



Health inequalities, deprivation & access to primary healthcare within the Mid-West - Preliminary Findings

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Outline of Talk

- Introduction
 - Study Aims
- Research Design/methodology
 - Deprivation/poverty indicators used
- Census analyses
- Analyses of survey data
- Estimation of percentage deprived (Weighted census-based deprivation indices)
- Conclusions

Introduction

- Health status and utilisation of health services depends on many factors
 - E.g. income, deprivation status, ethnic origin, geographic location
- Health and Place
 - Link between some health/deprivation status/income factors etc often more evident at larger spatial levels of aggregation
 - Some interactions better looked at within smaller areas e.g. health inequalities and ageing study, Humphreys et al. 2008.

Study Aims

- To investigate the levels of poverty and deprivation within the HSE MidWestern area i.e. Clare, Limerick, Tipperary North.
- To establish the extent and reasons behind any health inequalities – in particular access to primary care services
- To estimate numbers of deprived within the area and the spatial distribution of the most deprived areas.

Research Design and Methodology

- Multivariate analyses of census data from both 2002 and 2006
- Questionnaire on health status, GP access, problems experienced e.g. in their neighbourhoods and general demographics

Deprivation Indices used - (Dep(IRE)) (Survey data)

- A deprivation index based on a list of 8 items
 - having no substantial meal for at least one day in the past two weeks
 - having to go without heating at any time in the past year
 - getting into debt to pay ordinary living expenses
 - not having two pairs of strong shoes
 - not having a warm, waterproof coat
 - being unable to afford new (not second-hand) clothes
 - being unable to afford to have meat, chicken or fish every second day
 - being unable to afford a roast dinner once a week
- Being without at least one of these items means the person is experiencing relative deprivation

Breadline Britain deprivation indicator - (Dep (BB))

- For comparison purposes the Breadline Britain deprivation indicator was also used
 - This is based on 40 items and any person who ticked at least 3 of these that they would like but could not afford was defined as 'deprived'
- A comparison is made between these two indicators

Poverty Measurement

Various poverty measurements used

1. Relative Income Poverty
 - Combined income-deprivation measure of poverty
 - Income below relative poverty line plus classified as deprived
2. Consistent poverty
 - As 2 deprivation indicators used in this study also 2 consistent poverty measures defined depending on which deprivation indicator used
 - These are compared in the study
 - Latest figures 7% Rep, 10.4% Midwest

Absolute Index Scores (AIS) and Relative Index Scores (RIS) (Area data)

- Deprivation indices proposed by Haase et al (2008) were used when comparing areas
 - Underlying dimensions of social disadvantage used:
 - Demographic profile (5 indicators)
 - Social class composition (5 indicators)
 - Labour market situation (4 indicators)
 - AIS have a mean of zero and a SD of 10 in 1991
 - RIS have a mean of zero and SD of 10 for each census wave
- (enables easier relative comparison between areas as 'national' trends are removed)

AIS and RIS

- In fact over census waves the distributions of the AIS scores have shifted towards more affluent scores and the distributions have narrowed (result of unprecedented growth within Ireland over the years 1996-2002)
- Haase et al. (2008) remarked however **'It is disturbing, however, to observe that some of the most disadvantaged urban areas, particularly in Limerick, Cork and Waterford, have failed to participate in the generalised improvement in living standards, and have, as a consequence, fallen even further behind the more affluent areas of Ireland'**.

Table 1: Absolute and Relative Index Scores *

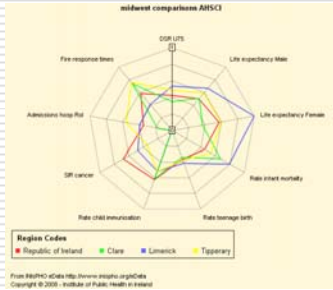
Local Authority Area	Absolute Index Score 1991	Absolute Index Score 1996	Absolute Index Score 2002	Absolute Index Score 2006	Relative Index Score 1991	Relative Index Score 1996	Relative Index Score 2002	Relative Index Score 2006
Clare	5.2	6.6	12.0	11.9	5.2	4.4	4.8	4.2
Limerick City	-2.4	.5	5.0	3.2	-2.4	-1.9	-4.0	-7.9
County Limerick	5.9	8.9	13.2	12.4	5.9	6.8	6.2	4.9
Tipperary NR	2.9	5.1	10.4	10.5	2.9	2.9	2.8	2.3
Region								
Mid West	3.5	6.0	10.8	10.4	3.5	3.7	3.3	2.1
Ireland	2.3	5.2	10.8	10.4	2.3	3.0	3.3	2.1

