A systematic review of social determinants of child health: Evidence based indicators

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Information Services, Cardiff University
- Background
- Methodology
- Evidence
- Social determinant indicators
Background

- SURE and CISHE commissioned by the Welsh Assembly Government to identify evidence-based indicators of social determinants of cancer, child health and older people’s health

- Today’s focus: child health
Review series

- Second phase of a two-phase project. Builds on methodology established in previous reviews
  - coronary heart disease
  - common mental disorder
- Focus on **prospective longitudinal studies**
- In addition, good quality intervention studies designed to reduce inequalities
- Background
- Methodology
- Evidence
- Social determinant indicators
Information Sources

- ASSIA
- ChildData
- CINAHL
- Cochrane Library
- Community Wise
- Embase
- EPPI Centre
- ERIC
- HMIC
- IBSS
- IDOX Info Services
- Medline
- Psycinfo
- ReFer
- Regard
- SIGLE
- PsycINFO
- Science Citation Index
- Social Care Online
- Social Science Citation Index
- Social Services Abstracts
- Sociological Abstracts
Search terms

Child$ OR infant$ OR babies OR baby OR boy$ OR girl$ OR young person OR young people OR pre-teen$ AND health OR wellbeing OR sick OR sickness OR mortality OR morbidity OR disab$ OR prognosis OR injur$ OR accident$ OR growth OR development OR immunisation$ OR obesity OR overweight OR respiratory OR poisoning OR diabet$ OR growth rate$ OR birth weight OR height OR life expectanc$ OR malnutrition OR violen$ OR pulmonary OR asthma OR mental health OR psychiatric
Combined with…

1 prosperity.mp.
2 wealth.mp.
3 unemploy$.mp.
4 poverty.mp.
5 earning$.mp.
6 low pay.mp.
7 salary.mp.
8 debt$.mp.
9 arrear$.mp.
10 social class.mp.
11 socio-economic.mp.
12 socioeconomic.mp.
13 social security.mp.
14 social welfare.mp.
15 social mobility.mp.
16 housing tenure.mp.
17 home own$.mp.
18 house own$
19 renter.mp.
20 car own$.mp.
21 overcrowd$.mp.
22 income.mp.
23 standard of living.mp.
24 central heating.mp.
25 family conflict.mp.
26 poor housing.mp.
27 educational attainment.mp.
28 educational achievement.mp.
29 deprivation.mp.
30 inequalit$.mp.
31 financial hardship.mp.
32 social position.mp.
And…

33 damp housing.mp.
34 social isolation.mp.
35 social exclusion.mp.
36 social network$.mp.
37 decision latitude.mp.
38 social relationship$.mp.
39 effort-reward.mp.
40 job opportunity.mp.
41 promotion prospects.mp.
42 social gradient.mp.
43 family breakdown.mp.
50 social cohesion.mp.
51 poor environment.mp.
52 social contacts.mp.
53 social attachment$.mp.
54 social integration.mp.
55 emotional ties.mp.
56 perceived inadequacy.mp.
57 civic community.mp.
58 domestic violence.mp.
59 engagement in community.mp.
60 social stigma.mp.
61 social capital.mp.
62 social status.mp.
63 family status.mp.
64 single parent.mp.
65 sole parent.mp.
66 lone parent.mp.
67 divorce.mp.
68 marital separation.mp.
69 ethnic$.mp.
70 refugee$.mp.
71 good nutrition.mp.
And...

72 household composition.mp.
73 family composition.mp.
74 crowding.mp.
75 school performance.mp.
76 school attendance.mp.
77 housing condition$.mp.
78 benefit recipient$.mp.
79 household type.mp.
80 housing design.mp.
81 employment status.mp.
82 economic inactivity.mp.
83 social housing.mp.
84 access to health care.mp.
85 access to services.mp.
86 community participation.mp.
87 social environment.mp.
88 Social disadvantage.mp.
89 "Public Housing"/
90 property own$.mp.
91 racial$.mp.
92 sociodemographic.mp.
93 inequit$.mp.
94 disadvantaged.mp.
94 Immigrant$.mp.
96 Rental.mp.
97 affluen$.mp.
98 Rented.mp.
99 Salaries.mp.
100 shift work.mp.
101 social disparit$.mp.
102 social effect$.mp.
103 uninsured.mp.
104 Social inclusion.mp
And…

