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

Alison Weightman

Support Unit for Research Evidence

Information Services, Cardiff University

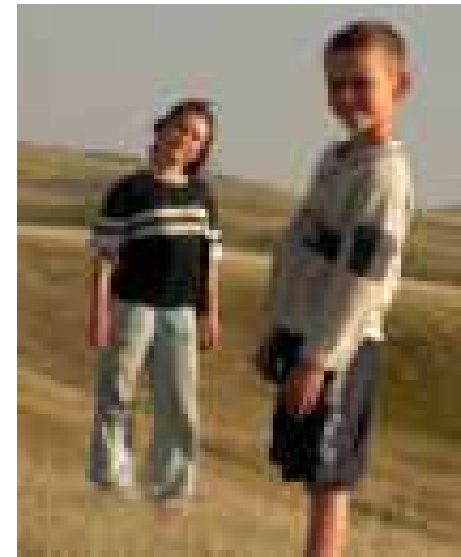


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- **Background**
- Methodology
- Evidence
- Social determinant indicators



# 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



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# 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



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# 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



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

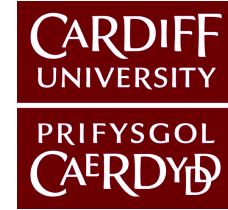


# And...

- 129 130 not (Algeria\$ or Egypt\$ or Liby\$ or Morocc\$ 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 Keny\$ or Lesotho or Liberia or Madagasca\$ or Malawi or Mali or Mauritania or Mauritius or Mayotte or Mozambiq\$ or Namibia\$ or Niger or Nigeria\$ or Reunion or Rwand\$ or Saint Helena or Senegal or Seychelles or Sierra Leone or Somalia or South Africa\$ or Sudan or Swaziland or Tanzania or Togo or Ugand\$ or Zambia\$ or Zimbabw\$ or China or Chinese or Hong Kong or Macao or Mongolia\$ or Taiwan\$ or Belarus or Moldov\$ 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 Leban\$ or Oman or Pakistan\$ or Palestin\$ 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 Lithuani\$ 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



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# 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**



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# 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

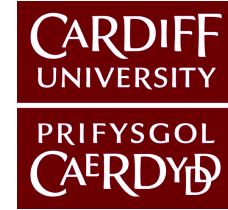
## Area Deprivation linked to:

- **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



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# 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]





# Summary

## Social determinants influencing child health:

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



# AGENDA



- Background
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- **Social determinant indicators**



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# Child Health

## Suggested Indicators

Social Determinant	Social Indicator	Data Source for indicator
Area deprivation	High social deprivation (geographic area)  Quality of life	Welsh IMD Overall Super Output Area  Indicators of Quality of Life
Social class/ Occupational characteristics	Unemployed Maternal employment Social class	Labour Force Survey,  WIMD Employment domain



# Child health indicators

<b>Social Determinant</b>	<b>Social Indicator</b>	<b>Data Source for indicator</b>
Personal/ household income	Lower than average household income	Living in Wales Survey WIMD Income domain Department of Work & Pensions: households with children below average income
	Free school meals	Welsh Assembly Government. Schools in Wales – general statistics
Over- crowding	Housing Conditions	Living in Wales Survey WIMD Housing Domain



# Further reading

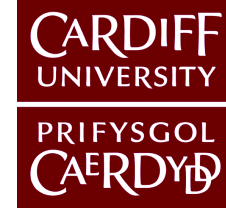
- A fair deal for all children. Policy statement by the Royal College of Paediatrics and Child Health, 2007

<http://www.rcpch.ac.uk/Publications/Publications-list-by-date>





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# Social Determinants for Child Health

Weightman AL<sup>1</sup>, Addis SG<sup>2</sup>, Morgan HE<sup>1</sup>, Turley RL<sup>1</sup>,  
Mann MK<sup>1</sup>, Morgan FM<sup>1</sup>, Shepherd MA<sup>2</sup>

<sup>1</sup>Support Unit for Research Evidence (SURE)

<sup>2</sup>Cardiff Institute of Society, Health and Ethics (CISHE)

Cardiff: Welsh Assembly Government, 2007

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



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