Providing Intelligence to tackle Health Inequalities – case studies from LIST

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This short report describes some recent examples of work undertaken by the Local Intelligence Support Team (LIST), part of the Information Services Division (ISD) of NHS National Services Scotland (NSS). The report aims to complement other published work on how ISD and partners are supporting programmes to reduce health inequalities.

**What are health inequalities and what causes them?**

According to NICE, “Health inequalities are differences between people or groups due to social, geographical, biological or other factors. These differences have a huge impact, because they result in people who are worst off experiencing poorer health and shorter lives”.¹

Certain differences within the population are unavoidable, such as differences in mobility levels between elderly and younger populations, which occur due to a limited scope to change the health determinants. However, other differences are a result of unequal distribution of resources that are avoidable or prevent an individual from reaching their potential, are deemed unfair and unjust. These need to be tackled as they do not occur by chance and are socially determined by circumstances largely beyond an individual’s control.²,³, iv

As indicated in an infographic produced by NHS Health Scotland, the fundamental causes of health inequalities are an unequal distribution of income, power and wealth across the population and between groups. These influence the distribution of wider environmental influences on health, such as the availability of good quality housing, work, education and learning opportunities, as well as access to services and social and cultural opportunities in an area. It also influences the society which shapes individual experiences of, for example, low income, poor housing, discrimination and access to health services. This all results in the effects described - unequal and unfair distribution of health, ill health (morbidity) and death (mortality).²

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**Fundamental causes**
- Global economic forces
- Macro socio-political environment
- Political priorities and decisions
- Societal values to equity and fairness

**Wider environmental influences**
- Unequal distribution of income, power and wealth
- Poverty, marginalisation and discrimination
- Economic and work
- Physical
- Learning
- Services
- Social and cultural

**Individual Experience**
- Economic and work
- Physical
- Learning
- Services
- Social and cultural

**Effects**
- Inequalities in: Wellbeing
- Healthy life expectancy
- Morbidity
- Mortality
Health Inequalities in Scotland

There have been considerable improvements in overall health and average life expectancy in Scotland, as illustrated in the 2015 Health and Wellbeing report.\(^4\) In Scotland overall life expectancy for both men and women continues to rise, although it still lags behind the rest of the UK and most Western European nations.\(^5\)

Also, there are still significant differences in life expectancy and health because of deprivation, age, gender, where people live, and ethnic group. The life expectancy gap between the sexes has narrowed over time, but women are still expected to live at least 4 years longer than men. In the last decade average male life expectancy for men in Scotland increased from 73.3 years to 76.6 years. The gap between Glasgow City and East Dunbartonshire local authorities was 7.5 years. As an example at a more local level, a boy born in Kilwinning Whitehirst Park & Woodside in North Ayrshire could expect to live around 92.0 years, whereas his counterpart born in Greendykes and Niddrie Mains in Edinburgh could only expect to live around 58.0 years.\(^6\)

For females, average life expectancy increased from 78.8 years to 80.8 years. The gap between the Glasgow City and East Dunbartonshire local authorities was 4.9 years. For instance a girl born in Whitecraigs and Broom in East Renfrewshire could expect to live around 94 years whereas her counterpart born in Crosshouse and Gatehead Rural in East Ayrshire could only expect to live around 70 years.\(^7\)

Role of Health and Social Care Partnerships (HSCPs)

Health and Social Care Partnerships (HSCPs) are placed in a very favourable position to provide support in mitigating health inequalities. One of the national health & wellbeing outcomes for HSCPs is to contribute towards reducing health inequalities. To support HSCPs in achieving this outcome, Health Scotland has produced a useful resource where practical actions of good practices can be found. This provides an opportunity to consider health inequalities at the start of developing plans and actions.\(^8\)

Role of NSS-ISD

NSS-ISD provides a broad range of services to those involved in health and social care. An important part of ISD’s role is a commitment to provide evidence to help partner organisations tackle health inequalities in Scotland. ISD supports health boards, health and social care partnerships, local authorities, third sector organisations & primary care to deliver high quality, effective and efficient services to meet the changing needs of their populations and help tackle health inequalities. On the ground, support has been offered in the form of LIST across Scotland from April 2015. The team provides on-site expert analytical support helping to source, link and interpret data. The LIST service has been instrumental in supplying local decision makers with meaningful and actionable intelligence, leading to improved outcomes for service users and patients.

