**TAGRA ACUTE MLC SUBGROUP Thursday 19th March 2015**

**Revised Potential Candidate Variables Table**

**Background**

At the previous Acute MLC subgroup meeting, there was extensive discussion around the issues of data availability arising from the redrawn Data Zones (see paper TAMLC20). It was decided at the last meeting that the Acute MLC Review should be conducted at the new geography (2011 Data Zones and Intermediate Zones). This decision results in a delay to the main analytical work until August 2015 and the exclusion of the Scottish Index of Multiple Deprivation (SIMD) from the list of candidate variables, since it will not be available at the new geography until 2016. To ease concerns about its outright exclusion, AST were asked to investigate the significance of SIMD 2012 as a predictor of need using the current data and report back to the subgroup (see present subgroup paper TAMLC 22).

**Summary**

An updated version of the table of Potential Candidate Variables was presented to the Acute MLC subgroup at their last meeting in January (see Appendix C, Paper TAMLC20). This current paper provides an update of the information available on indicators of needs at the redrawn 2011 Data Zones and 2011 Intermediate Zones.

The main sources of data for potential indicators of need are the SIMD 2016, 2011 Census data and ISD data. The availability of these sources at the new geographies is as follows:

* SIMD 2016 – The SIMD 2016 is scheduled for release in autumn 2016. The SIMD overall and domain scores as well as the non-confidential constituent variables will not be available at the redrawn 2011 Data Zones and 2011 Intermediate Zones until autumn 2016.
* National Records Scotland (NRS) data – The variables based on the 2011 Census data have already been requested from NRS based on the redrawn 2011 Data Zones and 2011 Intermediate Zones. All indicators using Census data can be recalculated at the new geographies now since the population data used in the calculations is the 2011 Census population and is available from NRS at the moment. The supply variables can also be recalculated now since all data used for the calculation is from 2011 Census and it is currently available at the new geographies.
* ISD data – The variables produced internally by ISD can be reproduced now at the new geographies using the Postcode to Data Zones 2011 lookup provided by the Scottish Government. Although the variables can be prepared at the moment, most of the actual indicators to use in the regression analysis cannot be recalculated until August 2015 when the mid-year population estimates at the redrawn Data Zones become available. This is because these indicators are all age-sex adjusted ratios.

The data source, the availability and the timescales for all potential candidate variables based on the new geographies are included in Table 1. Only those indicators based on the Census data and the supply variables can be calculated before August 2015 since the exact Census 2011 population is used in their calculation. However, the remaining indicators, as well as the cost ratios (the dependent variable used in the regression analysis), cannot be produced until after August 2015 as the mid-year population estimates for 2012, 2013 and 2014 at the new geographies are required in their calculation.

Following discussion of TAMLC 22, if the decision to exclude the Scottish Index of Multiple Deprivation (SIMD) from the list of candidate variables is upheld, AST will update Table 1 to reflect this. AST will also continue to consider other suitable potential candidate variables that are available at the new geographies.

