



Tackling Poverty and Health Inequalities – A Social Determinants Approach

**The role of Health Services and
Local Government on the island
of Ireland**

Determinants of Social Disadvantage

Professor Cecily Kelleher

Health Research Board Unit for
Health Status and Health Gain
1999-2004



Background in 1999

- Lack of information at ecological, individual or service level on health status in Republic of Ireland
- Deficiency in tracking risk factors related to morbidity and mortality over time
- Lack of clarity on why overall life expectancy is relatively poor compared to EU average and why death rates from CVD and some cancers are relatively high

Infant Mortality and its Causes

Woodbury RM, 1926



The “Epidemiological Transition”: Neo-material Disadvantage

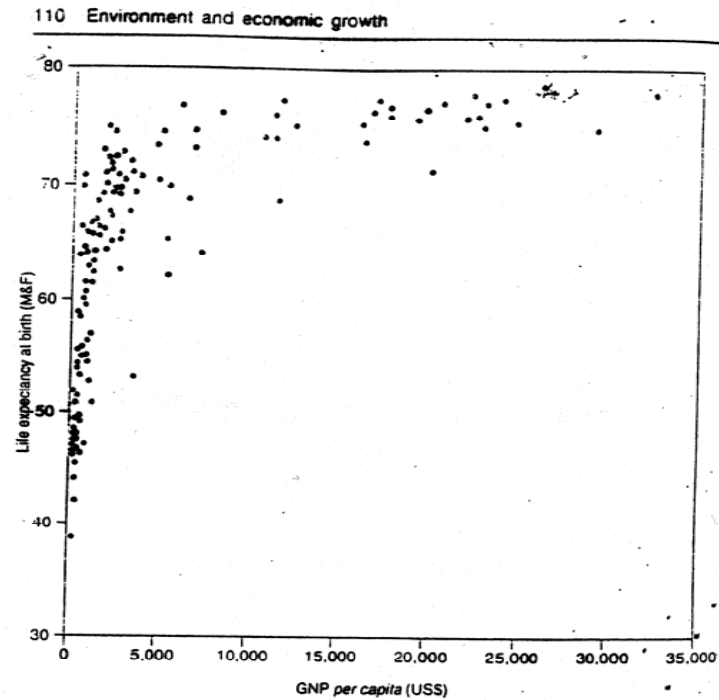


Figure 7.1 The changing relationship between GNP *per capita* and life expectancy

Social position As a Risk Factor for ill-health across the life-course



Social Epidemiology

Berkman & Kawachi (Eds) Oxford University Press

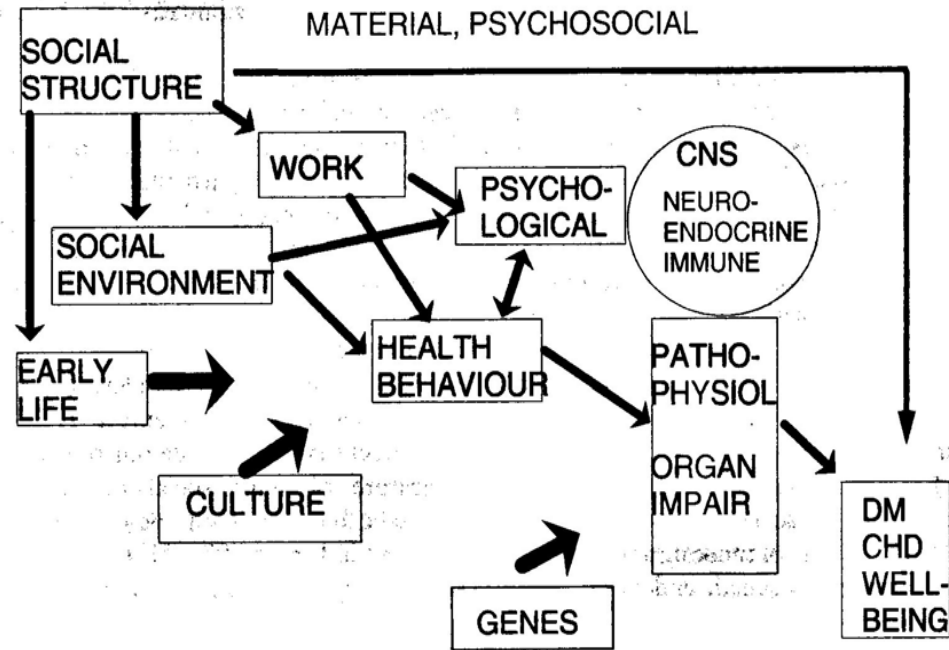


Figure 15-3. An approach to sketching in the environmental, psychosocial, and biological pathways linking socioeconomic status to diabetes mellitus (DM), coronary heart disease (CHD), and well-being.

Psychosocial influences on risk

[Lancet. 2004 Sep 11-17;364\(9438\):953-62.](#)

[Related Articles, Links](#)

Comment in:

- [Lancet. 2004 Sep 11-17;364\(9438\):912-4.](#)
- [Lancet. 2005 Jan 8-14;365\(9454\):118-9; author reply 119-20.](#)
- [Lancet. 2005 Jan 8-14;365\(9454\):118; author reply 119-20.](#)

ELSEVIER
FULL-TEXT ARTICLE

Association of psychosocial risk factors with risk of acute myocardial infarction in 11119 cases and 13648 controls from 52 countries (the INTERHEART study): case-control study.

Rosengren A, Hawken S, Ounpuu S, Sliwa K, Zubaid M, Almahmeed WA, Blackett KN, Sitthi-amorn C, Sato H, Yusuf S; INTERHEART investigators.

Sahlgrenska University Hospital/Ostra, Goteborg, Sweden.

Explanations for Health Inequalities

- Material or Psycho-social or a combination?
- Influences at macro-social (e.g. Public policy), Meso-social (e.g. work environment) or individual level?
- A life-course or longitudinal approach (e.g. critical early life experience or cumulative effects over time)
- Cultural context (differences within and between countries)

Components of Unit for Health Status and Health Gain Programme

- Socio-demographic and Lifestyle analysis of 15 cross-sectional datasets
- Qualitative Consultative Study
- Policy/Position Paper outputs
- Establishment of Life-ways Cross-Generation Cohort study of at least 1000 families
- Participation in European Science Foundation funded Social Variations in Health Expectancy in Europe Programme

Social Variations by Socio-Economic Group

The Economic and Social Review, Vol. 33, No. 2, Summer/Autumn, 2002, pp. 247-257

RICH AND POOR

Perspectives on Tackling Inequality in Ireland

Measuring Trends in Male Mortality by Socio- Economic Group in Ireland: A Note on the Quality of the Data

