Scottish Lung Cancer Forum
Co-morbidity study

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REASONS FOR VARIATION IN TREATMENT AND SURVIVAL

PATIENT RELATED

P.S

Comorbidity

Deprivation

TUMOUR RELATED

Stage

Aggressiveness of tumour

SERVICE RELATED

Aggressiveness of MDT

Access to investigations / treatment

Variable data collection

Method

4 Centres: Aberdeen, Fife, Stobhill (Glasgow), Inverclyde

Data collected prospectively
  Patient details (gender, age, postcode)
  Performance status: at presentation, 6 months prior
  Laboratory parameters (creatinine, CRP, FEV1 …)
  Co-morbidity (validated severity scores 0-3 for 12 co-morbidities; SCI)
  MDT (discussed Y/N, those present)
  By stage and tumour type, ideal primary treatment and actual treatment.
  For 'no histological diagnosis', reason why and treatment plan

Entered into Access database

Survival currently being collected

Scoring of co-morbidity
(Scottish Comorbidity Index)

COPD   (BTS/GOLD guidelines)
0   No disease
1   FEV1 > 60%
2   FEV1 40-60%
3   FEV1 < 40%

IHD (Canadian CV Society Classification)
0   No disease
1   Angina with strenuous/prolonged exertion
2   Angina after walking 200 hundred yards
       flat/flight stairs
3   Inability to carry on any level of
       exertion/angina at rest

CCF (NYHA classification)
0   No disease
1   Slight limitation of physical activity due to
       dyspnoea
2   Comfortable at rest, less than ordinary
       activity causes dyspnoea
3   Dyspnoea at rest

CVA (NIH Stroke Scale)

Dementia (Clinical Dementia Rating)

Diabetes (No disease, HbA1c)

Renal Failure (GFR)

Previous malignancy

Weight Loss (0, <5%, 5-10%, >10%)

Peripheral Vascular Disease (claudication)

Alcohol (units/wk)

Results

4 Centres: Aberdeen, Fife, Stobhill (Glasgow), Inverclyde

Patient details collected

Aberdeen	October 2005 – February 2007
Fife	June 2006 – April 2008
Stobhill, Glasgow	December 2005 – April 2008
Inverclyde	October 2005 – December 2007

Total number of patients 882

Aberdeen	297 (34%)
Fife	136 (15%)
Stobhill, Glasgow	285 (32%)
Inverclyde	164 (19%)

SLC Forum Comorbidity Study – Demographics

	All centres n=882	Aberdeen n=297	Fife n=136	Stobhill, Glasgow n=297	Inverclyde n=164	P (between centres)
Age mean (95% CI)	70.4 (69.7-71.0)	68.7 (67.5-69.8)	71.0 (69.1-72.9)	70.5 (69.4-71.6)	72.6 (71.0-74.2)	0.001
% male	55.2%	60.3%	58.1%	49.1%	54.3%	0.049
Socio-economic status % in most deprived quintile of SIMD	30.3%	5.4%	0	63.9%	42.1%	<0.001
Socio-economic status % in most affluent quintile of SIMD	7.0%	18.9%	0	0	3.7%	<0.001
% performance 0/1 6 months prior to presentation	79.1%	81.1%	81.5%	76.4%	78.3%	0.470
% performance 0/1 at presentation	46.8%	58.2%	52.9%	42.8%	28.0%	<0.001
% performance fell from 0/1 to 2/3/4 in 6 months prior to presentation	40.9%	28.2%	35.5%	43.8%	65.1%	<0.001
Serum albumin Mean (95% CI) g/l	36.6 (36.1-37.0)	40.0 (39.4-40.6)	36.0 (35.1-36.9)	33.1 (32.4-33.8)	36.5 (35.6-37.4)	<0.001
% Non-small cell stage I or II	20.5% (109/531)	27.2% (47/173)	22.2% (18/81)	17.6% (27/153)	13.7% (17/124)	0.028