Some case studies, with specific relevance to inequalities, are illustrated below:
(1) Homelessness

Homelessness is a complex issue since it can be a cause or a consequence of a range of circumstances, including social inequality, health inequality and poverty. The average age of death for a homeless person is around 30 years lower than the general population (47 vs. 77 years for males; 43 vs. 81 years for females). Evidence shows that the health and wellbeing of people experiencing homelessness is poorer than that of the general population. The longer a person experiences homelessness, particularly from young adulthood, the higher the risk to their health and wellbeing.\textsuperscript{xvi} There are many complex reasons why individuals and families present to Scottish Local Authorities as homeless.\textsuperscript{vii}

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\begin{array}{l}
\text{Reason(s) for failing to maintain accommodation: Scotland} \\
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<tr>
<th>Reason(s)</th>
<th>2016-17</th>
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<td>Not to do with applicant household (e.g. landlord selling property, fire, circumstances of other persons sharing previous property,...)</td>
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<tr>
<td>Mental health reasons</td>
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<td>Lack of support from friends/family</td>
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<td>Financial difficulties/debt/unemployment</td>
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<td>Drug/alcohol dependency</td>
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<td>Criminal/anti-social behaviour</td>
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<td>Physical health reasons</td>
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<td>Difficulties managing on own</td>
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<tr>
<td>Unmet need for support from housing/social work/health services</td>
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Sourced from: Scottish Government, HL1 dataset \url{http://www.gov.scot/Publications/2017/06/8907/downloads}\textsuperscript{viii}

The following are two examples where LIST worked with local partner organisations to address homelessness and mitigate health inequalities.

(a) Prison leavers and homelessness - how data analysis is making a difference

There is evidence which links homelessness with re-offending. Prison time increases risk of homelessness and a lack of stable accommodation after release increases the likelihood of re-offending. This leads to a self-perpetuating negative cycle and over-representation of this group within every section of the homeless population.\textsuperscript{xvii} Renfrewshire Council has been experiencing a higher than average number of prison leavers presenting to their Homeless Service, and acknowledged this cycle and expressed their desire to break it. To this end, they collaborated with the LIST team to investigate the scope of this problem and discuss potential solutions in partnership with multiple agencies.

Local data on homelessness applications is being linked to a range of national datasets and these are being analysed by LIST. The results are providing an insight into the unscheduled and secondary care interactions of homeless prison leavers within health services in Renfrewshire. A report including the following was submitted to Renfrewshire council: Accident and Emergency (A&E) attendances with the reasons for attendance, routine admissions to hospital and emergency admission with breakdown where drugs and/or alcohol have been recorded as the primary reason for admission and arrival mode to A&E.

This new intelligence from prison leavers and homelessness data has given the local authority and other agencies meaningful information to improve their services and cater better for the needs of prison leavers at risk of becoming homeless. Future work is being planned to assess the impact of the Housing First initiative and to evaluate individual outcomes.
Renfrewshire Council are determined that by working in partnership with other agencies they can improve outcomes for prisoners who become homeless on release from prison.

(b) Health Needs Assessment for Homeless People

LIST analysts have been working with North Lanarkshire HSCP to create a health needs assessment for homeless people in the area. This is to aid North Lanarkshire HSCP strategic planning (healthcare needs assessment) in tackling health inequalities, by ensuring services are planned, designed and delivered in ways that meet the needs of homeless people.

Locally held housing data (HL1)\(^a\) was linked with both local and national datasets held by ISD. The outputs from the analysis gave front line workers greater insight into the needs of the homeless population. This intelligence highlighted the considerably greater health burden experienced by this group when compared to the wider population, particularly in relation to mental health and substance misuse.

The data and intelligence produced by LIST were subsequently used to develop a multi-agency health and homelessness plan. The plan aims to improve outcomes for this vulnerable population.

https://youtu.be/NmL0QYm5QLE

This Homelessness video, produced by colleagues in the LIST team, highlights the data linkage work that has been carried out by LIST analysts, leading to a local action plan to be taken forward, aiming to break the cycle of homelessness.