Haase et al. 2008

INISPHO Indicators: Irish Health Poverty Index (IHPI)



INI/PHO Indicators: Health and Social Care indicator (AHSCI)

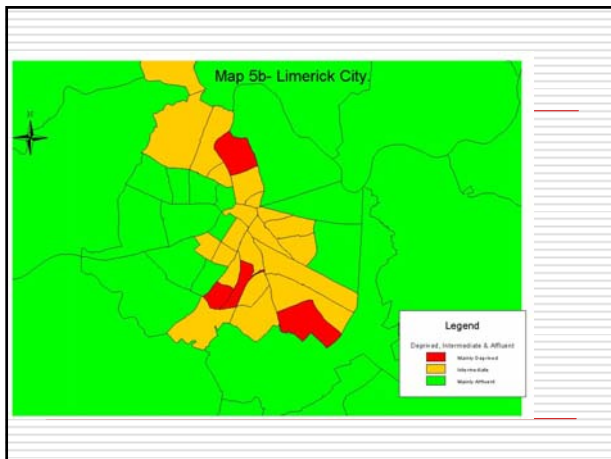
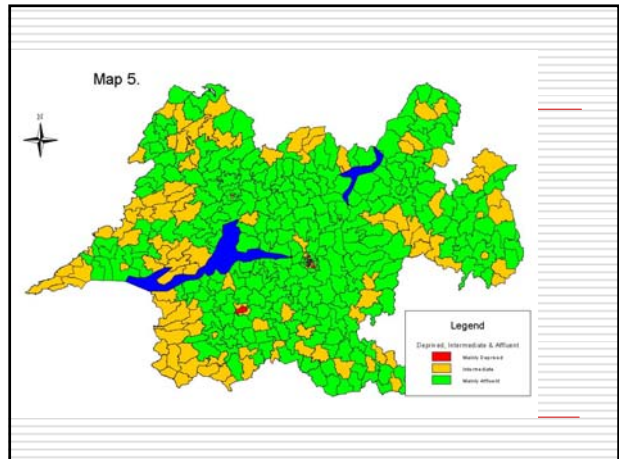


Census Analyses

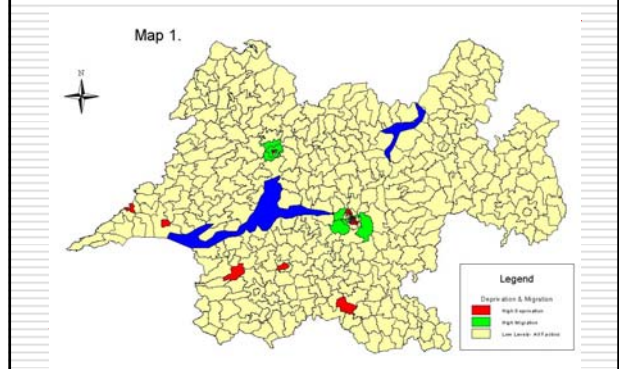
- ❑ AIS and RIS used to classify EDs within Midwest area
- ❑ Factor and cluster analyses carried out on census data 'deprivation' variables to determine main cluster groups within Midwest
- ❑ Comparison made between EDs classified as most deprived by AIS/RIS scores and the factor/cluster analyses

AIS/RIS most deprived EDs (2006)