Between centre differences in patients
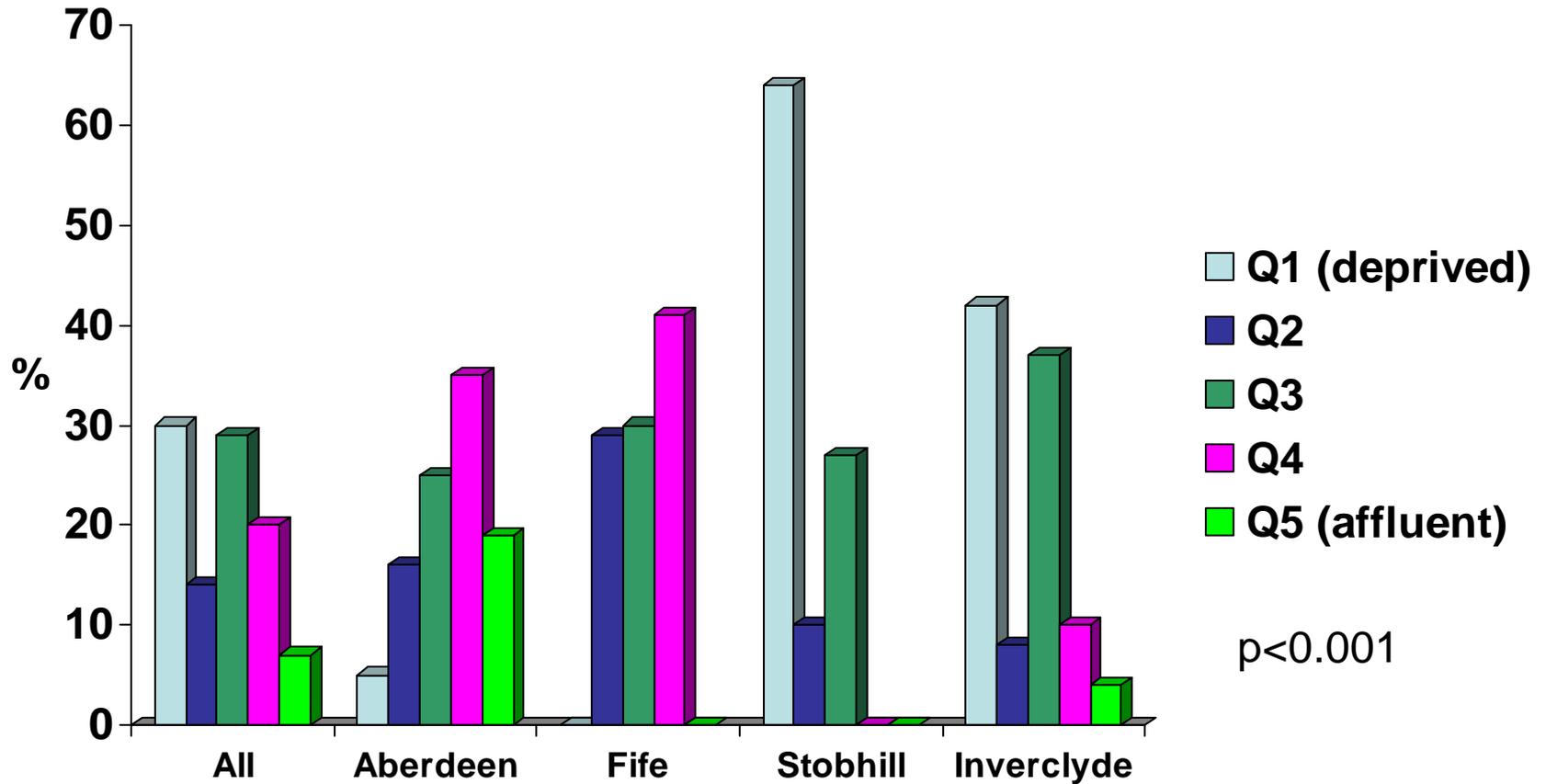
Gender profile
55% men

Aberdeen	60% men
Fife	58%
Stobhill	49%
Inverclyde	54% p=0.049

Age profile
Mean age 70.4 yrs (youngest 31 oldest 94)

