce planning and develop the roles and skills required to undertake workforce planning roles. The National Workforce Planning Forum has demonstrated the benefits of the collective knowledge and expertise of NHSS Workforce Planners, there is the potential for this intelligence base to be more comprehensively capitalised on.

After this work was complete the WHO published the Recife Political Declaration On Health Human Resources (Annex 3) adopted by member states on renewed commitments towards universal health coverage. The declaration recognises the centrality of Health Human Resources (HRH) in achieving the high level objective of universal health coverage. It includes a call to action for an ambitious agenda for health workforce development at all levels. The aim is for this agenda to be a core part of the 'post-2015' WHO development agenda for health: the successor to the 'Millennium Development Goals' - these will be negotiated at the United Nations General Assembly in 2014- 2015. The recommendations within this document, whilst focused on making improvements for NHSS workforce, are consistent with this declaration.

March 2014

10. Recommendations from Pan Scotland Portfolio

1. Workforce Information & Intelligence including risk reporting
2. Workforce Planning Process and Infrastructure
3. National Workforce Planning Forum
4. Education (supply) determinants
5. Develop Medical workforce intelligence

The following are recommended actions constructed through the evidence gathered from the Pan Scotland portfolio, the actions seek to improve the integrity of the information & intelligence which build the required quality improvements, risk assessment capability, and collective workforce profiles at local, regional and national level.

1 Workforce Information & Intelligence

	Action	Responsibility	Measure of success	Action	Timescale
	Data Management				
1.1	Develop and apply a quality framework and guidance around the Two Levels of Core Workforce Intelligence to establish a consistent NHSS minimum core data set which is flexible and adaptive to changing circumstances and enables aggregation	NHSS Boards & SG	Consistent, quality assured recording of NHSS workforce data	Develop practical and achievable coding guidance to apply quality standards to qualitative intelligence	
1.2	Implement mandatory completion of the Level 1 Core Variables within NHSS Board SWISS/eESS systems	NHSS Boards, eESS Team	Comparative data set readily available	Boards to project plan the implementation of the quality standards within agreed timescales	
1.3	Develop guidance for the provision of Level 2 data (supplementary and vacancy) to establish a profile of total workforce capacity supported by a quality framework	NHSS Boards & SG	Consistent recording to understand total capacity and improve labour market intelligence	NHSS Boards to align the level 2 data sets to improve available labour market intelligence	
1.4	Apply the Tiered Model as an Intelligence Continuum to assist in the	SG and NHSS Boards	Introduces a systematic process for	Demonstrate use of this intelligence	

	co-ordination of intelligence to inform on workforce capacity and education requirements driven by needs based population intelligence		using multiple data sources across public sector organisations Improved utilisation of existing data sources with a focus on population and service need	continuum as part of service, workforce and policy planning	
1.5	ISD Technical Reference Group to take responsibility for mapping of data improvement projects and key strategic developments requiring intelligence	SG and NHSS Boards	Consistent approach to data improvement within an agreed accountability structure Aligning intelligence requirements of similar projects to reduce duplication	Review Terms of Reference Establish governance and accountability to HR Directors Forum	
	Labour Market Intelligence				
1.6	Develop Labour Market Intelligence through Supply & Demand modelling as a core planning methodology. This should include an understanding labour market availability, and sector competition. Use the commissioned Skills for Health report as a test of change	NHSS Boards	Intelligence available to inform workforce local, regional and national capacity and capability, matched to sector supply	Reliant on the implementation on Level 1 & 2 Common Core dataset and the Tiered Model. Implementation will require Boards to maximise information sources to report local/regional Labour Market Intelligence	
1.7	Develop a consistent, systematic approach to the application of Risk Methodologies within workforce	NHSS Boards	Contributes to creation of quality sector labour market intelligence	Application of the 5x5 Risk Methodology to service, workforce and	