104 or/1-104
106 exp Controlled Clinical Trials/
107 exp Random Allocation/
108 exp Double-Blind Method/
109 exp Single-Blind Method/
110 ((singl$ or doubl$ or trebl$ or tripl$) adj5 (blind$ or mask)).ti,ab.
111 (control$ adj (trial$ or stud$ or evaluation$ or experiment$)).mp.
112 randomi?ed.hw,ti,ab,pt.
113 (cohort: or survey: or qualitativ: or cross section: or case stud: or evaluat: or audit: or longitudinal: or questionnaire:).ti,ab.
114 (case stud: or evaluat: or audit: or longitudinal: or questionnaire:).ti,ab.
115 exp Meta-Analysis/
116 meta-analys$.ti,ab. or metaanalys$.ab,ti. or meta analys$.ab,ti.
And...

117 Cochrane.ab,sh,ti
118 (review$ or overview$).ti. or review$.pt. or (synthes$ adj3 (literature$ or research or studies or data)).ab,ti.
119 pooled analys$.ab,ti. or ((data adj2 pool$) and studies).mp.
120 ((hand or manual or database$ or computer$) adj2 search$).ab,ti.
121 ((electronic or bibliographic$) adj2 (database$ or data base$)).ab,ti.
122 ((review$ or overview$) adj10 (systematic$ or methodologic$ or quantitativ$ or research$ or literature$ or studies or trial$ or effective$)).ab.
123 census$.mp.
124 registry.mp.
125 registries.mp.
126 follow up stud$.mp.
127 or/106-126
128 105 and 127
And...

129 130 not (Algeria$ or Egypt$ or Libya$ or Morocco$ or Tunisia$ or Western Sahara$ or Angola$ or Benin or Botswana$ or Burkina Faso or Burundi or Cameroon or Cape Verde or Central African Republic or Chad or Comoros or Congo or Djibouti or Eritrea or Ethiopia or Gabon or Gambia$ or Ghana or Guinea or Kenya$ or Lesotho or Liberia or Madagascar$ or Malawi or Mali or Mauritania or Mauritius or Mayotte or Mozambique$ or Namibia$ or Niger or Nigeria$ or Reunion or Rwanda$ or Saint Helena or Senegal or Seychelles or Sierra Leone or Somalia or South Africa$ or Sudan or Swaziland or Tanzania or Togo or Uganda$ or Zambia$ or Zimbabwe$ or China or Chinese or Hong Kong or Macao or Mongolia$ or Taiwan$ or Belarus or Moldova$ or Russia$ or Ukraine or Afghanistan or Armenia$ or Azerbaijan or Bahrain or Cyprus or Cypriot or Georgia$ or Iran$ or Iraq$ or Israel$ or Jordan$ or Kazakhstan or Kuwait or Kyrgyzstan or Lebanon$ or Oman or Pakistan$ or Palestinian$ or Qatar or Saudi Arabia or Syria$ or Tajikistan or Turkmenistan or United Arab Emirates or Uzbekistan or Yemen or Bangladesh$ or Bhutan or British Indian Ocean Territory or Brunei Darussalam or Cambodia$ or India$ or Indonesia$ or Lao or People's Democratic Republic or Malaysia$ or Maldives or Myanmar or Nepal or Philippin$ or Singapore or Sri Lanka or Thai$ or Timor Leste or Vietnam or Albania$ or Andorra or Bosnia$ or Herzegovina$ or Bulgaria$ or Croatia$ or Estonia or Faroe Islands or Greenland or Liechtenstein or Lithuanian$ or Macedonia or Malta or Maltese or Romania or Serbia$ or Montenegro or Slovenia or Svalbard or Argentina$ or Belize or Bolivia$ or Brazil$ or Chile or Chilean or Colombia$ or Costa Rica$ or Cuba or Ecuador or El Salvador or French Guiana or Guatemala$ or Guyana or Haiti or Honduras or Jamaica$ or Nicaragua$ or Panama or Paraguay or Peru or Puerto Rico or Suriname or Uruguay or Venezuela or developing countr$ or south America$).ti,sh.

