Northern Ireland Health & Social Care Inequalities Monitoring System and the NIMS report
What are Health Inequalities?

Health Inequalities are inequalities in respect of life expectancy or general state of health which are wholly or partly a result of differences in respect of general health determinants. These are typically referred to as the ‘Wider social Determinants of health’

“Poor social and economic circumstances affect health throughout life.

People further down the ladder usually run at least twice the risk of serious illness and premature death as those near the top” (Wilkinson and Marmot)
Tackling inequality in healthcare is a priority: Poots

By Lisa Smith
Tuesday, 29 October 2012

The Health Minister has said every child in Northern Ireland deserves the best start possible in life.

Edwin Poots said it is unacceptable that life expectancy of children is determined by the area where they are born and raised.

The minister was speaking as he visited the Colin Neighbourhood Partnership (CNP) in Dunmurry.

The Colin area in west Belfast is the largest deprived area here. The CNP plays a key role in addressing health inequalities and is promoting an early intervention community. Early Intervention includes services supporting attachment and the early years.
NI Health & Social Care Inequalities Monitoring System (NIHSCIMS)

- Developed in 2002
- Basket of indicators by deprivation and rurality
- Morbidity/ Mortality/ Utilisation & Accessibility to services

Other areas within Inequality

- Sub-regional
- Accessibility
- Life Table decomposition
- Equality
Outline

• Equality (S75)
• NILS/NIMS Project
• Aims
• Previous study (McClelland report)
• Methodology
• Preliminary results
• Future Work
Section 75

1. Gender
2. Age
3. Marital Status
4. Religious Belief
5. Disability
6. Dependants
7. Ethnicity
8. Political Opinion
9. Sexual Orientation
Equality – Previous Section 75 analysis

• Area based proxy

• Based on 2001 Census population

• Profile of 20% worst performing areas

• Comparison to NI Section 75 profile

• Increasingly outdated
NILS & NIMS

So…….We considered:

NILS
• Large scale linkage ~ 28%

NIMS
• 2001 to 2007 deaths
  • 2001 Census, to which deaths registered to NIMS members are linked
  • Look at most individuals and their S75 characteristics
Aims

- To replicate HSCIMS deprivation analysis between S75 groups by examining rates

- To meet the demand from DHSSPS and the wider health family for monitoring

- Become a biennial analysis which becomes fully incorporated in the HSCIMS family.
McClelland Report Results

Age Standardised Mortality Rates (ASMR)
• Highest for both Males & Females 16+

• Lowest in 16 to 74 age group

• Male ASMR significantly higher than female

• Lowest ASMR found among married

• Highest ASMR among divorced

• Having a LLTI is associated with significantly elevated ASMR

• Catholic community both male and female have highest ASMR
Methodology

• Base Population

Deaths Removed  Births Added  Deaths Removed  Births Added  Deaths Removed  Births Added  Deaths Removed  Births Added  Deaths Removed  Births Added

Population aged from 2001 Census


2003  →  2007

ASMR Calculations / Life expectancy calculations / Regression Modelling
Results
Section 75
Community Background

![Bar chart showing age-standardised mortality rate per 100,000 persons by religion and gender. The chart compares Catholic, Protestant and other Christian, and Other/None, with males and females represented by different colors.](chart.png)
Ethnicity

![Bar chart showing age-standardised mortality rates per 100,000 persons for different ethnic groups and genders.](chart.png)

- **All Persons**: Males are shown by dark purple bars, females by light purple bars. The rates are high for both genders.
- **White**: Similar trend as all persons, with higher rates for males.
- **Minority Ethnic Backgrounds**: Males have a higher rate compared to females, though the rates are lower than for other groups.