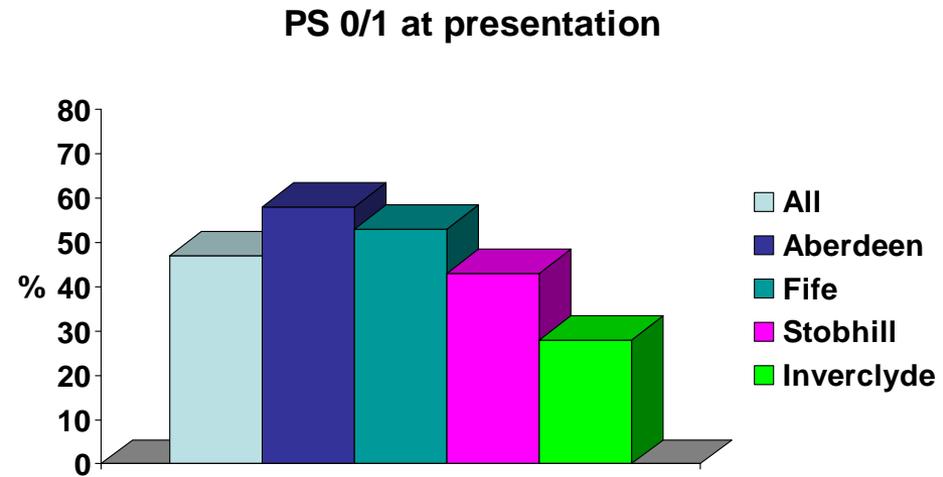|	
Aberdeen	68.7
Fife	71.0
Stobhill	70.5
Inverclyde	72.6 p=0.001