EAMON O'SHEA*

National University of Ireland, Galway

Edited by
Sara Cantillon, Carmel Corrigan,
Peadar Kirby and Joan O'Flynn

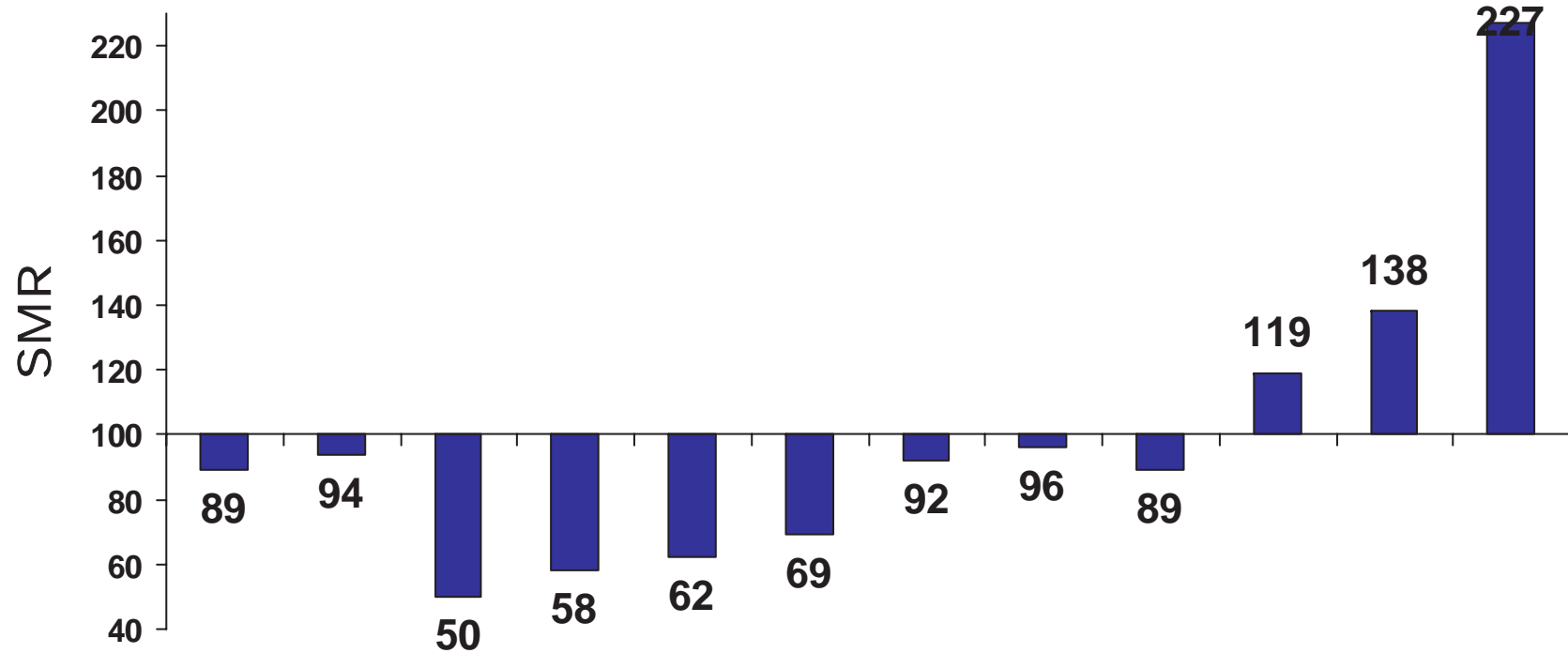


Oak Tree Press

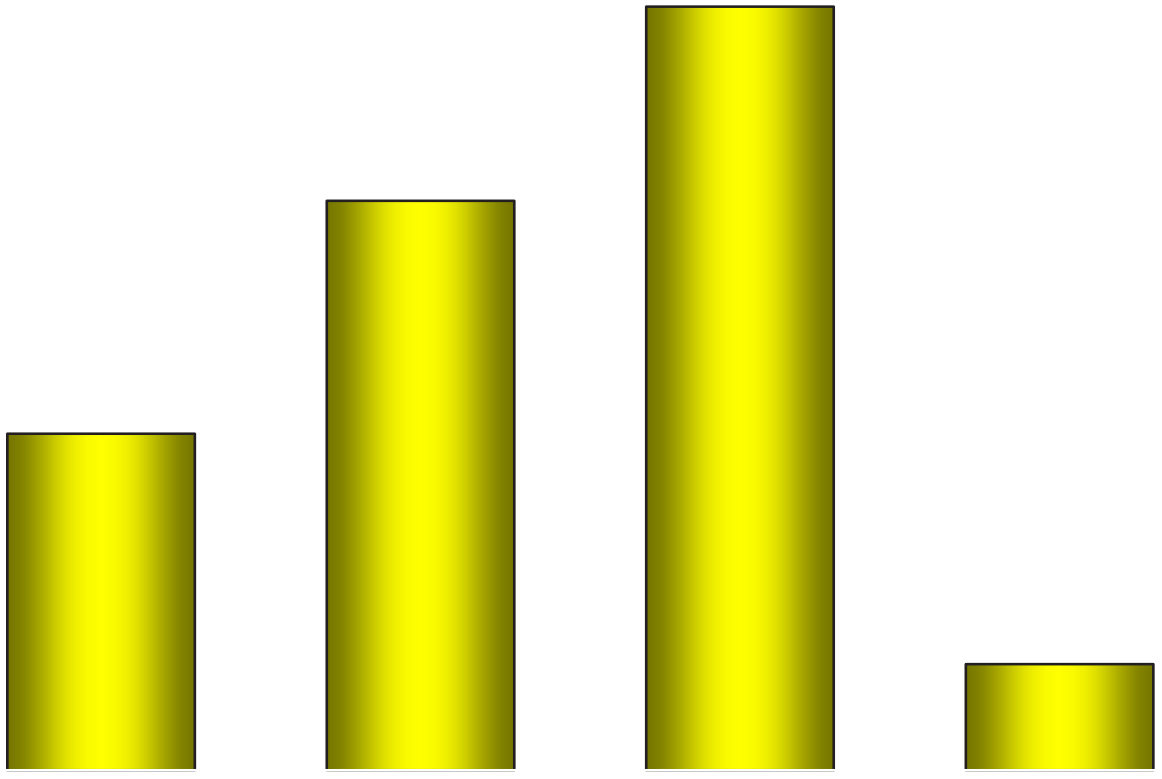
Dublin

in association with
Combat Poverty Agency

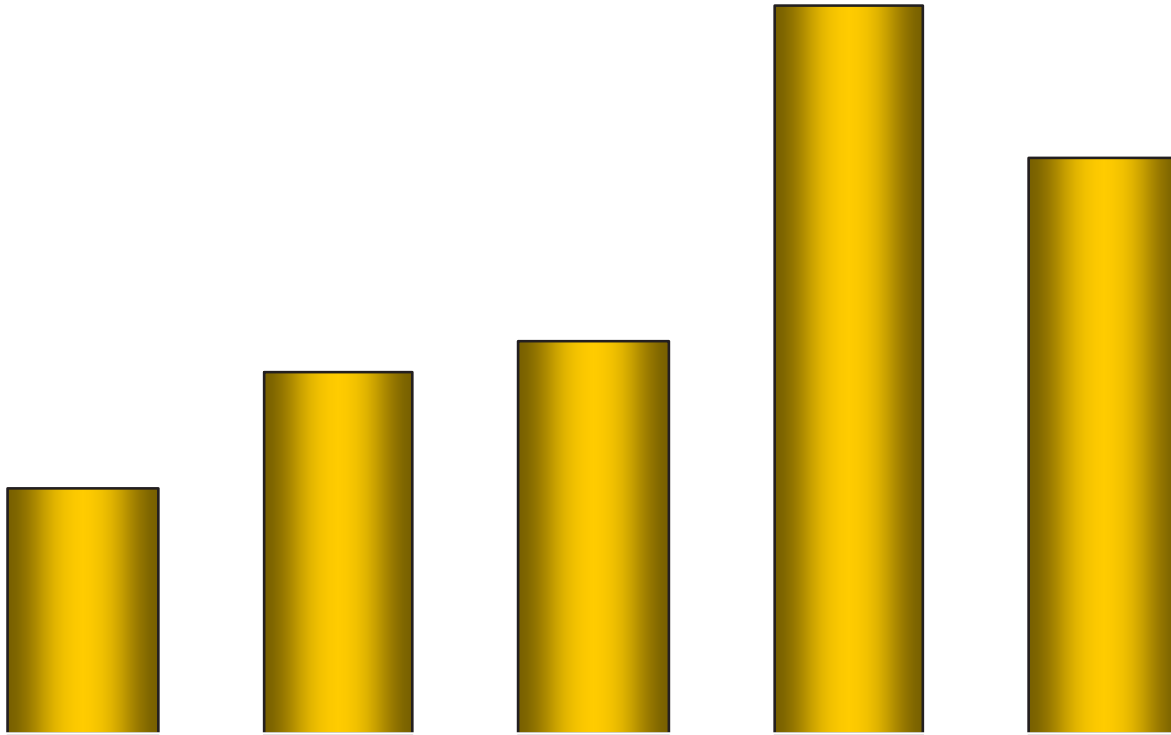
Standardised Mortality Ratios Circulatory System for Males (15- 64years) 1986-91



Socio Economic Groups (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, X, Y) O'Shea



THE INSTITUTE OF
PUBLIC HEALTH IN IRELAND



Diet, Nutrition and Health Status in Republic of Ireland

European Journal of Clinical Nutrition (2003) 57, 865–875
© 2003 Nature Publishing Group All rights reserved 0954-3007/03 \$25.00
www.nature.com/ejcn



ORIGINAL COMMUNICATION

Social diversity of Irish adults nutritional intake

S Friel^{1*}, CC Kelleher¹, G Nolan¹ and J Harrington¹

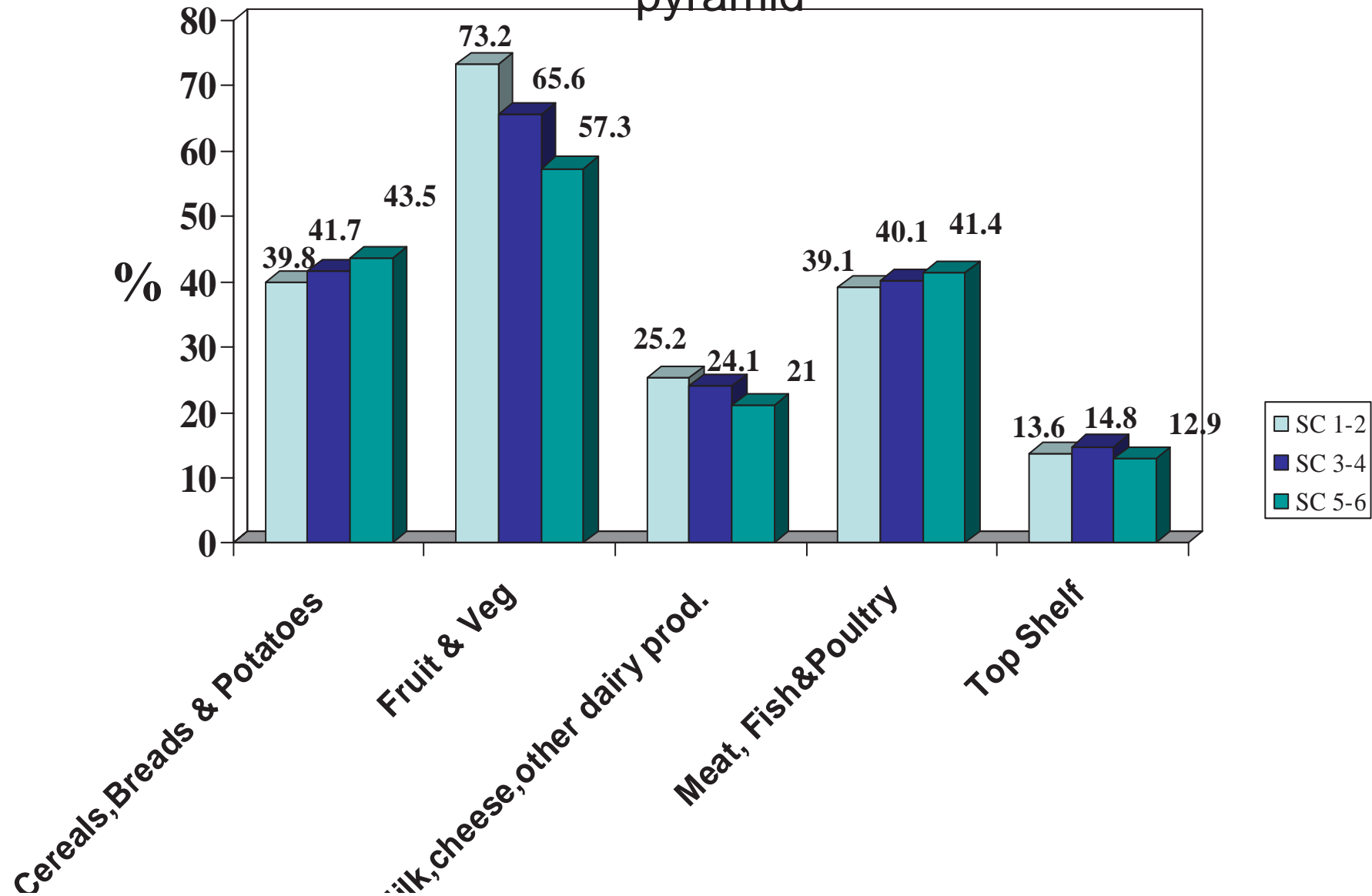
¹N Entrez PubMed

¹N

Page 1 of 2

The screenshot shows the PubMed search interface. At the top, there are logos for NCBI, PubMed, and the National Library of Medicine (NLM). Below the logos, there is a search bar with the text "for" and buttons for "Go" and "Clear". To the right of the search bar, there are links for "My NCBI" with "Sign In" and "Register" options, and "Journals" and "Books" links. Below the search bar, there are several tabs: "All Databases", "PubMed", "Nucleotide", "Protein", "Genome", "Structure", "OMIM", and "PMC". Below the tabs, there are several dropdown menus: "Limits", "Preview/Index", "History", "Clipboard", and "Details". Below the dropdown menus, there are several buttons: "Display Abstract", "Show 20", "Sort by", and "Send to". Below the buttons, there is a "Review: 0" button. Below the "Review: 0" button, there is a search result for "Public Health Nutr. 2005 Apr;8(2):159-69." with a "1" in a box. Below the search result, there is a logo for "ingenta select" and the title "Who eats four or more servings of fruit and vegetables per day? Multivariate classification tree analysis of data from the 1998 Survey of Lifestyle, Attitudes and Nutrition in the Republic of Ireland." Below the title, there is the author information "Friel S, Newell J, Kelleher C." Below the author information, there is a "Related Articles, Links" link.