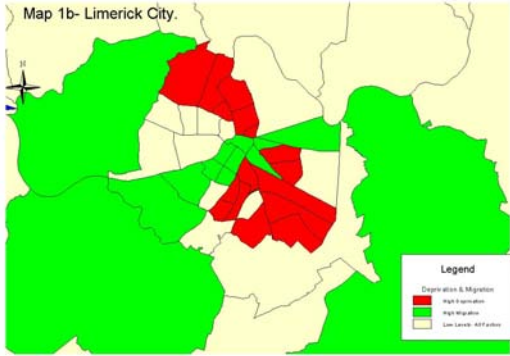
Area	ED
Limerick City	Galvone B
	Ballynarity
	Glentworth C
	Johns A
	Killeely A
	Prospect A
	Prospect B
Co Limerick	Rathbane
	Rathkeale Urban



Factor & Cluster Analyses Results (2002)



Factor & Cluster Analyses Results (2002)

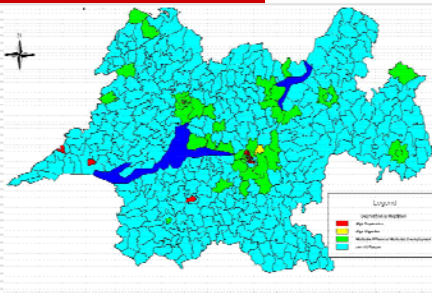


Factor & Cluster Analyses Results (2002)

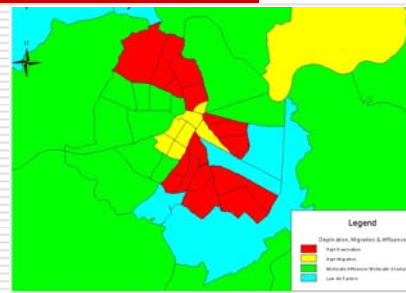
Table giving EDs listed as deprived from the 2002 census data analyses

2002 3 clusters restricted variables Deprived cluster (23 EDs)	2002 5 clusters restricted variables Deprived cluster (19EDs)	2002 4 clusters restricted variables Deprived cluster (20EDs)
ENNIS NO. 1 URBAN	ENNIS NO. 2 URBAN	ENNIS NO. 1 URBAN
ENNIS NO. 2 URBAN	KILCUSH URBAN	KILCUSH URBAN
KILCUSH URBAN	KILKEE	KILCUSH URBAN
KILKEE	ABBEE Y D	ABBEE Y D
ABBEE Y D	BALLYNANTY	BALLYNANTY
BALLYNANTY	GALVONE A	GALVONE A
GALVONE A	GALVONE B	BALLYNANTY
GALVONE B	GLENTWORTH A	GALVONE A
GLENTWORTH A	GLENTWORTH B	GALVONE B
GLENTWORTH B	JOHNS A	GLENTWORTH A
JOHNS A	JOHNS B	GLENTWORTH B
JOHNS B	KILLEELY A	JOHNS A
JOHNS C	KILLEELY B	JOHNS B
KILLEELY A	PROSPECT A	JOHNS C
KILLEELY B	PROSPECT B	KILLEELY A
PROSPECT A	BATHBANE	KILLEELY B
PROSPECT B	SINGLAND A	PROSPECT A
BATHBANE	RATHKEALE URBAN	PROSPECT B
SINGLAND A	ST. LAURENCE	RATHKEALE URBAN
RATHKEALE URBAN	BRURIE	ST. LAURENCE
ST. LAURENCE	JOHN LOUGHLIN	BRURIE
BRURIE	RATHKEALE URBAN	JOHN LOUGHLIN
JOHN LOUGHLIN	LATTERGH	RATHKEALE URBAN
RATHKEALE URBAN		LATTERGH

Factor and Cluster Analyses (2006)



Factor and Cluster Analyses (2006)

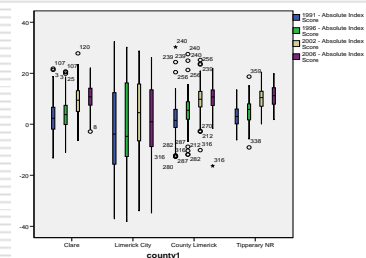


Factor and Cluster Analyses Results (2006)

Table giving EDs listed as deprived from the 2006 census data analyses

ENNIS NO. 2 URBAN
KILCUSH URBAN
KILKEE
ABBEE Y D
BALLYNANTY
GALVONE A
GALVONE B
GLENTWORTH A
GLENTWORTH B
JOHNS A
JOHNS B
KILLEELY A
KILLEELY B
PROSPECT A
PROSPECT B
BATHBANE
SINGLAND A
RATHKEALE URBAN