130 limit 129 to (humans and English language and yr="2001 - 2007")
Additional Search Methods

- Hand searching reference lists
- Contacting experts
- Electronic Tables of Content (ETOCs)
- Fail-safe search - key social determinant terms and study designs in OECD countries Jan1994 – March 2007
Inclusion Criteria

- Age range - Birth to 11 years.
- Exposure measures - WIMD 2005
- Published between Jan 1994 – Mar 2007
- Sample size – UK >200 non UK >100,000
  † (no non UK incidence studies were included)
- Outcome measures
  † Diagnosed illness, injury or disability in childhood.
  † Birth weight, growth or development.
  † Mortality.
Exclusion Criteria

- Congenital malformations
- Pre-existing medical conditions
- Hospital admissions unless reporting injury
- Studies of children in care/adopted children
- Access to treatment/immunisation uptake
- Child abuse or domestic violence - unless reported with a social determinant and a child health outcome
- Child/parental drug misuse/maternal health problems
Search Results

10,237 citations
197 potentially relevant

41 papers included in the review:
28 papers on social determinants of child health
13 intervention studies
- Background
- Methodology
- Evidence
- Social determinant indicators
Key child health issues

Morbidity
- Low birth weight
- Failure to thrive/growth
- Accidental Injury
- General Morbidity
- Respiratory Morbidity
- Cognitive Development
- Dental Decay
Key child health issues

Mortality in Wales (2003-2005)

- Immaturity related and other neonatal conditions contribute around 50% of infant deaths
- Sudden infant death syndrome (SIDS) accounted for just over 3% deaths
- In children aged 1-4 unintentional injury the most common cause of death
Evidence

Area Deprivation linked to:

- Unintentional injury [4 studies]*
- Sudden infant death syndrome [2 studies]*
- Low birth weight [1 study]
- Epilepsy [1 study]
- Dental decay [1 study]

*Strong clinically significant association from more than one study – > 2x risk high vs low deprivation
Health Outcomes
Main Findings

Social Class linked to:

- Slower cognitive development [3 studies]*
- Mortality [1 study]
- General morbidity [2 studies]
- Injury rates [1 study]

*Moderate clinically significant association from more than one study: 1.5-2 x risk low vs high social class
Health Outcomes
Main Findings

Housing

- Overcrowding linked to:
  - Sudden infant death syndrome [1 study]
  - Respiratory morbidity [1 study]

- Tenure – rented accommodation linked to:
  - Respiratory morbidity [2 studies]

Household Income linked to:

- Cognitive ability [1 study]
No evidence of a link found:

**Area deprivation**
- Stillbirth [1 study]
- Failure to thrive [2 studies]

**Social class**
- Sudden infant death [2 studies]
- Failure to thrive [2 studies]
- Respiratory morbidity [2 studies]
Social determinants influencing child health:

- Area deprivation
- Social class
- Personal or household income
- Housing conditions
AGENDA

- Background
- Methodology
- Evidence

- Social determinant indicators
# Child Health Suggested Indicators

<table>
<thead>
<tr>
<th>Social Determinant</th>
<th>Social Indicator</th>
<th>Data Source for indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area deprivation</td>
<td>High social deprivation (geographic area)</td>
<td>Welsh IMD Overall Super Output Area</td>
</tr>
<tr>
<td></td>
<td>Quality of life</td>
<td>Indicators of Quality of Life</td>
</tr>
<tr>
<td>Social class/ Occupational</td>
<td>Unemployed</td>
<td>Labour Force Survey, WIMD Employment domain</td>
</tr>
<tr>
<td>characteristics</td>
<td>Maternal employment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social class</td>
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</tbody>
</table>
## Child health indicators

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<th>Social Determinant</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Personal/ household income</td>
<td>Lower than average household income</td>
<td>Living in Wales Survey WIMD Income domain Department of Work &amp; Pensions: households with children below average income</td>
</tr>
<tr>
<td></td>
<td>Free school meals</td>
<td>Welsh Assembly Government. Schools in Wales – general statistics</td>
</tr>
<tr>
<td>Over-crowding</td>
<td>Housing Conditions</td>
<td>Living in Wales Survey WIMD Housing Domain</td>
</tr>
</tbody>
</table>
Further reading

- A fair deal for all children. Policy statement by the Royal College of Paediatrics and Child Health, 2007
  [http://www.rcpch.ac.uk/Publications/Publications-list-by-date](http://www.rcpch.ac.uk/Publications/Publications-list-by-date)
Social Determinants for Child Health

Weightman AL¹, Addis SG², Morgan HE¹, Turley RL¹, Mann MK¹, Morgan FM¹, Shepherd MA²

¹Support Unit for Research Evidence (SURE)
²Cardiff Institute of Society, Health and Ethics (CISHE)

http://new.wales.gov.uk/topics/health/ocmo/research/health-gain/determinants/?lang=en