Socio-demographic profile of respondents consuming the recommended number of servings from each shelf in the food pyramid



Predictors of Obesity (SLÁN, 2002)

More Likely	Odds Ratio	Less Likely
Education None/Primary	2.503	
Education Second	1.629	
Sitting	1.008	
Not physically active job	1.537	
Mild Exercise	1.039	
Fried Food	1.433	
Do not meet CBP recommendations	1.293	
Do not meet F& V recommendations	1.493	
	0.525	Light Housework
	0.843	Physical Act.Strenuous
	0.928	Physical ActModerate
	0.694	Meeting Dairy recomms

Shopping for fruit...



- 150g Blueberries (Australia) 4.90
- 5 Bananas (St Lucia) 1.99
- 400g Strawberries (Dublin) 4.49
- 400g Grapes (Greece) 3.40
- 170g Raspberries (USA) 3.99
- 4 Kiwis (NZ) 1.85
- 3 L Orange juice 11.40
- 240g Pineapple 2.99
- Total = 36.61 Euros

Area Based Variations in Health Status



PERGAMON

Social Science & Medicine 57 (2003) 477–486

SOCIAL
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www.elsevier.com/locate/socscimed

Socio-demographic predictors of self-rated health in the Republic of Ireland: findings from the National Survey on Lifestyle, Attitudes and Nutrition, SLAN

C.C. Kelleher*, S. Friel, S. Nic Gabhainn, Joseph B. Tay

Health Research Board Unit on Health Status and Health Gain, Department of Health Promotion, Clinical Sciences Institute, National University of Ireland, Costello Road, Shantalla, Galway City, Ireland

RESEARCH REPORT

Influence of sociodemographic and neighbourhood factors on self rated health and quality of life in rural communities: findings from the Agriproject in the Republic of Ireland

Joseph B Tay, Cecily C Kelleher, Ann Hope, Margaret Barry, Saoirse Nic Gabhainn, Jane Sixsmith

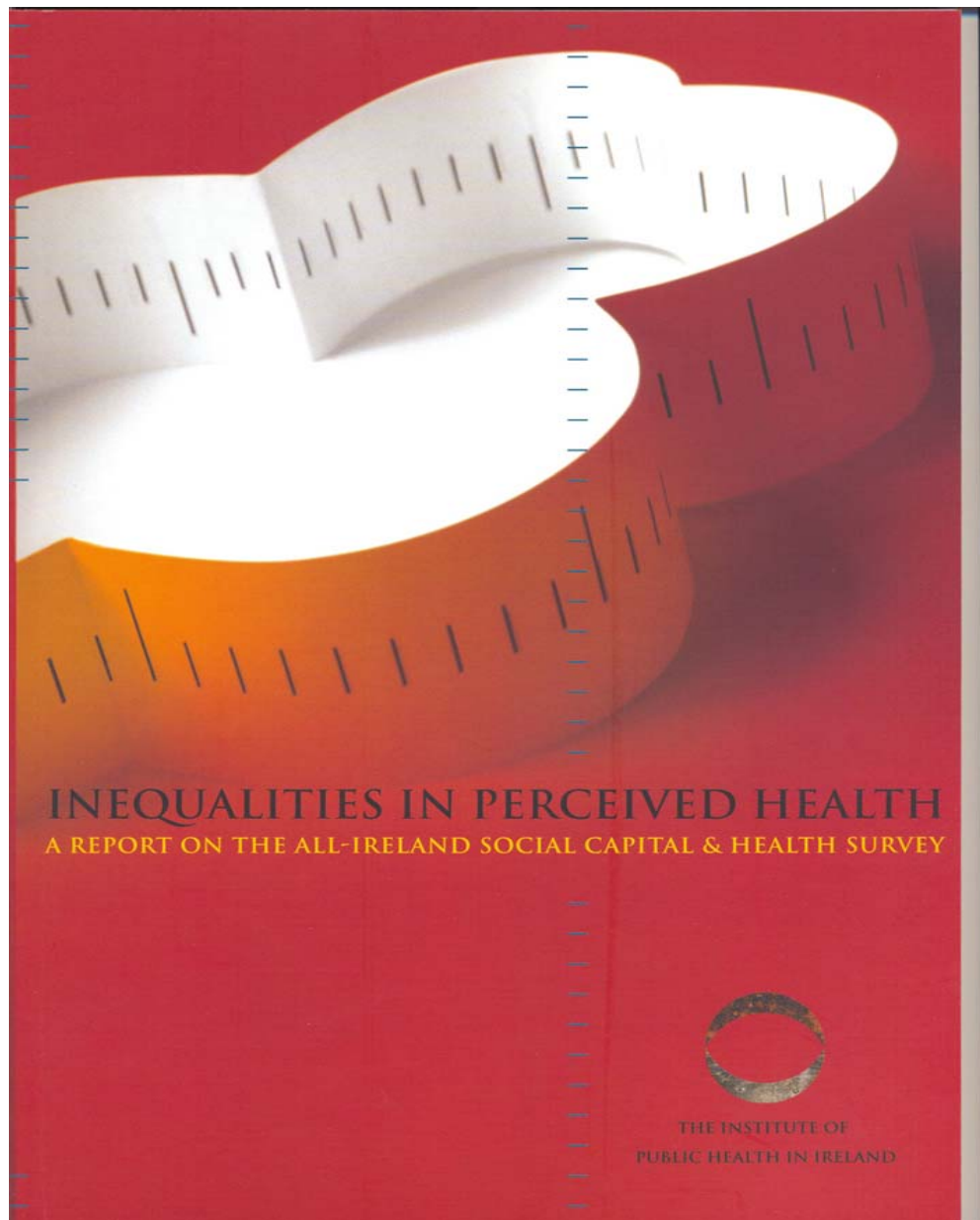
J Epidemiol Community Health 2004;58:904–911. doi: 10.1136/jech.2002.006643

Socio-demographic Predictors of Poor Self-Rated Health in SLAN (Soc Sci Med 2003; 57: 477-486)

- Women
 - GMS Eligibility (OR 2.64)
 - Lower Level Education (OR 2.25)
- Men
 - Lower Level Education (OR 2.36)
 - GMS eligibility (OR 3.33)
 - Smoking Status (OR 2.11)

Background: Concepts of Social Capital

- Support
- Civic engagement
- Networks
- Trust and reciprocity
- People living within an area may share “contextual” characteristics associated with such accumulated Social Capital that contribute independently to health outcome over and above their characteristics as individuals