AIS scores 91-06



Analyses of Survey data

- Final Response Rate 40.4% (904/2236)
- Respondents under-represented in younger age-groups but HoH's were asked to answer the questionnaire for whole family/household
- 808 (91.2%) were Irish
- 534 (60.1%) were married or living as a couple
- 692 (78.3%) were owner-occupiers

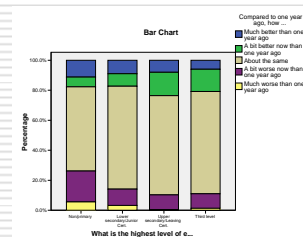
Health & Lifestyle

- Almost 50% reported their health as very good/excellent
- Only 13.3% reported their health as worse than a year ago
- 24.2% reported a long-term illness or disability
- Mean SF36 pcs = 53, median 55.4
- Mean SF36 mcs = 47.6, median 49.6
- 233 (26.8%) smoked daily/occasionally
- 486 (55.8%) drank at least once or twice a week

Health Analyses

- Associations between general health and:
 - Age – older people tended to be in poorer health
 - Marital status – divorced/separated or widowed more likely to be in poor health
 - Education level – higher levels better health
 - Housing tenure – owner-occupiers better health
 - Area – health better in those living in villages/countryside and worse in the city/towns

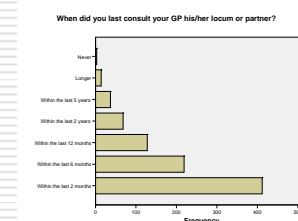
e.g. Education level vs health compared to a year ago



GP Access

- Most had been with their doctor 10 years or more – 421 (50.3%)
- Most chose their doctor because they were recommended by friends, relatives or neighbours (nearest is next popular choice)
- Most said their doctor was a man but - although the majority said they didn't mind - of those who expressed a preference most preferred a woman
- Most usually see the doctor they think of as their own – 648 (74.7%)
- Most had consulted their doctor within the last two months – 412 (46.8%)

GP access



Reason for GP visit

For what condition or reason did you last consult your GP?			
		Frequency	Valid Percent
Valid	Illness	335	38.1
	Repeat prescription	213	24.9
	Cervical smear	44	5.1
	Blood test	111	13.0
	Other	145	16.9
	Repeat prescription/blood test	2	.2
	Cervical smear/blood test	3	.4
	Repeat prescription/cervical smear	2	.2
	Repeat prescription/cervical smear/blood test	1	.1
	Total	856	100.0
Missing	System	48	
Total		904	

How often? And how?

How often have you seen the doctor(s) in the past year?			
		Frequency	Valid Percent
Valid	Never	108	12.5
	Once	160	18.6
	Twice	198	22.8
	3 - 5 times	242	28.1
	More than 5 times	155	18.0
	Total	861	100.0
Missing	System	43	
Total		904	

How do you normally get to the doctors surgery?			
		Frequency	Valid Percent
Valid	Doctor always calls	4	.5
	Walk all the way	191	22.0
	Go by public transport	40	4.6
	Go by car - someone else drives	74	8.5
	Go by car - drive myself	554	63.8
	Other	5	.6
	Total	868	100.0
Missing	System	36	
Total		904	

GP access

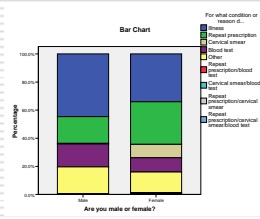
- ❑ 818 (92.7%) found it easy/very easy to get to the surgery
- ❑ 764 (86.7%) said the surgery times were convenient/fairly convenient
- ❑ 664 (80.4%) said they would see a doctor the same day for an **urgent** problem
- ❑ 429 (64.5%) said they would see a doctor either that day or the following day with a **non-urgent** problem