Between centre differences in patients
Quintiles of social deprivation

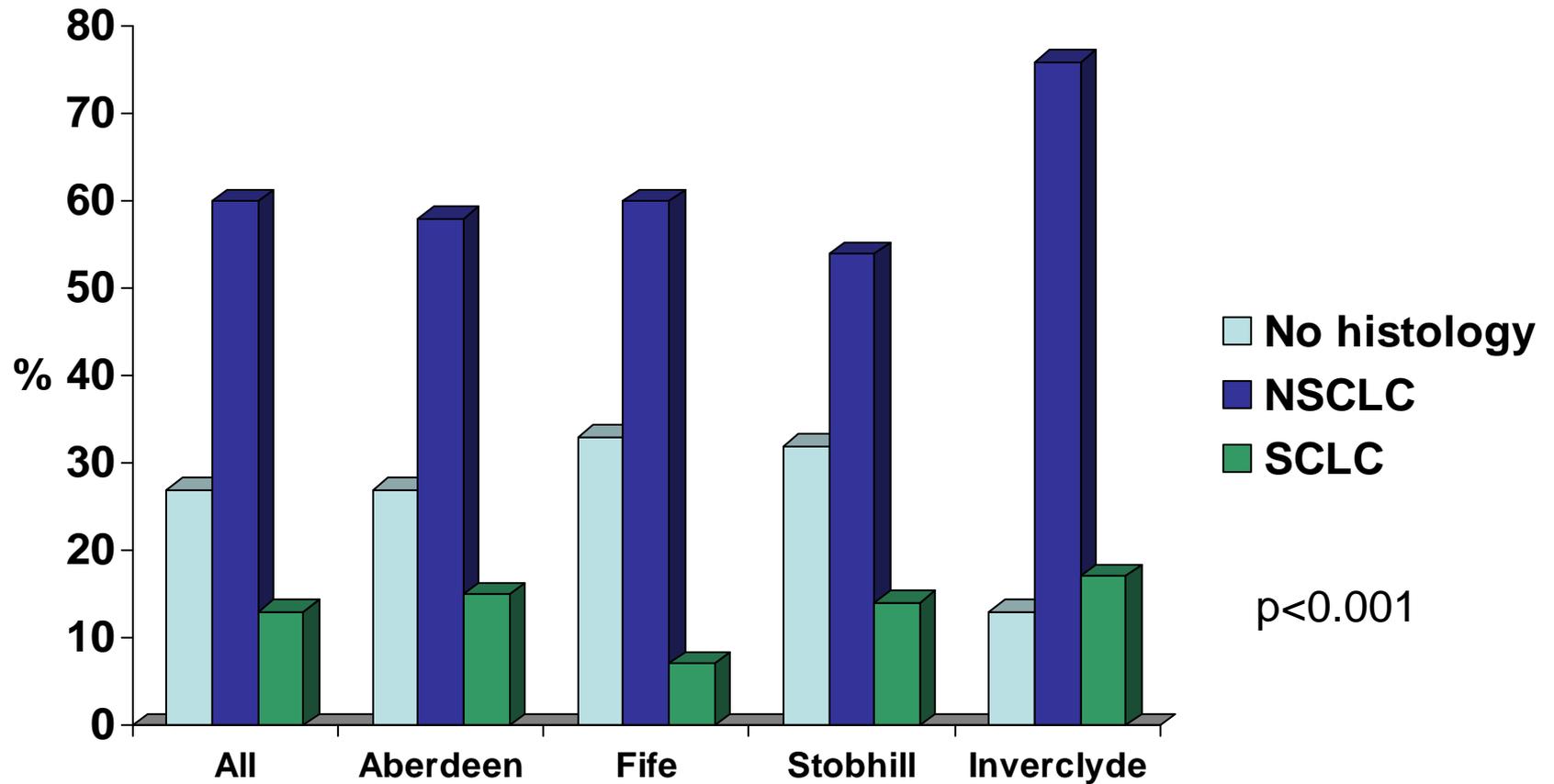p<0.001

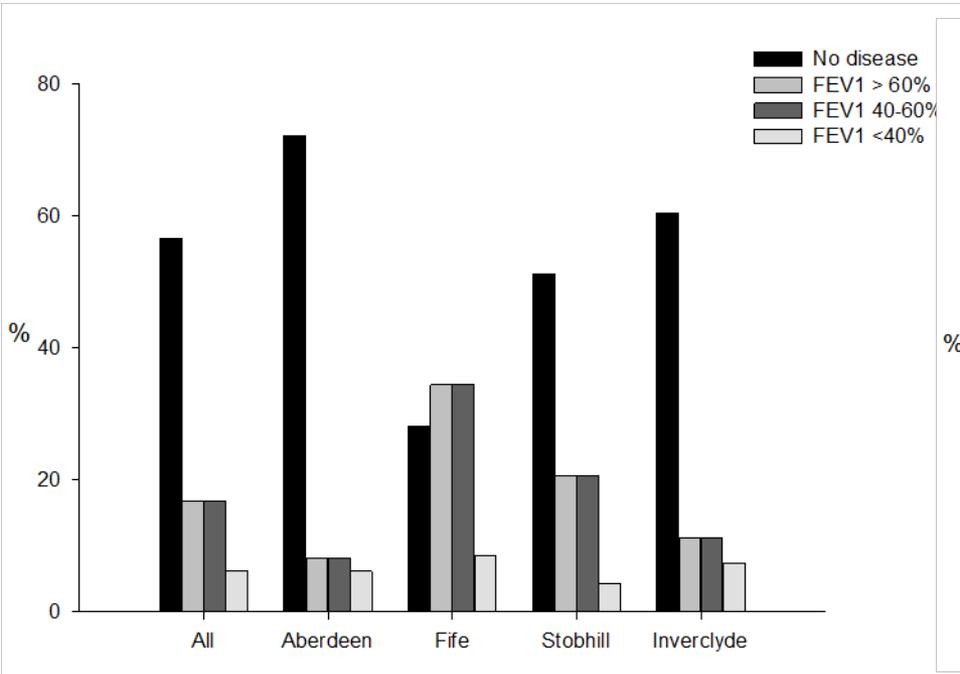# Between centre differences in patients: Performance status