INEQUALITIES IN PERCEIVED HEALTH
A REPORT ON THE ALL-IRELAND SOCIAL CAPITAL & HEALTH SURVEY



THE INSTITUTE OF
PUBLIC HEALTH IN IRELAND

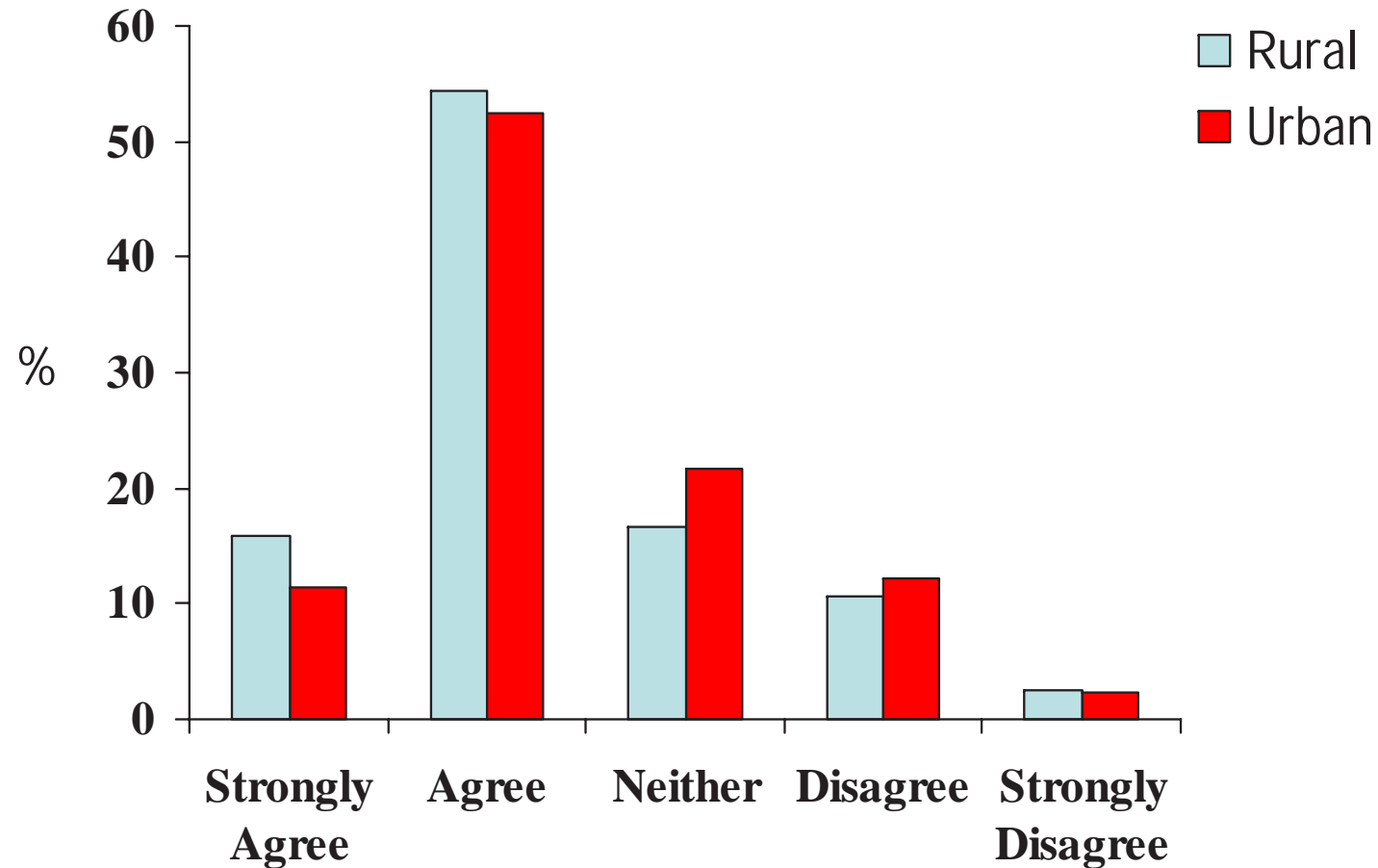


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Summary of social capital indicators related to trust and neighbourhood

	SA (%)	A (%)	Neither (%)	D (%)	SD (%)
Generally speaking, most people can be trusted	14	53.2	18.8	11.5	2.5
People around here willing to help neighbours	24.6	55.6	14.0	4.8	1.0
People in this neighbourhood do not share the same values	6.4	25.5	36.7	27.4	4.0
People in this area can be trusted	17.7	53.4	22.0	5.6	1.3
A close knit neighbourhood/area	15.5	38.4	29.2	14.3	2.6
In this neighbourhood people feel safe from personal attacks	20.9	49.5	17.1	10.1	2.3

“Generally Speaking Most People Can Be Trusted” according to Urban or Rural District Electoral Division



($\chi^2(4, n = 5471) = 40.52, p=0.000$)

SLAN Survey 2002: Independent Predictors that “People in the Area can be trusted”

Reduced agreement:

- Age: 18-35 years (OR 0.23)
- Age: 35-54 years (OR 0.38)
- Housing Tenure: Rental (OR 0.30)

Increased agreement:

- Marital status: Married (OR 2.28)
- Location: Rural DED (OR 1.46)

Multi-level Analysis: Outcome Measure

“Thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past 30 days was your mental health not good?”

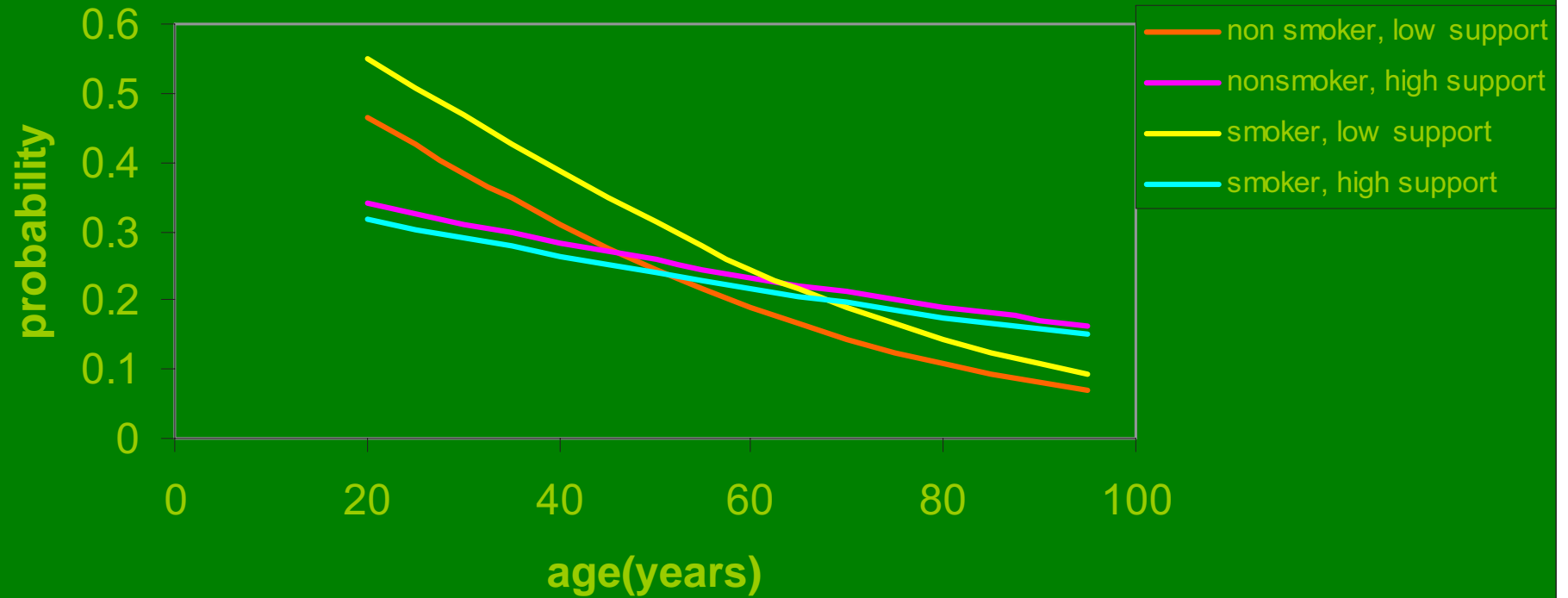
Converted to binomial outcome:

no days (0) versus any days (1)