\(^a\) In December 2001, the Scottish Government changed the data collection system for the case-based HL1 return to provide more detailed information on applications by individual households and to allow more timely reporting.
(2) North Lanarkshire Council Scottish Welfare Fund - making the connections

Background
The Scottish Welfare Fund is a national grant scheme run by Local Authorities (based on guidance from Scottish Ministers) that helps Scottish households in need. This fund provides a safety net for vulnerable people on low incomes through the provision of Community Care Grants and Crisis Grants\(^b\), where there is an immediate threat to health & safety. This supports people to live independently and prevents the need for institutional care.

The Scottish Welfare Fund (SWF) interim scheme went live on 1st April 2013 for two years and thereafter became a permanent feature to deliver Community Care Grants and Crisis Grants. However, towards the end of 2013 it was apparent that some individuals who were in receipt of other benefits (e.g. free school meals, clothing grants) had not made an SWF application and furthermore a few other extremely vulnerable individuals had not been reached at all.

LIST work - objective
North Lanarkshire Council (NLC) asked LIST for support in this initiative. The objective was to identify those vulnerable individuals who may be entitled to a Scottish Welfare Fund award but had not been in touch with NLC. This would ensure that those in most need were identified and supported to receive the help available where applicable.

Information Management/Linkage
LIST and NLC selected disparate datasets that potentially signposted vulnerability. These datasets were Blue Badges, Council Tax Warranted Debt, Discretionary Housing Payments, Free School Meal and Clothing Grants (primary and secondary), Under Occupancy Cases (council), Under Occupancy Cases (housing) and Scottish Welfare Fund (SWF).

Datasets were cleansed and data quality assurance exercises were carried out. Gap analysis identified matching data fields across the datasets, thus enabling the creation of a master index sheet. ISD production probability matching was carried out using a bespoke linkage methodology. This linked the 80,000+ records selected to an individuals and household level. The linkage also established the services used by households.

Data Analysis
Investigative analysis was carried out to determine the number of households that were linked, how many had applied for a SWF and the number and type of different sources that households had been linked to. Further links were made to the Scottish Index of Multiple Deprivation (SIMD) data and Mosaic Scotland customer insight, with results mapped to identify areas of deprivation and measure needs compared to demands.

Results
Quantitative
The outcomes of this data linkage and analysis resulted in not only identifying those in need but also provided a better understanding of NLC’s vulnerable population. In essence, it helped to understand the characteristics of those applying for funds and the services they used along with identifying those potential vulnerable communities, households and people who hadn’t applied for SWF and required further support.

Qualitative
The results from this have informed further discussions and the development of an action plan around questions such as: Are we targeting the right people? How do we target the right people? What other messages/services are people not getting? What support do people need to access these services? What other information would be beneficial to link to these households?

Benefits
This project was identified as an area where LIST added value to the project. It proved to be successful on all accounts. Some of the benefits to both NSS and NLC were:

- This project improved the wellbeing of 10% of those contacted by NLC.
- Improved understanding of local authority data and the associated linkage capabilities.
- Added value to local authority information to respond to local priorities and improve capabilities.

\(^b\) There are two types of grants available: Crisis Grants help people facing a disaster or emergency (Crisis Grants are normally paid to meet living expenses for essentials like food or heating). Community Care Grants help vulnerable people set up home, or continue to live independently, within their community (Community Care Grants are normally provided in the form of goods, for example cookers or beds).
• Improved quality of decision making as a result of shared knowledge and understanding.
• Identification of the vulnerable within the community with grants awarded to those in need.
• Raised profile of the SWF within the community.
• More accurate targeting and suitable spend of SWF in future.
• Individuals benefitting through access to funds which contributes to improvements in their overall wellbeing.