	planning practice and project management			policy planning	
1.8	Implement a consistent methodology for reporting NHSS vacancies	SG and ISD, NHSS Boards	Contributes to creation of quality sector labour market intelligence	Agree a quarterly Board reporting template which can be use across staff groups.	
1.9	Agree a reporting model (Regional & National) for NHSS Board recruitment intelligence, to understand the trends within the labour market and the geographic variance.	NHSS Boards	Robust recruitment intelligence at local, regional and national level to highlight sustainability challenges, build labour market intelligence and inform education needs	Ensure workforce planning structures within Boards are working effectively to enable effective reporting Develop a structure where Board intelligence is aggregated to Regional level to understand capacity and capability requirements across geographic locations	
1.11	Develop Scenario Planning across staff groups and medical specialities to anticipate changing demand, areas of anticipated growth, assess workforce supply across specialities and skills. Scope the geographic provision of services to map capacity & capability Scope the implications of Greenaway on medical workforce and aligned professions	NHSS Boards/Regions NWPF	Improved prediction of future demand and preparation of the workforce to meet anticipated population need	Grow capacity & capability in Scenario Planning expertise within NHSS Apply scenario planning to service, workforce and policy development	

2 NHSS Workforce Planning Process & infrastructure

2.1	Move to 3 Year Workforce Plan Narrative with annual update template submitted with projections. Develop a 1 year reporting template	SG and NHSS	This aims to support longer term planning consistent with research and the Audit Scotland (2013) NHS Finance report, and improve continuity across Local Delivery Plans, Un-Scheduled Care Plans, and other policy priorities to improve the read across and better describe the collective capacity & capability demand requirements to deliver NHSS services	Design a 1 year reporting template in partnership with HR Directors and Workforce Planners	
2.2	Promote the development of inter-professional workforce planning to move away from silo planning and better reflect team capacity and capability, whilst recognising that some elements will require profession specific planning. This will take cognisance of 7 day working and patient pathways across organisations	NHSS Boards	Improved population needs based workforce planning	Develop team workforce plans across organisational borders to understand capacity and capability across the patient journey	
2.3	Report workforce intelligence from the Managed Clinical Networks (currently 22 MCNs)	SG	Improved needs based workforce planning	Agree a reporting mechanism for workforce planning across MCN's	

2.4	Agree a mechanism to support workforce planning supply and demand and risk assessment being an inherent part of policy development, capital and business planning	SG	Improved policy risk assessment	Apply the 6 Step workforce planning methodology, risk assessment and scenario planning o all planning process to assess capacity and capability requirements	
2.5	Define an NHSS Workforce Information & Intelligence accountability and governance structure to support the improvement of data quality and consistency of reporting across	Joint responsibility across NHSS (HR/Finance) & SG to agree a structure Application of process will be the responsibility of NHSS Boards	Consistent quality improvement and accountability applied to workforce reporting	Establish labour market intelligence reporting within NHSS Boards using level 1 & 2 intelligence and qualitative service based data	

3. National Workforce Planning Forum

3.1	Confirm the NWPF as a Sub-Group of HR Director Forum - with the Chairs of both providing an identified link into Scottish Government Performance management and accountability is to the designated Chair of HR Director Forum	NHSS Boards	Assured accountability, reporting and performance management for NWPF	Annual objective setting by HR Directors	
3.2	NHSS to utilise the expertise of the NWPF to improve NHSS workforce planning practice, and intelligence	NHSS Boards	The NWPF expertise used to its full potential	Publicise the NWPF through Board structures and Boards to use as an expert	

	Improve links with other Forums			network	
3.3	Develop actions within the 3 Workstreams to improve NHSS Workforce Planning practice; • Information & Intelligence • Modelling & Profiling • Education & Development for workforce planning	NWPF membership	Structured framework to measure performance	Annual report of progress to HRDs	