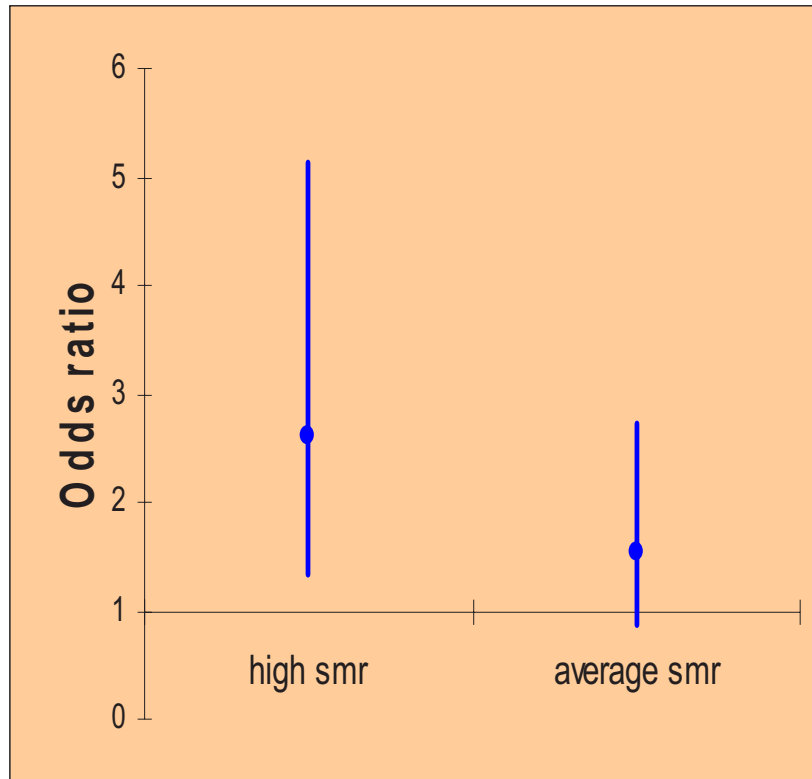
Results:

- Overall 25.0% of respondents to SLAN reported problems with mental health in the previous month
33% of these were male, average age was 41.6 years (SD 15.4 years)
47% lived in rural areas as defined by their DED location
- People in rural areas less likely to report mental illness ($\chi^2=55.6$
 $p<0.0001$)
- People in rural areas more likely to report high levels of trust ($\chi^2=230.2$
 $p<0.0001$), which independently reduced the risk of reporting poor mental health ($\chi^2= 148.3$, $p<0.0001$).
- Baseline DED-level variance was significant (estimate 0.123 SE 0.034
 $p=0.001$)
- Including explanatory variables at individual and DED levels the DED-level variance remained significant (estimate 0.131, SE 0.050 $p<0.01$)

Predicted probabilities of reporting poor mental health



Predictors of poor self-rated health at area level in the Eastern Regional Health Authority: a Multilevel analysis of 101 DEDs Fitzsimon et al, 2005



variable	level	OR	95% CI
male		2.07	(1.44, 2.97)
age	10 year	1.27	(1.11, 1.46)
smoker		2.53	(1.70, 3.77)
local problems	many	2.93	(1.64, 5.23)
	some	1.58	(1.06, 2.36)
	none (ref)	1	
gms		2.82	(1.75, 4.56)
employed		0.49	(0.31, 0.79)
SMR	high	1.61	(0.87, 2.99)
	average	1.30	(0.78, 2.17)
	low (ref)	1	
DED var		0.072	0.096

The Irish Paradox?

- High rates of chronic disease and ill-health
- Traditionally considerable disadvantage
- High levels of “Social Capital”
- Positive Self-rated Health

Kelleher CC, Lynch J, Harper S, Tay JB, Nolan G. Hurling alone? How social capital failed to save the Irish from cardiovascular disease in the United States. *Am J Public Health*. 2004 Dec;94(12):2162-9. PMID: 15569969 [PubMed - indexed for MEDLINE]

Tay JB, Kelleher CC, Hope A, Barry M, Gabhainn SN, Sixsmith J. Influence of sociodemographic and neighbourhood factors on self rated health and quality of life in rural communities: findings from the Agriproject in the Republic of Ireland. *J Epidemiol Community Health*. 2004 Nov;58(11):904-11. PMID: 15483305 [PubMed - indexed for MEDLINE]

Kelleher CC. Mental health and "the Troubles" in Northern Ireland: implications of civil unrest for health and wellbeing. *J Epidemiol Community Health*. 2003 Jul;57(7):474-5. No abstract available. PMID: 12821682 [PubMed - indexed for MEDLINE] 4:

Kelleher CC, Friel S, Nic Gabhainn S, Tay JB. Socio-demographic predictors of self-rated health in the Republic of Ireland: findings from the National Survey on Lifestyle, Attitudes and Nutrition, SLAN. *Soc Sci Med*. 2003 Aug;57(3):477-86. PMID: 12791490 [PubMed - indexed for MEDLINE]

Social Capital and Health Status within and Between Countries

RESEARCH AND PRACTICE

Hurling Alone? How Social Capital Failed to Save the Irish From Cardiovascular Disease in the United States

C. Cecily Kelleher, MD, MPH, John Lynch, PhD, MEd, MPH, Sam Harper, MPH, Joseph B. Tay, MB, BCh, BAO, and Geraldine Nolan, MSc, Dip
Dietetics



PERGAMON

Social Science & Medicine 56 (2003) 2367–2377

SOCIAL
SCIENCE
&
MEDICINE

www.elsevier.com/locate/socscimed

Social capital, life expectancy and mortality:
a cross-national examination

Brendan Kennelly*, Eamon O'Shea, Eoghan Garvey

Department of Economics, The National University of Ireland, Galway, Ireland

Lifeways Cross-Generation Cohort Study

<http://www.ucd.ie/phps/research/lifeways.htm>

To record physical and psychological health status and socio-economic circumstances in individuals at birth, during childhood, early adulthood and middle age in Ireland

To follow such individuals prospectively in order to measure their changing health status, initially over a five year period and assess the extent to which that relates to their social circumstances

Aims and Objectives of Lifeways

- Determine health status, diet and lifestyle
- To establish patterns and links across generations
- To document primary care utilisation patterns across the social spectrum and across generations
- To examine how indicators of social position, particularly means-tested GMS eligibility influences health status during first 5 years of life

Lifeways Study Design

- **Sample:**
 - 1124 mothers-to-be recruited during their first ante-natal visit
 - Two hospitals, University College Hospital Galway (West) and the Coombe Hospital in Dublin (East)
 - Recruited between October 2001 and January 2003
 - 1055 babies later born
 - 355 fathers and 1231 grandparents also participating