GP access

- ❑ 233 (38.2%) saw their doctor after waiting for 20 mins or less
- ❑ 441 (62.1%) waited 30 mins or less
- ❑ 352 (40.6%) said the waiting time was too long
- ❑ 215 (49.7%) would contact an out-of-hours service and not their own doctor when outside surgery hours
- ❑ 777 (88.6%) were satisfied with their access to GP
- ❑ 796 (90.9%) felt they spent enough time with GP at consultation
- ❑ 799 (91.3%) were satisfied with the care they got from GP – only 17 (1.9%) were dissatisfied

GP access associations

- ❑ More women, older people, less educated and widowed/divorced had seen the GP more recently
- ❑ Males more likely to have gone for a blood test or an illness while females more likely to have gone for a repeat prescription or cervical smear



GP access associations

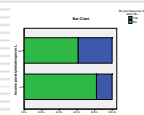
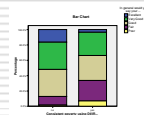
- ❑ Women were more likely to have travelled to see GP by public transport and men in cars
- ❑ Men and the elderly were more satisfied with their access to their GP
- ❑ Elderly and married more happy with time spent with GP
- ❑ Those in poor health more likely to have visited an A&E Dept

Deprivation/poverty status

- Dep (BB) – 147 (16.3%)
- Dep (IRE) – 230 (26.8%)
- 122 (14.2%) classified as deprived by both
- 130 (15.2%) only classified by one
- 607 (70.7%) not classified as deprived by either
- Using either/or criterion 29.3% deprived
- 194 (23.4%) classified as living in relative poverty (18.5% in Rep of Ireland)
- Consistent poverty (using dep (BB)) – 70 (8.4%)
- Consistent poverty (using dep (IRE)) – 86 (10.1%) (10.4% estimate for midwest, 7% Rep)
- 61 (7.4%) in consistent poverty by both definitions
- 33 (4.0%) in consistent poverty by one definition
- 727 (88.6%) not in consistent poverty (either definition)
- Using either/or criterion 11.4% in consistent poverty

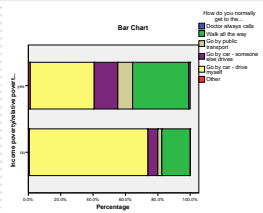
Deprivation/poverty associations

- Self-assessed health – stronger associations for indicators based wholly or partially on income
- Smoking – associated with both deprivation and poverty indicators
- Median SF36 pcs and mcs scores were significantly lower for those in deprived/consistent poverty groups



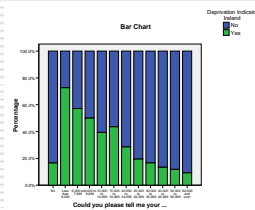
Deprivation/poverty associations

- Attend GP more often – also those with medical card
- More likely to attend nearest GP
- Travel by public transport or walk
- Attend A & E Depts more often



Deprivation/poverty associations

- Women more likely than men to be deprived
- Younger more likely to be deprived
- Older and younger more likely to be income poor
- Other ethnic origins more likely than Irish
- Lower education levels more likely
- Rented housing more likely than owner-occupied
- City/town more likely than village/countryside
- Deprivation - Negative association with income



Self-assessed health model

- Main significant predictors of fair or poor health were age, dep (BB), income poverty and smoking

	Odds Ratio	95.0% C.I. for OR (lower)	95.0% C.I. for OR (upper)	Sig.
Age 16-24	1.00			0.00
Age(1) 25-44	0.68	0.11	3.14	0.05
Age(2) 45-64	1.15	0.23	5.80	0.887
Age(3) 65-74	2.26	0.70	11.90	0.15
Age(4) 75+	3.17	0.80	18.73	0.117
Dep (BB)	2.28	1.26	4.08	0.01
Dep (IRE)	2.28	1.40	3.75	0.00
Smoking				0.01
Smoking(1) Smoke daily	2.43	1.32	4.47	0.00
Smoking(2) Smoke occasionally	1.44	0.78	2.64	0.01
Smoking(3) Used to smoke daily	2.51	1.40	4.47	0.00
Smoking(4) Used to smoke occasionally	1.28	0.61	2.68	0.01
Never smoke	1.00			0.00

Limiting long-term illness model

- Income poverty and deprivation are significant predictors of lti even after adjustment for age

