Methodologies for each NHS expenditure mapping section

The Health & Social Care Expenditure dashboards are organised to be consistent with the financial sources used i.e. for the NHS sections it is split into the hospital, community and then primary care services sections as these represent the three key sectors of the Costs Book; the various sub-sectors reflect how the source SFRs (Scottish Financial Returns) are organised. It is important to note that patient level activity is not available for all types of care and therefore different methodologies have to be used for each “mapping” section, depending on the available activity data.

A key distinction in mapping outputs is between “PLICS” sections where costs can be allocated at patient level; and, non "PLICS" sections where a variety of assumptions/proxies have to be used instead to map costs to specific patient/client groups.

PLICS methodology for costing inpatient and day case activity

Patient level costing has been developed to allow hospital costs to be attributed to patient activity in a very detailed way reflecting key cost drivers such as length of stay. It has been designed to be used for a range of hospital inpatient and day case activity. The methodology is under development and this is being steered by the NHS Scotland Costing Group. Please see separate methodology paper for a description of the methodology.

Caveats and exclusions

PLICS methodology development -The main caveat is the developmental nature of the PLICS methodology.

SMR completeness - NHS Highland are the latest Board to have implemented a new patient management system. Although implementation is now complete there are still issues impacting on the submission of SMR and ISD(s)1 returns. Please see ISD website link below for further details.

Expenditure Exclusions

- Paying patients
- Activity costed with board/national average unit costs

Excluded expenditure

- Special Care Baby Unit*
- State Hospital
- Sub-contracted services
- General Dental Services - sourced from Costs Book**
- General Ophthalmology Services - sourced from Costs Book**
- Pharmaceutical Services - Other expenditure (i.e. not GP prescribing)

*Available at Region level
**2011/12-2013/14 only
**Available at Region level for 2012/13 and 2013/14

IRF Expenditure Summaries excludes the following LFR3 columns:

- Service Strategy
- Children's Panel
- Service to Asylum Seekers and refugees
- Criminal justice social work services

Expenditure on adult social care excludes Children and Families.

Expenditure on all adult social care is based on:

- Adults with physical or sensory disabilities
- Adults with learning disabilities
- Adults with mental health needs
- Adults with addictions/substance misuse/HIV/AIDS
- Older Persons

Admission Type (Elective / Non elective / Unknown)

This is based on the admission type of the first episode in the continuous inpatient journey; and, uses the new admission type. In order to be consistent with previous outputs (that used the old admission type and that classified all transfers as non elective) planned transfers and urgent admissions have been classed as non elective (rather than non emergency). There is also now an additional Unknown (other) admission type.

Community Hospitals

These are defined as hospitals with a hospital type of J26 in the Costs Book for the financial year in questions.

National Services Division - Output contains expenditure on services funded by National Services Division. This activity has been costed using the PLICS methodology; however due its highly specialist nature it is likely that this activities costs are currently underestimated. Please see NSD website link below for further details.

Apportionment of Older People Social Care Expenditure

Traditionally the Social Care financial return (LFR3) has only contained expenditure by client group rather than age bands. Activity data can be used to apportion total spend down to age band level by creating age band shared based on the resources consumed by each age band. Apportionment was used to apportion older people spend for those aged 75+ within this workbook. It is assumed that
older people spend relates to those aged 65 and over. The activity sources for the apportionment were as follows:

- Long term Care Home Residents – ISD Care Home Publication
- Home Care and Personal care Hours – Scottish Government Home care census prior to 2013, Social Care Census from 2013
- Direct Payments activity – Scottish Government Self-Direct Support (Direct Payments) survey prior to 2013, Social Care Census from 2013

Accommodation Based Services

The number of long term care home residents were used to apportion expenditure to the required older people age bands for all accommodation based services. It should be noted that care home resident figures are based on the care homes geographical location and do not relate directly to the local authority of its residents. Apportionment based on the care Home geographical location should therefore be treated with caution.

The proportion of residents within each older people age band was multiplied by the expenditure for all older people to estimate expenditure for those aged 75+.

Community Based Services

Home Care

The number of hours of home care per age band was used in conjunction with the total older people hours to calculate the proportion of hours per age band for older people. The proportion of older people hours relating to those aged 75+ was multiplied by the expenditure for all older people to estimate the community-based services expenditure for those aged 75+, excluding direct payments.

Direct Payments

Direct payments activity recorded per age band was used in conjunction with the total older people activity to calculate the proportion of activity per age band for older people. The proportion of older people activity relating to those aged 75+ was multiplied by the expenditure for all older people to estimate the direct payment expenditure for those aged 75+.

INPATIENT AND DAY CASES SPECIFIC DOCUMENTATION

Data sources

Source datamarts as at April 2016 including costed SMR01 activity (Acute and Geriatric Long Stay); SMR04 (Mental health) and SMR02 (Maternity).