(3) Supporting Community Planning Partnerships to understand their vulnerable population better and reduce local health inequalities

The Community Empowerment (Scotland) Act 2015 requires Community Planning Partnerships (CPPs) to have a detailed understanding of socio-economic circumstances of their communities, and to replace Single Outcome Agreements (SOA) with Local Outcome Improvement Plans (LOIP). The Act also requires the development of locality plans for areas experiencing the most marked inequality in outcomes. East Renfrewshire CPP approached LIST to assist them in the production of this plan so as to address issues around inequality and provide services based on their populations needs.

Objectives

East Renfrewshire Council asked LIST to help with two main objectives:

• To update the socio-economic narrative in the current SOA for inclusion in the new LOIP.
• To provide an updated disaggregated small-area analysis of the socio-economic measures.

Process

Utilising a range of local and national data sources, LIST updated the socio-economic narrative to accurately reflect the current and projected demographic make-up of East Renfrewshire, with specific emphasis on life expectancy, household projections, fertility rates, migration and education.

More detailed analysis of a range of health and socio-economic measures was undertaken, in order to allow rate comparisons between the eleven Community Council areas, and against those of East Renfrewshire as a whole, and Scotland. These indicators/rates included early years and maternity, children in out-of-work households, job seekers and disability living allowances, as well as pension credits.

Result

LIST, in partnership with East Renfrewshire CPP, conducted extensive small-area analysis to identify the key issues and trends within its communities.

The provision of place-based analysis and actionable intelligence has been used as an essential new evidence base for the development of a LOIP outcome collaborative (guided by a Strategic Working Group), which will roll out a targeted approach to prevention across all service areas.

As well as providing robust analysis for the LOIP, much of the early years work (e.g. low birth weights, breastfeeding) has been incorporated into the evidence base for the East Renfrewshire Children’s Plan.
The National Review of Health Inequalities, ‘Fair Society, Healthy Lives’, led by Sir Michael Marmot in England, drew on extensive global research into health inequalities. It reflected on existing inequalities in the society and suggested that instead of taking a targeted approach wherein services are only aimed to improve the health of the most disadvantaged, a proportionate universalism approach is apt. In this approach, resources are allocated universally but at a scale and intensity that is proportionate to population need. Thus this would not only reduce the steepness of the social gradient in health, but also do this with a scale and intensity that is in proportion to the level of disadvantage.

LIST, in collaboration with public health consultants in Lothian, developed a set of inequality indicators. To this end, data from a variety of sources (NSS Discovery tool from ISD and ISD prescribing information, as well as from Education and NoMIS (UK labour market statistics) was synthesised and a range of reports are in progress to examine absolute inequalities. Intelligence gathered from this piece of work would identify opportunities to prevent & mitigate health inequalities. For instance, the life expectancy indicator is illustrated below.

Life expectancy: Graphs below shows the estimated average life expectancy (for males and females) at birth. In recent years life expectancy for women in Midlothian has stalled at 81.4 years while male life expectancy at 77.9 years continues to increase. It should be noted that there was a downward move in 2012 for male life expectancy which has only just recovered. The plateau in female life expectancy is consistent with a UK trend and reasons for this stall and potential decline are being investigated. The gap in life expectancy between people living in most deprived communities is 8 years for males and 5 years for females. This is a reduction on previous years but it appears that life expectancy for a woman living in the most deprived communities has stalled.

a) Life expectancy by sex for Midlothian and Scotland, 2002-2015

![Life expectancy graph]

b) Life expectancy by sex and deprivation, 2012-2016 - Midlothian

![Life expectancy by deprivation graph]

c SII is the absolute difference between the least and most deprived, using a method that takes into account the trend over all five quintiles for each indicator.

d Life expectancy at birth for an area is the number of years that a newborn baby would live if they experienced the age-specific mortality rates for that area, for the time period used, throughout their life. It is a theoretical measure which reflects recent mortality rates throughout life, rather than a true prediction of the life expectancy of the local population. Life expectancy is calculated using NRS mid-year population estimates and death registrations (by year of registration). The life expectancy by SIMD is based on the average life expectancy for the five year period (HSCP SIMD quintiles are used).
c) SII for life expectancy by sex, 1999-2013 - Midlothian

Contact

If you have any questions or would like to provide feedback, please email at shivanikaranwal@nhs.net or NSS.LIST@nhs.net.
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