	Odds Ratio	95.0% C.I. for OR (lower)	95.0% C.I. for OR (upper)	Sig.
lti				
Age 16-24	1.00			0.00
Age(1) 25-44	2.04	0.25	16.70	0.51
Age(2) 45-64	4.70	0.59	37.73	0.15
Age(3) 65-74	15.75	1.97	126.11	0.01
Age(4) 75+	19.99	2.43	164.62	0.01
deprind(1)	1.97	1.25	3.08	0.00
poverty(1)	2.07	1.34	3.22	0.00

Satisfaction with access to GP

- Age and deprivation status – older more satisfied, deprived less

satisfaction access	Odds Ratio	95.0% C.I. for OR (lower)	95.0% C.I. for OR (upper)	Sig.
Age 16-24	1.00			
Age(1) 25-44	0.71	0.15	3.30	0.67
Age(2) 45-64	0.84	0.18	3.92	0.83
Age(3) 65-74	1.51	0.30	7.46	0.61
Age(4) 75+	3.19	0.48	21.11	0.23
Dep (RE)(1)	0.52	0.33	0.84	0.01

Satisfaction with GP care/time spent

satisfaction care	Odds Ratio	95.0% C.I. for OR (lower)	95.0% C.I. for OR (upper)	Sig.
consistent poverty indicator	0.30	0.17	0.56	0.00

satisfaction time spent	Odds Ratio	95.0% C.I. for OR (lower)	95.0% C.I. for OR (upper)	Sig.
Age 16-24	1.00			0.03
Age(1) 25-44	4.28	1.33	13.76	0.01
Age(2) 45-64	3.88	1.22	12.33	0.02
Age(3) 65-74	4.44	1.32	14.93	0.02
Age(4) 75+	32.59	3.43	309.38	0.00
Dep (BB)	0.36	0.22	0.59	0.00

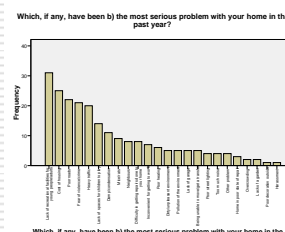
Deprivation indicators models

Dep(BB) model includes drinking

depr(RE)	Odds Ratio	95.0% C.I. for OR (lower)	95.0% C.I. for OR (upper)	Sig.
Smoking				0.00
Smoking(1) Smoke daily	2.41	1.56	3.72	0.00
Smoking(2) Smoke occasionally	0.82	0.31	2.16	0.69
Smoking(3) Used to smoke daily	0.82	0.37	1.69	0.73
Smoking(4) Used to smoke occasionally	1.35	0.75	2.44	0.31
Never smoke	1.00			0.00
Housing tenure - owner occupier				0.00
Private renting furnished	5.18	3.16	8.45	0.00
Private renting unfurnished	4.12	1.53	11.12	0.01
Renting LA	12.33	6.43	23.64	0.00
Buying LA	3.77	0.89	16.95	0.07
Buying rent-free	3.04	0.45	18.94	0.23
Other	2.08	0.36	11.98	0.41

Serious problems

Note 'fear of crime/violence' in 4th place behind lack of recreational facilities, cost of housing and poor roads