4. Education linked to workforce planning

4.1	Establish a mechanism to report Local, Regional and National education needs based on supply & demand, and wider NHSS workforce planning intelligence. This would include the education needs of new and existing workforces, and new roles and role redesign Move to develop Regional Education Partnerships to better understand the education requirements of existing and future staff, at local and regional level, to develop an evidence based co-ordinated response to educational development	SG and NHSS Boards	Improved capacity and capability planning based on population need	Apply the Tiered Model to Workforce reporting to describe supply requirements. Establish a standardised Terms of Reference and membership for Regional Education Partnerships across healthcare	
4.2	Develop the NHSS Workforce Planning infrastructure to improve reporting of education requirements to service/population need Promote the development of plans to better understand of how the current workforce is being prepared for future roles	NHSS Boards	Improved capacity and capability planning based on population need	Improved reporting if education needs within service plans at local level, aggregated to be reflected in Board Workforce Plans	

4.3	Develop ways to apply consistency in the educational development of new NHSS roles across the Career Framework, in particular the development of HCSW and Advanced Practice roles	Education Providers, NHSS Boards NWPF	Improved transferability and consistency of roles across NHSS	NHSS Boards to report through Regional Education Partnerships detail of their emerging roles to develop consistency across NHSS	
4.4	Ensure an SCQF level is defined on all Job Descriptions	NHSS Boards	Improved capability planning and needs based education plans	From an agreed date ensure all Job Descriptions being recruited to have a designated education level	

5. Medical Workforce Planning

5.1	Through application of the Common Core Data Set develop a consistent reporting infrastructure to improve the Local, Regional and National supply and demand intelligence on the medical workforce both substantive and in training. Outputs for the new and existing workforces This is linked to the development of consistent Job Planning tool	NHSS Boards	Medical Data Quality improvement - a national profile of the medical workforce from FY1/2, ST to Consultant, by speciality, location and age		
5.2	Establish clear lines of accountability within NHSS Boards for Medical Workforce Planning and reporting	NHSS Boards	Improved governance and quality of workforce intelligence		