*Table 1. Availability of potential candidate variables at Data Zones 2011 and Intermediate Zones 2011.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Indicator** | **Data Zone 2011** | **Intermediate Zone 2011** | **Availability** | **Data Source** |
| ***SIMD*** |  |  |  |  |
| **Employment Domain** |  |  |  |  |
| Employment Domain Rate | ✓ | x | Autumn 2016 | SIMD |
| Count of Employment Deprived People (Probabilistically rounded to base) | ✓ | x | Autumn 2016 | SIMD |
| **Income Domain** |  |  |  |  |
| Income Domain Rate | ✓ | x | Autumn 2016 | SIMD |
| Count of Income Deprived People (Probabilistically rounded to base) | ✓ | x | Autumn 2016 | SIMD |
| **Education Domain** |  |  |  |  |
| School pupil absences | ✓ | ✓ | Autumn 2016 | SIMD |
| Pupil performance on SQA at stage 4 | ✓ | ✓ | Autumn 2016 | SIMD |
| Working age people with no qualifications | ✓ | ✓ | Autumn 2016 | SIMD |
| 17-21 year olds enrolling into full time higher education | ✓ | ✓ | Autumn 2016 | SIMD |
| People aged 16-19 not in full time education, employment or training rate | ✓ | ✓ | Autumn 2016 | SIMD |
| Education Domain Score | ✓ | x | Autumn 2016 | SIMD |
| **Crime Domain** |  |  |  |  |
| Crime Count (Crime count of 5 or less is a missing value at Data Zone level) | ✓ | x | Autumn 2016 | SIMD |
| **Housing Domain** |  |  |  |  |
| Persons in households that are overcrowded | ✓ | ✓ | Autumn 2016 | SIMD |
| Persons in households without central heating | ✓ | ✓ | Autumn 2016 | SIMD |
|  |  |  |  |  |
| ***Morbidity*** |  |  |  |  |
| Low birth weight births | ✓ | ✓ | After August 2015 | ISD |
| Death rate under 75 | ✓ | ✓ | After August 2015 | ISD |
| Death rate under 75 cancer | ✓ | ✓ | After August 2015 | ISD |
| Death rate under 75 CHD | ✓ | ✓ | After August 2015 | ISD |
| Death rate under 75 stroke | ✓ | ✓ | After August 2015 | ISD |
| All cause SMR 65 and under | ✓ | ✓ | After August 2015 | ISD |
| All cause SMR 70 and under | ✓ | ✓ | After August 2015 | ISD |
| All cause SMR 75 and under | ✓ | ✓ | After August 2015 | ISD |
| Cancer SMR 65 and under | ✓ | ✓ | After August 2015 | ISD |
| Cancer SMR 70 and under | ✓ | ✓ | After August 2015 | ISD |
| Cancer SMR 75 and under | ✓ | ✓ | After August 2015 | ISD |
| Heart Disease SMR 65 and under | ✓ | ✓ | After August 2015 | ISD |
| Heart Disease SMR 70 and under | ✓ | ✓ | After August 2015 | ISD |
| Heart Disease SMR 75 and under | ✓ | ✓ | After August 2015 | ISD |
| Respiratory SMR 65 and under | ✓ | ✓ | After August 2015 | ISD |
| Respiratory SMR 70 and under | ✓ | ✓ | After August 2015 | ISD |
| Respiratory SMR 75 and under | ✓ | ✓ | After August 2015 | ISD |
| Digestive System SMR 65 and under | ✓ | ✓ | After August 2015 | ISD |
| Digestive System SMR 70 and under | ✓ | ✓ | After August 2015 | ISD |
| Digestive System SMR 75 and under | ✓ | ✓ | After August 2015 | ISD |
| Poison & Injury SMR 65 and under | ✓ | ✓ | After August 2015 | ISD |
| Poison & Injury SMR 70 and under | ✓ | ✓ | After August 2015 | ISD |
| Poison & Injury SMR 75 and under | ✓ | ✓ | After August 2015 | ISD |
| Other SMR 65 and under | ✓ | ✓ | After August 2015 | ISD |
| Other SMR 70 and under | ✓ | ✓ | After August 2015 | ISD |
| Other SMR 75 and under | ✓ | ✓ | After August 2015 | ISD |
| Outpatient SMR 65 and under | ✓ | ✓ | After August 2015 | ISD |
| Outpatient SMR 70 and under | ✓ | ✓ | After August 2015 | ISD |
| Outpatient SMR 75 and under | ✓ | ✓ | After August 2015 | ISD |
| High Resource Individuals | ✓ | ✓ | After August 2015 | ISD |
| Did Not Attend | ✓ | ✓ | After August 2015 | ISD |
| Drug counts | ✓ | ✓ | After August 2015 | ISD |
|  |  |  |  |  |
| ***Health/Morbidity Unpaid Care*** |  |  |  |  |
| Respondent long-term illness | ✓ | ✓ | Requested | Census |
| Limited activity | ✓ | ✓ | Requested | Census |
| Unemployed permanent sick | ✓ | ✓ | Requested | Census |
|  |  |  |  |  |
| ***Ethnicity*** |  |  |  |  |
| White | ✓ | ✓ | Requested | Census |
| South Asian | ✓ | ✓ | Requested | Census |
| Chinese | ✓ | ✓ | Requested | Census |
| Black | ✓ | ✓ | Requested | Census |
| Mixed and other ethnic | ✓ | ✓ | Requested | Census |
|  |  |  |  |  |
| ***Supply Variables*** |  |  |  |  |
|  |  |  |  |  |
| GP Supply 1km intrazonal cost | ✓ | ✓ | Can be recalculated now | ISD |
| GP Supply 5km intrazonal cost | ✓ | ✓ | Can be recalculated now | ISD |
| GP Supply 10km intrazonal cost | ✓ | ✓ | Can be recalculated now | ISD |
| IPAC Inpatient supply dist only | ✓ | ✓ | Can be recalculated now | ISD |
| IPACX Inpatient supply dist & popln | ✓ | ✓ | Can be recalculated now | ISD |
| OPAC Outpatient supply dist only | ✓ | ✓ | Can be recalculated now | ISD |
| OPACX Outpatient supply dist & popln | ✓ | ✓ | Can be recalculated now | ISD |
| Inpatient Access – nearest hospital | ✓ | ✓ | Can be recalculated now | ISD |
| Outpatient Access – nearest hospital | ✓ | ✓ | Can be recalculated now | ISD |
| Number of GPs serving intzone | ✓ | ✓ | Can be recalculated now | ISD |
|  |  |  |  |  |
| ***Health Board Dummy Variables*** |  |  |  |  |

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