SMR02 is routinely published later than other SMR schemes for completeness reasons.

SMR04 episodes without a discharge date are assumed to be still resident and length of stay in the financial year is included. However, for some locations, data appears to contain open records that should have been discharged as calculated length of stay is greater than that recorded in the Costs Book.
Activity is costed with Costs Book Scottish Financial Returns SFR5.3 (Inpatient) and SFR5.5 (Day cases) using the PLICS methodology.

**NHS Expenditure Source**

The source for the NHS mapped expenditure is the published Scottish Health Service Costs for 2014/15 (referred to as the Costs Book). This currently reports on around 95% of the NHS net operating costs (£11.5 billion).

This includes around £10 billion expenditure on the provision of hospital and primary care within the 14 territorial NHS Boards, the State Hospital, and the Golden Jubilee National Hospital and it is this net expenditure that the mapping attempts to break down to partnership and age group level. There are certain exclusions from the mapping breakdowns and this “unmapped” expenditure is reported at total board of treatment level only. These exceptions are the State hospital, special care baby unit, part of pharmaceutical services and all of sub-contracted services expenditure.

Other special board expenditure such as NHS NSS (NSS), Scottish Ambulance Service (SAS), NHS24, NHS Education for Scotland, etc is excluded from the mapping; however, the Costs Book does report separately on some of the SAS and NSS expenditure where it relates to direct patient care.

Costs are matched in at location and specialty (line number) level. If no match is found board (or Scotland) averages unit costs are used instead. This "unmatched" activity can cause reconciliation problems so only Costs Source = 'LOCATION' is included in the separate mapping summary outputs.

**Acute High Cost Items (HCI) reference information**

To date the majority of boards have used NHS Lothian HCI reference information in the PLICS methodology with NHS Highland and NHS Western Isles having separate criteria. Historically the application of this HCI criteria has resulted in over-costing in some specialties, especially cardiology, and the criteria is currently under review with regards to unit costs, associated procedure codes and relevant costs pool. The aim is to have an agreed list of procedure codes for HCIs for all boards where unit cost and/or cost pool can vary by board of treatment with financial guidance from NSS national procurement on unit costs where possible. In the short term, to avoid over-costing, HCI unit cost estimates have been adjusted downwards for boards where HCI activity multiplied by unit costs was higher than the corresponding costs pool. The English Reference Costs were used as a rough guide for this unit cost estimation. For some boards the default cost pool was also changed after examining HCI results. Also, in an attempt to improve the costing of NSD activity an estimated HCI cost was added for bone marrow transplants; Ayrshire & Arran had historically supplied HCI criteria for cochlear implants. Some procedure codes were also altered after consultation with the ISD clinical coding team. Please contact the ISD Health & Social Care for further information on this provisional HCI criteria used in acute costing.

**Acute and Maternity Average Theatre times reference information**

To date all boards have used NHS Lothian average theatre times reference information in the PLICS methodology. There are separate average times for adult and children's hospitals (and specialties) and non elective theatre activity has extra weighting for selected specialties (general surgery, orthopaedics, gynaecology and obstetrics) to reflect the greater resources used in emergency
theatres. The average theatre times are essentially used as weights in the PLICS methodology to allocate boards' local theatre costs across its activity. This area is under review with the aim of obtaining Scotland average times from the National Theatres Information Project (NTIG).

**Geriatric Long Stay (GLS) current residents issue**

SMR01 is discharge based and therefore current residents will not be captured (until discharge record is received by ISD) leading to an underestimation of activity. For this reason GLS activity has been costed using PLICS unit costs calculated using Costs Book activity as the denominator (rather than SMR activity). This impacts reconciliation to the source Costs Book by board of treatment where total mapped expenditure is approximately 20% lower than Costs Book expenditure.

**Social Care Expenditure Source**

The source of expenditure for social care within the IRF mapping is the LFR3 - Financial return for Social Care. This is the only national source of social care expenditure at the moment but in future the development of social care costing and review of LFR3 will feed directly in the IRF mapping improving consistency in financial reporting across local authorities.

There were several changes to the format of the relevant Local Government Finance return (LFR03) that Local Authorities submitted to the Scottish Government for 2012-13. Most notable was the introduction of a separate "Support Services" row, which includes expenditure on Finance, Legal, Human Resources, IT, Internal Audit, Procurement and Asset Management. This figure would previously have been spread across other rows representing specific service types (e.g. Net Expenditure in Care Homes).

In order to make the 2012-13 and 2013-14 figures presented here as comparable as possible with previous years, Net Expenditure has been adjusted to account for the change in Support Services recording. This adjustment involves apportioning a fraction of the total Net Support Services expenditure each of the individual service rows.

**LINKS**