PS 0/1 at 6 months prior

p >0.05

PS 0/1 at presentation
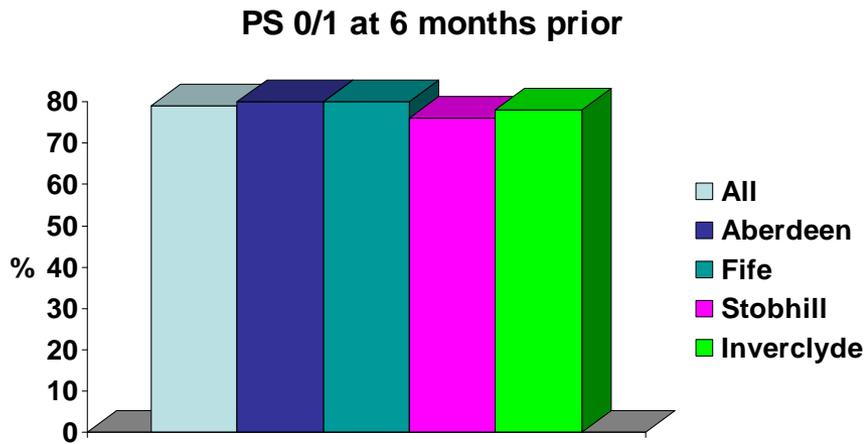
p <0.001

Between centre differences in patients
Tumour histology

p<0.001

Legend: No histology, NSCLC, SCLC

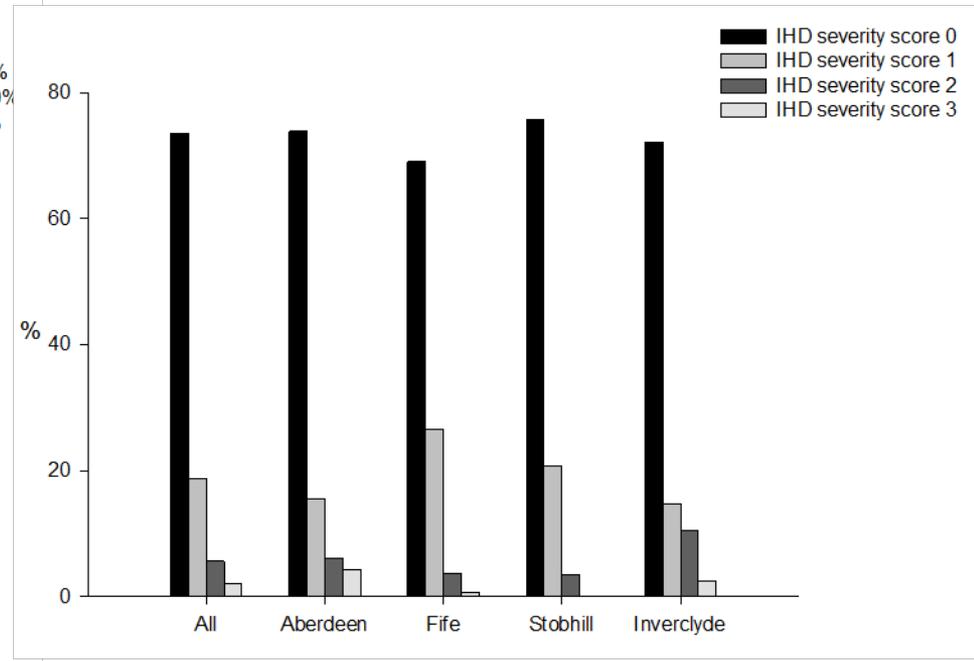Categories: All, Aberdeen, Fife, Stobhill, Inverclyde

COPD

IHD

P = 0.017

P < 0.001

SLC Forum Comorbidity Study – Treatment variations

	All centres n=882	Aberdeen n=297	Fife n=136	Stobhill n=297	Inverclyde n=164	P (between centres)
Obtained histological diagnosis	75.5%	73.4%	66.9%	74.9%	87.2%	<0.001
Surgical resection	6.3%	7.4%	6.6%	5.6%	5.5%	0.790
Radical Radiotherapy	4.0%	4.0%	8.8%	3.1%	0.6%	0.004
No surgery / chemo / radiotherapy	20.6%	10.8%	36.8%	22.5%	22.0%	<0.001

Early conclusions

Variation in practice, across Scotland

Variation in Comorbidity across Scotland

Deprivation is strongly associated with poor PS and deteriorating PS, independent of co-morbidities.

Early days: further analyses re: multivariate factors and survival etc required.

Determinants of declining Performance Status

Assessed PS at presentation and estimated PS 6 months prior.