Weighted census-based deprivation Estimation of percentage deprived

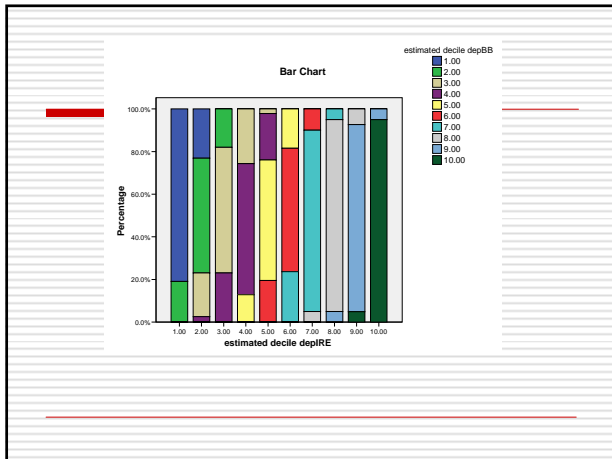
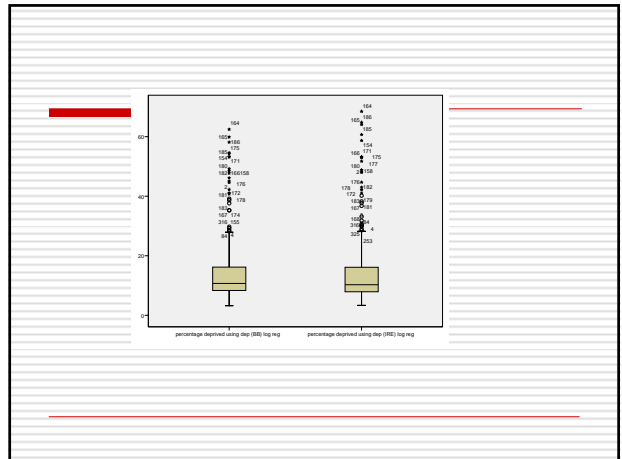
- Using a set of indicators that are reasonably uncorrelated a model was formed to predict deprivation.
- The coefficients of this model were then used to provide weightings giving the individual importance of these predictors
- These weightings were used with census data to estimate number of deprived and percentage deprived in each ED
- Two different sets of estimates were produced using the two different deprivation indicators

Variables used in model

- Unemployment
- Social class IV or V
- Not owner occupier
- Lone parent
- Long term illness
- No car
- However only first 4 were significant predictors in model
- Very similar results for both deprivation indicators (particularly most deprived EDs)

Relative Weights

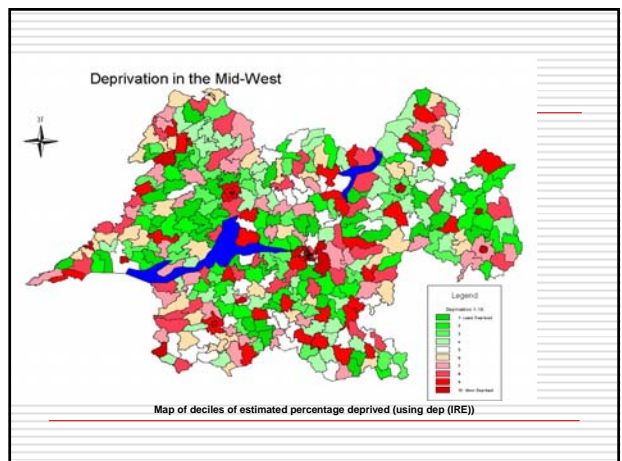
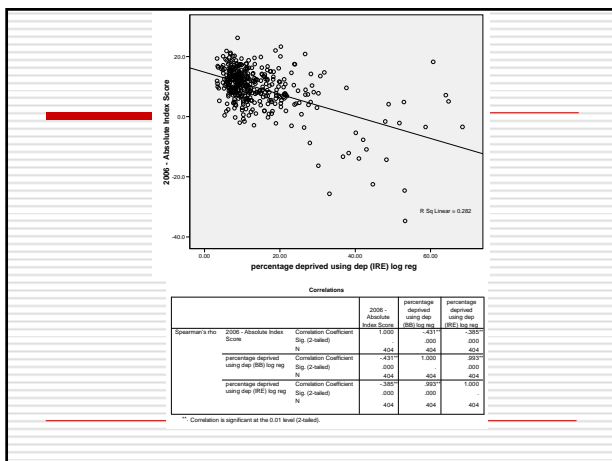
Variable	Dep (BB)	Dep (IRE)
unemployment	0.172	0.138
Social class IV/V	0.182	0.137
Not owner-occupier	0.415	0.521
Lone parent	0.231	0.204

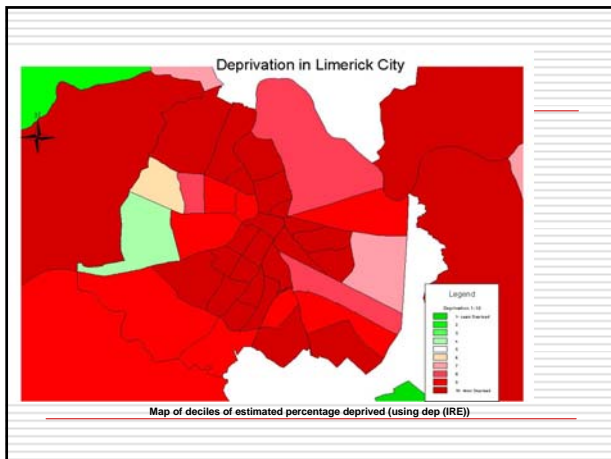


Most deprived EDs (using dep(IRE))