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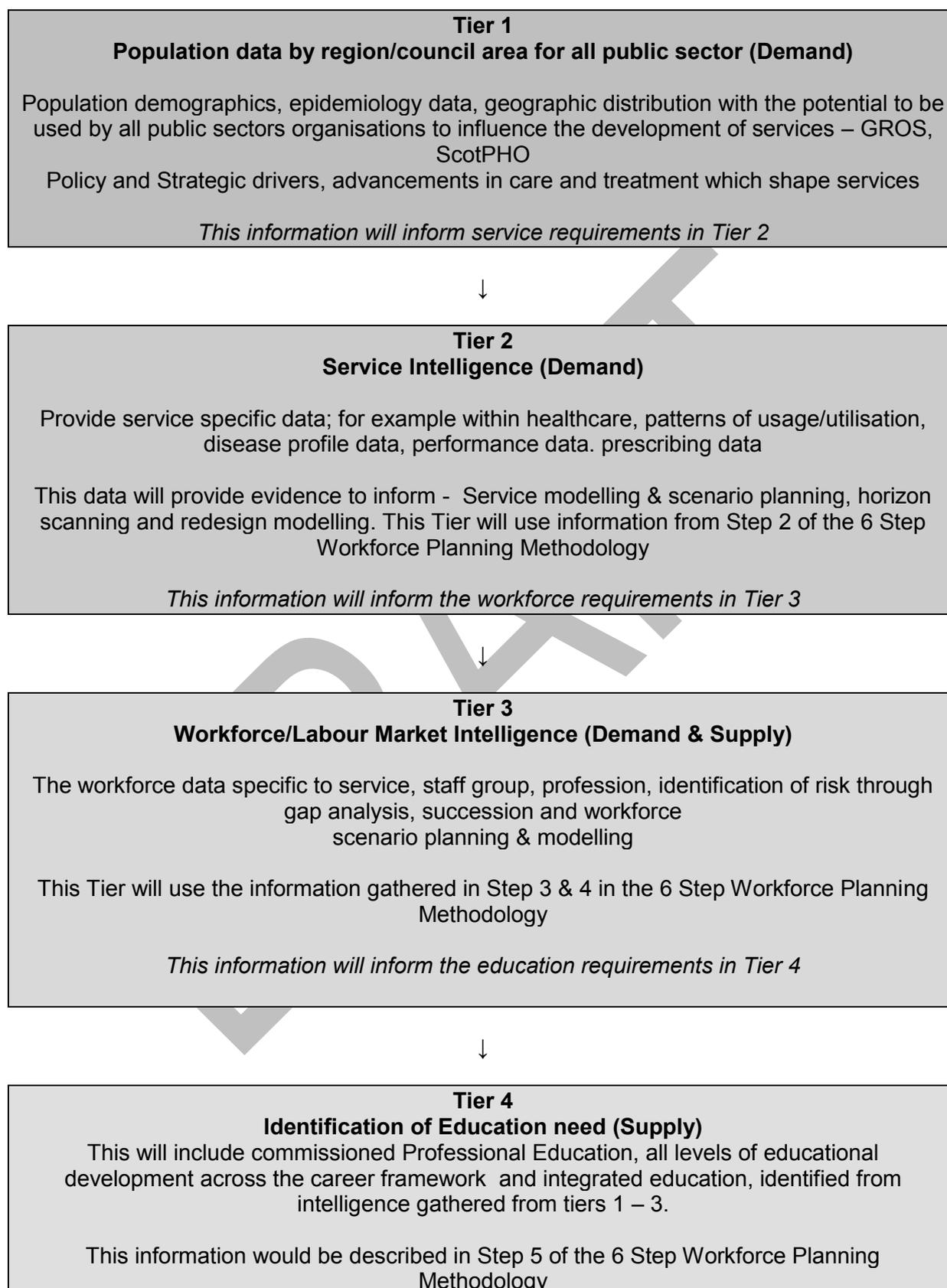
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Key NHS Workforce Variables required for National Reporting / Planning   **Annex 1**

Phase 1	14 variables
Phase 2	5 Variables

Core Personal Identifiable Variables

ID	Variable	Source	Review	DQ Issues	Comments
1	Name	SWISS/ eESS	N	N	
2	Forename	SWISS/ eESS	N	N	
3	DOB	SWISS/ eESS	N	N	
4	*Age*	*SWISS/ eESS*	*N*	*N*	
5	Pay Number	SWISS/ eESS	N	N	
6	National Insurance Number	SWISS/ eESS	N	N	
7	Sex	SWISS/ eESS	N	N	
8	Whole time / part time	SWISS/ eESS	N	N	
9	Contract Type	SWISS/ eESS	N	N	Permanent, Fixed, Bank etc
10	NHS Board	SWISS/ eESS	N	N	
11	Headcount	SWISS/ eESS	N	N	
12	WTE	SWISS/ eESS	Y	Y	For medical Workforce only; specialty split (see medical below)
13	Ethnic Group	SWISS/ eESS	N	Y	Could for part of a phase two review to address DQ issues
14	Religion	SWISS/ eESS	N	Y	Could for part of a phase two review to address DQ issues
15	Sexual Orientation	SWISS/ eESS	N	Y	Could for part of a phase two review to address DQ issues
16	Transgender Status	SWISS/ eESS	N	Y	Could for part of a phase two review to address DQ issues