Lifeways: Data Collected to Date

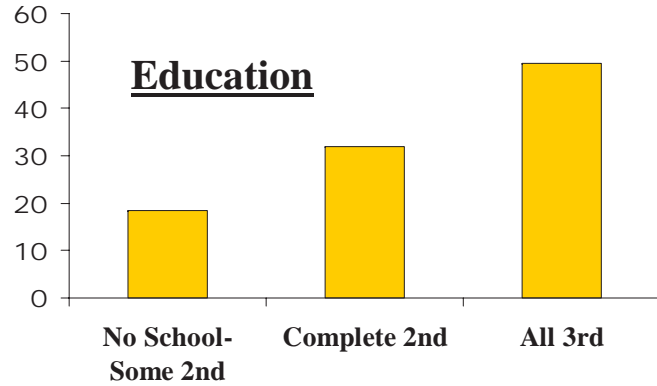
- Instruments:
 - Health, lifestyle and nutrition questionnaire all adults 2001 and 2006 (self-completed)
 - Electronic mother and child antenatal/birth hospital record (Euroking)
 - HSE Immunisation record of all infants and children
 - Parent held child study record on baby's health events during the 5 first years (self-completed in sub-sample)
 - General Practice follow-up data from 772 GPs in 580 general practices ongoing 2005

Lifeways' mothers

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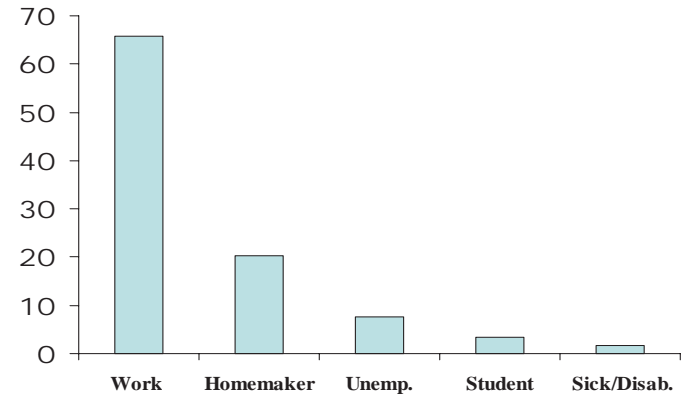
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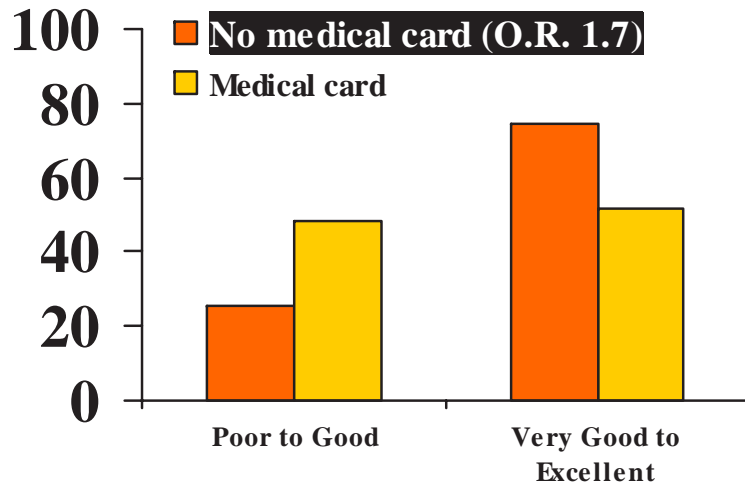


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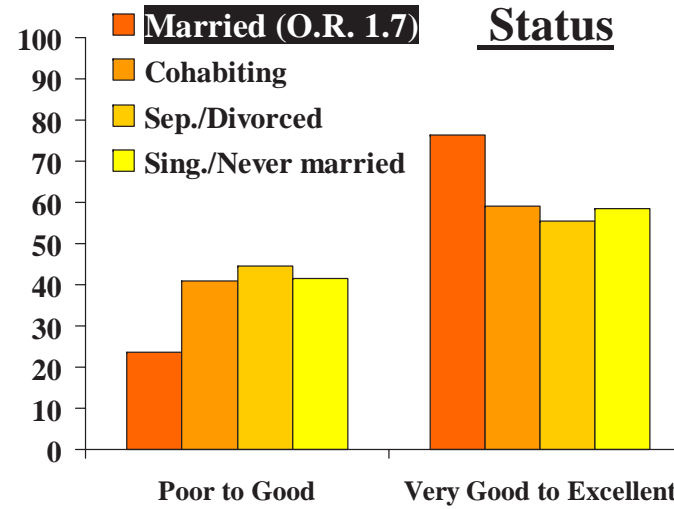
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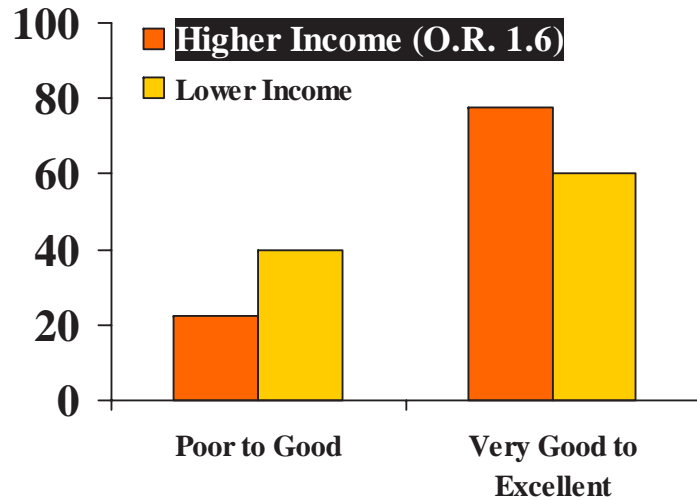
SRH and GMS Status



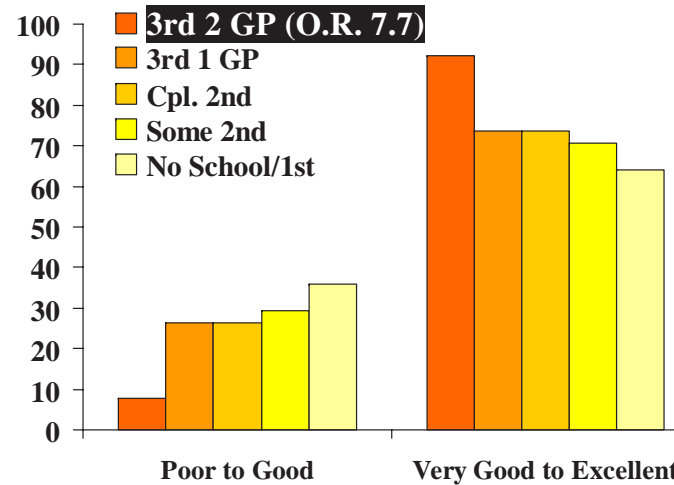
SRH and Marital Status



SRH and Household Income



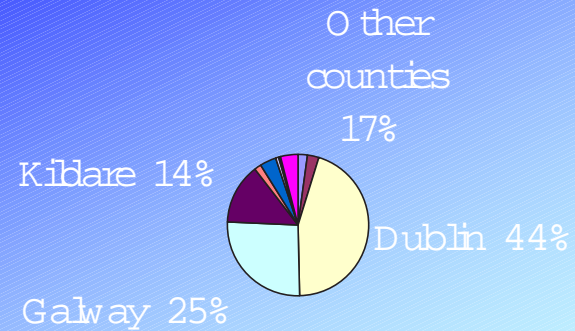
SRH and Grandmother Education



Lifeways Babies at a glance



County of Residence at Birth



49.7% = male

50.3% = female

12 sets of twins

All turn 4 at next birthday

The Cardiovascular Risk Factor Profile of Grandparents and its Contribution to Infant Birth-weight in the Life-ways Cross-generation Cohort Study

Kelleher CC et al., Prevention and Control 2005; 1(1): 54.