County		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clare	5	20.0	20.0	20.0
	County Limerick	5	12.5	12.5	32.5
	Limerick City	23	57.5	57.5	90.0
	Tipperary NR	4	10.0	10.0	100.0
	Total	40	100.0	100.0	

Case Summaries		
ed name	County	ed name
1	Limerick City	CUSTOM HOUSE
2	Limerick City	SHANNON B
3	Limerick City	DOCK A
4	Limerick City	SHANNON A
5	Limerick City	ABBEY C
6	Limerick City	JOHN'S A
7	Limerick City	GALVONE B
8	Limerick City	DOCK B
9	Limerick City	MARKET
10	Limerick City	JOHN'S C
11	Limerick City	BALLYNANTY
12	Clare	ENNIS NO. 2 URBAN
13	Limerick City	PROSPECT B
14	Limerick City	JOHN'S B
15	Limerick City	GLENTWORTH A
16	Limerick City	KILLEEV A
17	Limerick City	KILLEEV B
18	Limerick City	PROSPECT A
19	Limerick City	DOCK C
20	Limerick City	RATHMAHE
21	Limerick City	GLENTWORTH C
22	Clare	ENNIS NO. 3 URBAN
23	Limerick City	DOCK D
24	Clare	ENNIS NO. 4 URBAN
25	County Limerick	RATHWALE URBAN
26	Clare	KILKEE
27	Tipperary NR	NENAGH EAST URBAN
28	County Limerick	LIMERICK NORTH RURAL
29	Clare	CAPPAVILLA
30	County Limerick	NEEDACHTLE URBAN
31	Limerick City	ABBEY D
32	Clare	ENNIS NO. 1 URBAN
33	Tipperary NR	THURLES URBAN
34	Tipperary NR	NENAGH WEST URBAN
35	Tipperary NR	TEMPLEMORE
36	County Limerick	BALLYSMON
37	Limerick City	SINGLAND A
38	Clare	KILRUSH URBAN
39	County Limerick	ABBEYFEALE
40	County Limerick	ENNISTIMON





Conclusions

- The analyses of the questionnaire data appear to confirm findings found elsewhere but it appears that most people are satisfied with their access to GPs
- The income poor/deprived/medical card holders tend to go to their GPs more often.
- Those who are in consistent poverty/deprivation tend to be in poorer health.
- The elderly were more likely to visit their GP as were those with a long-term illness.
- Women were far more likely to attend their GP (all findings as in Layte et al. (2007))

Conclusions (cont)

- The reasons for visiting a GP were associated with gender, marital status, housing tenure
- Males were more satisfied with their access to a GP than females.
- The deprived or income poor are more likely to be dissatisfied with the service they are getting.
- The elderly were more likely to say they were happy with the amount of time they had at a GP consultation
- Irish and British were happy with the time spent at a consultation but the 'other' group tended to say that they were not.
- All of the GP access variables were therefore related to socio-economic status as expected.

Conclusions (cont)

- The deprivation variables and estimated deprivation tend to suggest that Limerick City in particular but also the whole Midwest has fared badly in comparison with the rest of the country and although most areas within the Republic became progressively more affluent (in comparison with earlier years estimates) Limerick City itself has actually become much worse in terms of deprivation
- The areas that were deprived in the past by and large still are and a few areas have now been added to the list.
- Areas found to be deprived within Limerick City and the Midwest were virtually the same using the various different indices and factor and cluster analyses.
- However using weighted census-based deprivation indices appeared to indicate even higher levels of deprivation
- It would appear that the Midwest area has not improved dramatically over the years 91 – 06 (if at all) and in fact relatively Limerick City appears to have become worse in terms of deprivation.

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