Legend:
- Males
- Females
## Life Expectancy 2003 - 07

- Male = 76.9
- Female = 81.4

<table>
<thead>
<tr>
<th>Positive Impacts on Life expectancy</th>
<th>Negative Impacts on Life expectancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Longer LE among married men &amp; women</td>
<td></td>
</tr>
<tr>
<td>• One + dependents beneficial to men</td>
<td></td>
</tr>
<tr>
<td>• Most affluent → Higher LE</td>
<td></td>
</tr>
<tr>
<td>• Higher LE among “Other minority ethnic backgrounds” (low numbers mean this is inconclusive)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Lower LE among widows &amp; widowers</td>
</tr>
<tr>
<td></td>
<td>• Divorcees have lower LE</td>
</tr>
<tr>
<td></td>
<td>• Those with LLTI have lower LE</td>
</tr>
<tr>
<td></td>
<td>• Those living in the most deprived areas have shorter LE</td>
</tr>
</tbody>
</table>
Results
Social Disadvantage
Tenure

The bar chart shows the age-standardized mortality rate per 100,000 persons for different tenure types: Owned-outright, Owned-mortgage or shared, Social rented, and Private rented. The chart distinguishes between Male and Female populations.
Educational Qualifications

![Bar chart showing age-standardised mortality rate per 100,000 persons for different levels of education and gender. The chart compares males and females across levels from None to Level 5.]
Socio Economic Class

Age standardised mortality rate per 100,000 persons

- Professional
- Intermediate
- Own Account
- Lower Supervisory
- Routine
- Not Working

Males
Females
Deprivation Quintile

- Males: $y = -98.287x + 1263.5$, $R^2 = 0.9594$
- Females: $y = -57.733x + 832.88$, $R^2 = 0.8498$
Results
Regression Analysis
<table>
<thead>
<tr>
<th>Individual Characteristics</th>
<th>Proportion of deaths % (n)</th>
<th>Adjusted for S75 Characteristics</th>
<th>Adjusted for deprivation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HR (95% CI) (a)</td>
<td>P</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>57.1 (23419)</td>
<td>1 (Reference)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Female</td>
<td>42.9 (17608)</td>
<td>0.58</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-34</td>
<td>2.5 (1025)</td>
<td>1 (Reference)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>35-44</td>
<td>6.0 (2446)</td>
<td>2.53 (2.34 - 2.72)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>45-54</td>
<td>13.0 (5326)</td>
<td>5.84 (5.44 - 6.26)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>55-64</td>
<td>26.1 (10688)</td>
<td>11.84 (11.05 - 12.69)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>65-74</td>
<td>52.4 (21452)</td>
<td>31.94 (29.82 - 34.19)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Marital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced/Widowed/Separated</td>
<td>26.6 (10916)</td>
<td>1 (Reference)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Married</td>
<td>56.3 (23110)</td>
<td>0.65 (0.62 - 0.67)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Single</td>
<td>17.1 (7001)</td>
<td>0.95 (0.91 - 0.98)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Dependents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>87.6 (34556)</td>
<td>1 (Reference)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>One or more</td>
<td>12.4 (4874)</td>
<td>0.75 (0.72 - 0.78)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>LLTI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No LLTI</td>
<td>37.2 (15269)</td>
<td>1 (Reference)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>LLTI</td>
<td>62.8 (25758)</td>
<td>2.76 (2.70 - 2.83)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Community Background</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protestant and other Christian</td>
<td>60.5 (24817)</td>
<td>1 (Reference)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Catholic</td>
<td>38.4 (15755)</td>
<td>0.99 (0.97 - 1.02)</td>
<td>&gt;0.05 ns</td>
</tr>
<tr>
<td>Other/None</td>
<td>1.1 (455)</td>
<td>0.83 (0.75 - 0.92)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Deprivation Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 = Least deprived</td>
<td>2.2 (855)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1</td>
<td>4.5 (1766)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>11.8 (4658)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>20.0 (7879)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>22.1 (8695)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>18.7 (7365)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>14.7 (5805)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>5.3 (2086)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>0.7 (281)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9 = Most deprived</td>
<td>0.0 (15)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Future Work

• Possibility of an ongoing monitoring system

• Possibility of more linkages using NILS
Acknowledgements

The help provided by the staff of the Ireland Mortality Study (NIMS) and the NILS Research Support Unit is acknowledged.

The NILS/NIMS is funded by the Health and Social Care Research and Development Division of the Public Health Agency (HSC R&D Division) and NISRA. The NILS-RSU is funded by the ESRC and the Northern Ireland Government. The authors alone are responsible for the interpretation of the data.