- **Birth weight :**
 - Range: 840 – 5360 grams
 - Mean: 3491 grams (S.D. 584.4)
- **What predicts baby birth weight ?**
 - Mother:
 - Age, smoking status, education, GMS, marital status, BMI
 - Maternal Grandmother:
 - BMI, Maternal Grand-Parent Education

Predictors of SRH in Lifeways' grandparents:

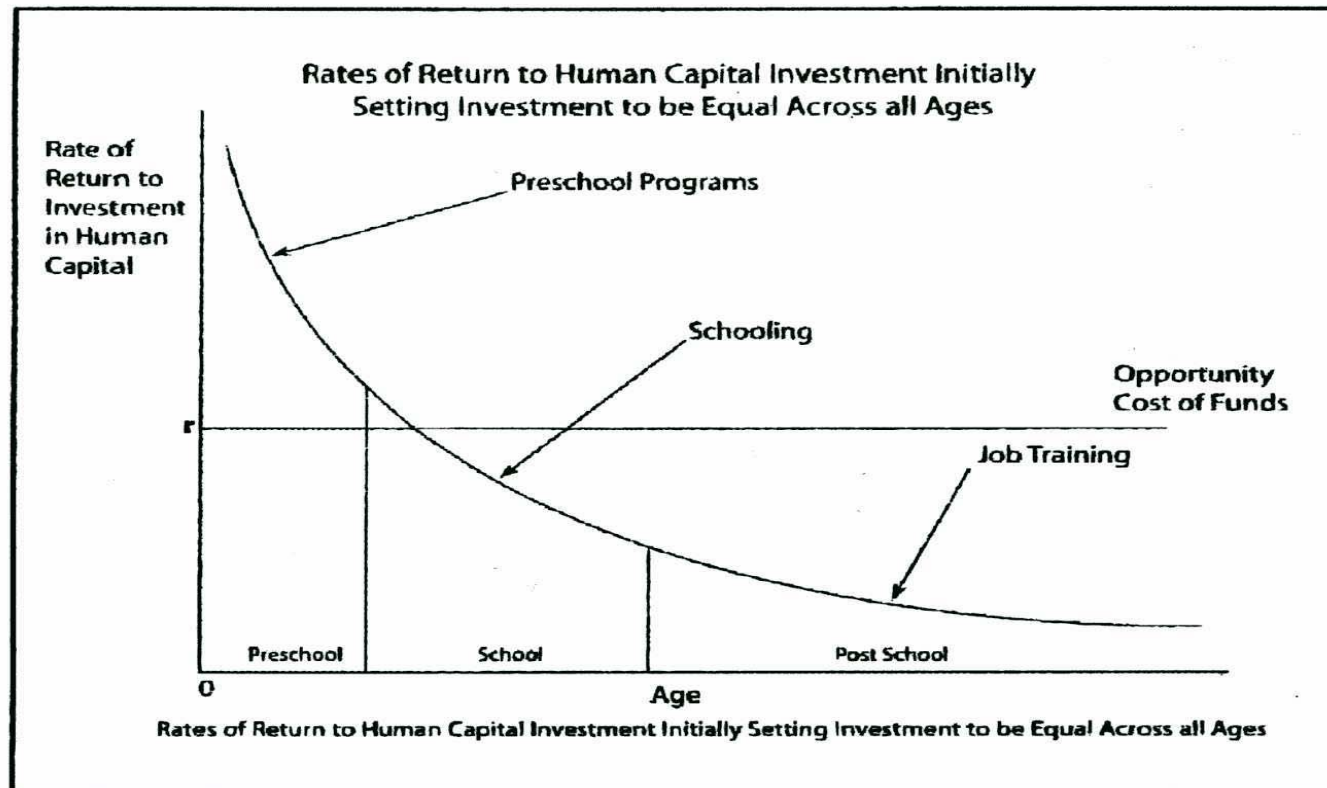
- Factors tested:
 - Region, Age and gender
 - Working, GMS and marital status
 - Education and smoking status

Likelihood of very good/excellent health

Non-smoker **1.50** **0.06**

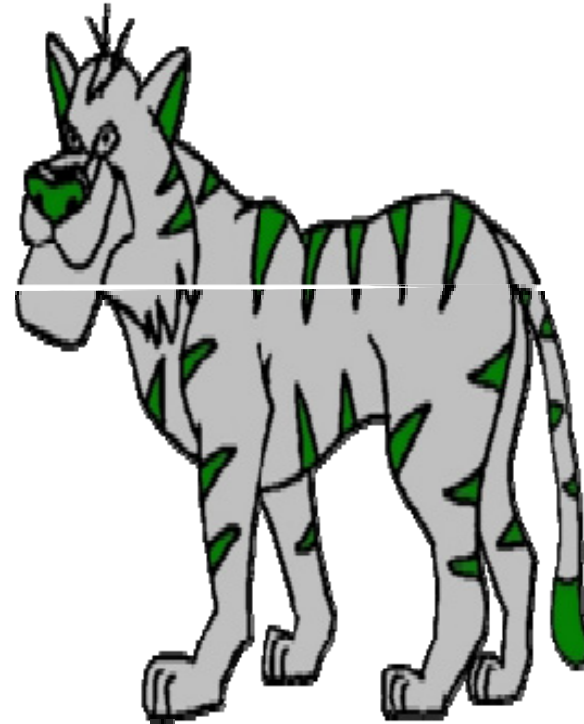
No medical card **1.99** **<0.001**

Heckman (2006): Ulysses Medal Lecture UCD



Summary

- Patterns of health inequality on both sides of border
- There are urban/rural differences that may reflect changing modern Ireland
- Traditional patterns of trust, networks and supports are declining, especially among the young and in cities
- Life-course and family influences on health and



Acknowledgements

- Core Investigator Group: Prof Cecily Kelleher UCD, Prof Andrew Murphy, Prof Margaret Barry, Prof Eamon O'Shea, Dr Michelle Millar NUI Galway
- Co-investigators: Dr Saoirse Nic Gabhainn, Dr Sharon Friel, Dr Diarmuid O'Donovan NUI Galway
- Lifeways Group: Dr Sean Daly (Coombe Maternity hospital, Professor Gerard Bury UCD, Prof John Morrison and Prof Gerard Loftus NUI Galway
- HSE in Eastern and Mid-Western regions
- Analyses for Crisis Pregnancy Agency, Women's Health Council, National Council Ageing and Older People, National Disability Authority on SLAN datasets

Funding Sources

- The Unit for Health Status and Health Gain work programme was supported by Health Research Board
- The Health Promotion Unit (HPU) of Department of Health and Children is commissioner of Survey of Lifestyles, attitudes and Nutrition (SLAN) and also funded additional cardiovascular risk assessments of Life-ways grandparent cohort