59.1%   PS 0/1 6 months prior; 0/1 at presentation

40.9%   PS 0/1 6 months prior had deteriorated to 2-4 at presentation

NSCLC

No deterioration: 16.8% surgical intervention

Deterioration: 3.0% surgical intervention
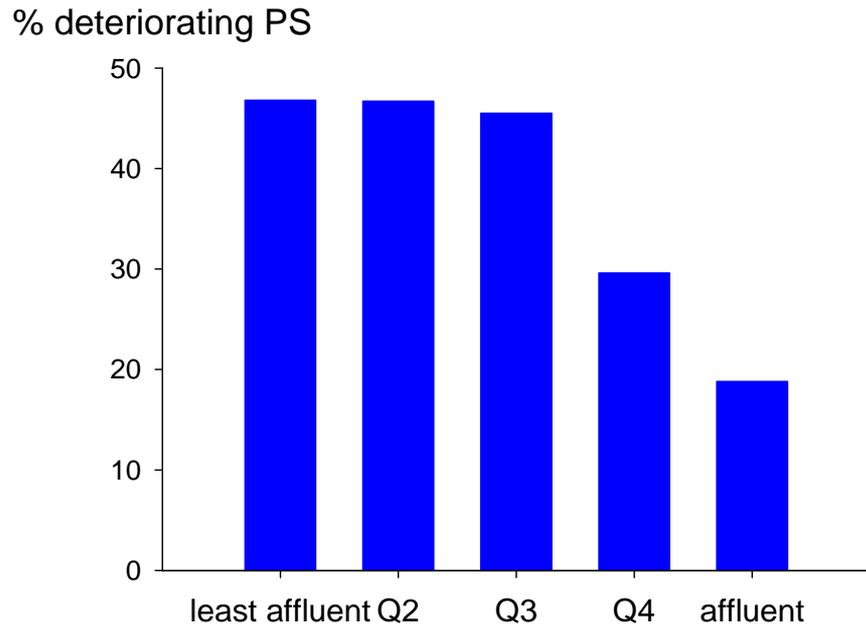
Determinants of Performance Status

Multivariable analysis

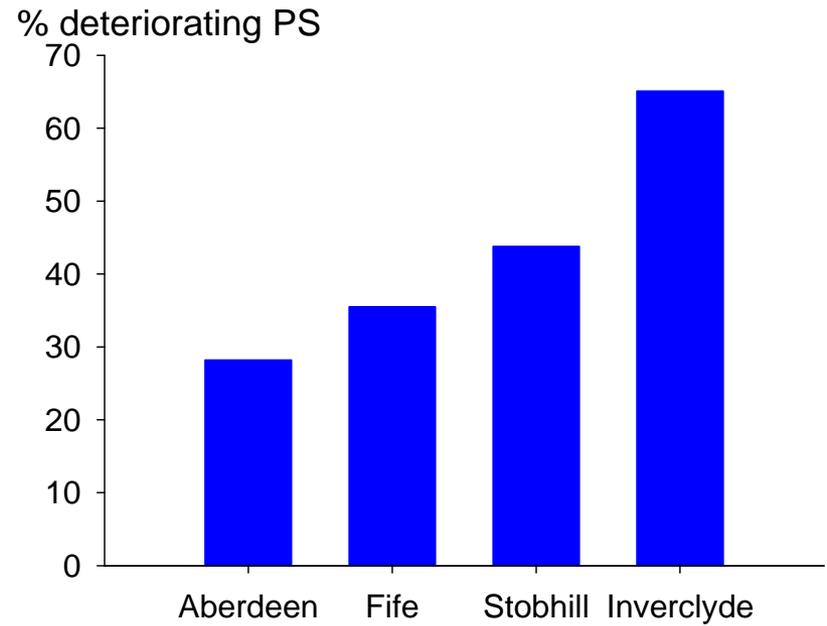| PS 0/1 vs 2-4	Odds ratio (95% CI)		p
Age /yr	0.96	(0.94-0.97)	<0.001
Affluence	1.31	(1.16-1.47)	<0.001
COPD /stage	0.77	(0.66-0.90)	0.001
Stroke disease /stage	0.44	(0.28-0.69)	<0.001
Dementia /stage	0.45	(0.28-0.74)	0.002
Weight loss /5% loss	0.61	(0.54-0.68)	<0.001
Ischaemic heart dis /stage	0.75	(0.60-0.94)	0.013

Affluent vs least affluent 3.9 times more likely to be PS 0/1

Determinants of declining Performance Status

Determinants of declining Performance Status

Multivariable analysis

PS declining 0/1 to 2-4	Odds ratio (95% CI)		p
Age /yr	1.04	(1.02-1.06)	<0.001
Affluence	0.69	(0.60-0.80)	<0.001
COPD /stage	1.26	(1.05-1.51)	0.015
Stroke disease /stage	2.21	(1.27-3.85)	<0.001
Weight loss /5% loss	1.82	(1.58-2.08)	<0.001

Least affluent vs affluent 6.4 times more likely to deteriorate from PS 0/1 to 2-4 by presentation