Non - Medical Key Variables

ID	Variable	Source	Review	DQ Issues	Comments
17	Post Descriptor	SWISS/ eESS	Y	Y	Review of all staff categories required; associated guidance required (links to integrated services required)
18	Job Family	SWISS/ eESS	Y	Y	Review of all staff categories required; associated guidance required (links to integrated services required)
19	Sub Job Family	SWISS/ eESS	Y	Y	Review of all staff categories required; associated guidance required (links to integrated services required)
20	Division CHP	SWISS/ eESS	Y	Y	Review of all CHP divisions required; associated guidance required
21	Directorate	SWISS/ eESS	N	Y	
22	Department	SWISS/ eESS	N	Y	
23	Sub Department	SWISS/ eESS	N	Y	
24	Base Location	SWISS/ eESS	N	Y	
25	Location of Service Delivery	SWISS/ eESS	Y	Y	Review of all LoSD options required; associated guidance required (links to integrated services required)
26	Service Area	SWISS/ eESS	Y	Y	Review of all Service Areas required; associated guidance required (links to integrated services required)
27	AfC Band	SWISS/ eESS	N	N	
28	Age of population treated	SWISS/ eESS	Y	Y	Review of all population treated options required; associated guidance required (links to integrated services required)
29	CNS Indicator	SWISS/ eESS	N	Y	
30	Planned / Emergency care	SWISS/ eESS	Y	Y	Review variable name, review of all planned / emergency care options required; associated guidance required

Medical Key Variables

ID	Variable	Source	Review	DQ Issues	Comments
31	Specialty 1	SWISS/ eESS - Job Plan	Y	Y	
32	Specialty 2	SWISS/ eESS - Job Plan	Y	Y	
33	Specialty 3	SWISS/ eESS - Job Plan	Y	Y	
34	Grade	SWISS/ eESS - Job Plan	Y	Y	
35	WTE	SWISS/ eESS - Job Plan	Y	Y	

Workforce Planning & Intelligence Continuum

Tier 1
Population data by region/council area for all public sector (Demand)

Population demographics, epidemiology data, geographic distribution with the potential to be used by all public sectors organisations to influence the development of services – GROS, ScotPHO
Policy and Strategic drivers, advancements in care and treatment which shape services

This information will inform service requirements in Tier 2

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Tier 2
Service Intelligence (Demand)

Provide service specific data; for example within healthcare, patterns of usage/utilisation, disease profile data, performance data. prescribing data

This data will provide evidence to inform - Service modelling & scenario planning, horizon scanning and redesign modelling. This Tier will use information from Step 2 of the 6 Step Workforce Planning Methodology

This information will inform the workforce requirements in Tier 3

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Tier 3
Workforce/Labour Market Intelligence (Demand & Supply)

The workforce data specific to service, staff group, profession, identification of risk through gap analysis, succession and workforce
scenario planning & modelling

This Tier will use the information gathered in Step 3 & 4 in the 6 Step Workforce Planning Methodology

This information will inform the education requirements in Tier 4

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Tier 4
Identification of Education need (Supply)
This will include commissioned Professional Education, all levels of educational development across the career framework and integrated education, identified from intelligence gathered from tiers 1 – 3.

This information would be described in Step 5 of the 6 Step Workforce Planning Methodology

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The WHO Recife Declaration on Human Resources for Health ten point plan for countries:

1. Adopt a systemic approach to developing, implementing and monitoring adequately budgeted and funded strategies and plans for a sustainable health workforce;

2. Enhance HRH information systems to facilitate labour market analysis in HRH forecasting and link needs-based planning and projections to innovative practices;

3. Enhance competences and skills of health personnel through transformative education approaches and continuous professional development opportunities;

4. Prioritise the development of the health workforce at the primary health care level to enhance equality in access;

5. Promote equal opportunities in education, development, management and career advancement for all health workers, with no form of discrimination based on gender, race, ethnicity or any other basis;

6. Strengthen HRH governance based on clear accountability and transparent processes, including through decentralisation, as appropriate;

7. Enhance HRH performance through, innovative, effective, targeted management approaches and incentives;

8. Improve health workforce distribution and retention;

9. Advance research and evidence-based practice to inform and maximise the return on HRH investment, including by enhancing data collection and strengthening information systems;

10. Harness the potential of innovative approaches, including the promotion and use of technology, a more efficient balance of health workers, including task- sharing, and innovative models for care delivery.

The Recife Political Declaration on Human
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