Using linked data to calculate case-fatality rates for performance assessment

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health outcome indicators

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1. EXECUTIVE SUMMARY

Background

One of the few measures of health outcome available for the comparison of hospital performance is case-fatality rate (CFR). It has been promoted in:

- Performance Assessment Framework (PAF)
- National Service Frameworks (NSF)
- Statistics produced by Doctor Foster.

At present national hospital episode data are not linked with death registrations. Thus, CFRs can only be calculated from deaths occurring in the hospital admission for the 'index' event of interest (e.g. the admission in which a surgical operation is undertaken). Death in hospital within 30 days of admission has been recommended as an outcome measure after:

- surgical procedures in the PAF
- myocardial infarction in the PAF and the coronary heart disease NSF
- fractured femur in the PAF and NSF for older persons
- coronary artery bypass in the coronary heart disease NSF.

A hospital league table has been produced by the Doctor Foster organisation using ‘standardised’ rates of deaths in hospital for any cause within 30 days of admission.

NCHOD studies

The National Centre for Health Outcomes Development (NCHOD) has developed outcome indicators for ten conditions and recommended the calculation of CFRs, incorporating all deaths regardless of location, for:

- asthma within 30 days of admission
- diabetes within 30 days of admission for an acute episode
- fractured femur within 30 and 120 days of admission
- myocardial infarct within 30 days and one year of admission
- stroke within 30 days of admission.

Since publication of these studies NCHOD has carried out detailed work on the derivation of CFRs and the differences that alternative methods of calculation have on assessing comparative performance.

The principal factors that have been considered in the work on the compilation of CFRs are:

- Relating to initial admission:
    - use finished consultant episodes or continuous in-patient spells
    - include emergency, elective or all admissions
    - use principal diagnosis only or diagnosis anywhere on the record
    - choose appropriate diagnostic codes for the condition being studied.
- Relating to death:

- include deaths in hospital only or deaths anywhere
- choose clinically relevant time interval from start of admission to death
- use underlying cause of death only or cause anywhere on certificate
- choose codes for cause of death, condition specific or all causes.

- Relating to any comparative outcome measure:
  - choose methods for standardisation of age, sex and other factors
  - ensure statistical power of measure is adequate to show differences.

If case-fatality rates are to be used for comparing the performance of NHS trusts, the work to date has shown that it is absolutely essential that hospital episode data and death registrations are linked so that CFRs can be calculated for all deaths occurring within clinically relevant periods after an admission.

Four studies, in particular, have provided the scientific evidence for this recommendation, relating to mortality:

- within 30 days of admission to hospital for an operation.
- following admission to hospital with fractured femur.
- following admission to hospital with a stroke.
- following admission to hospital with acute myocardial infarction.

In all the studies in this report, the data used came from the Oxford Record Linkage Study (ORLS) database, which contains linked hospital episodes and death registrations.

2. POST-OPERATIVE MORTALITY

Methods

The data used were the 41,200 deaths occurring within 30 days of admission for an operation from 1963-98.

Deaths were tabulated at single day intervals and for three time periods 1963-74, 1975-86 and 1987-98. Deaths were classified by place of occurrence as:

- in hospital in the same admission as the operation
- in hospital following re-admission
- transfer to a different hospital
- outside hospital.

Results

The results are shown in Exhibit 1. Deaths in the admission in which the operation took place, the in-hospital deaths, represented as a proportion of all 30-day deaths declined markedly over the period as follows:

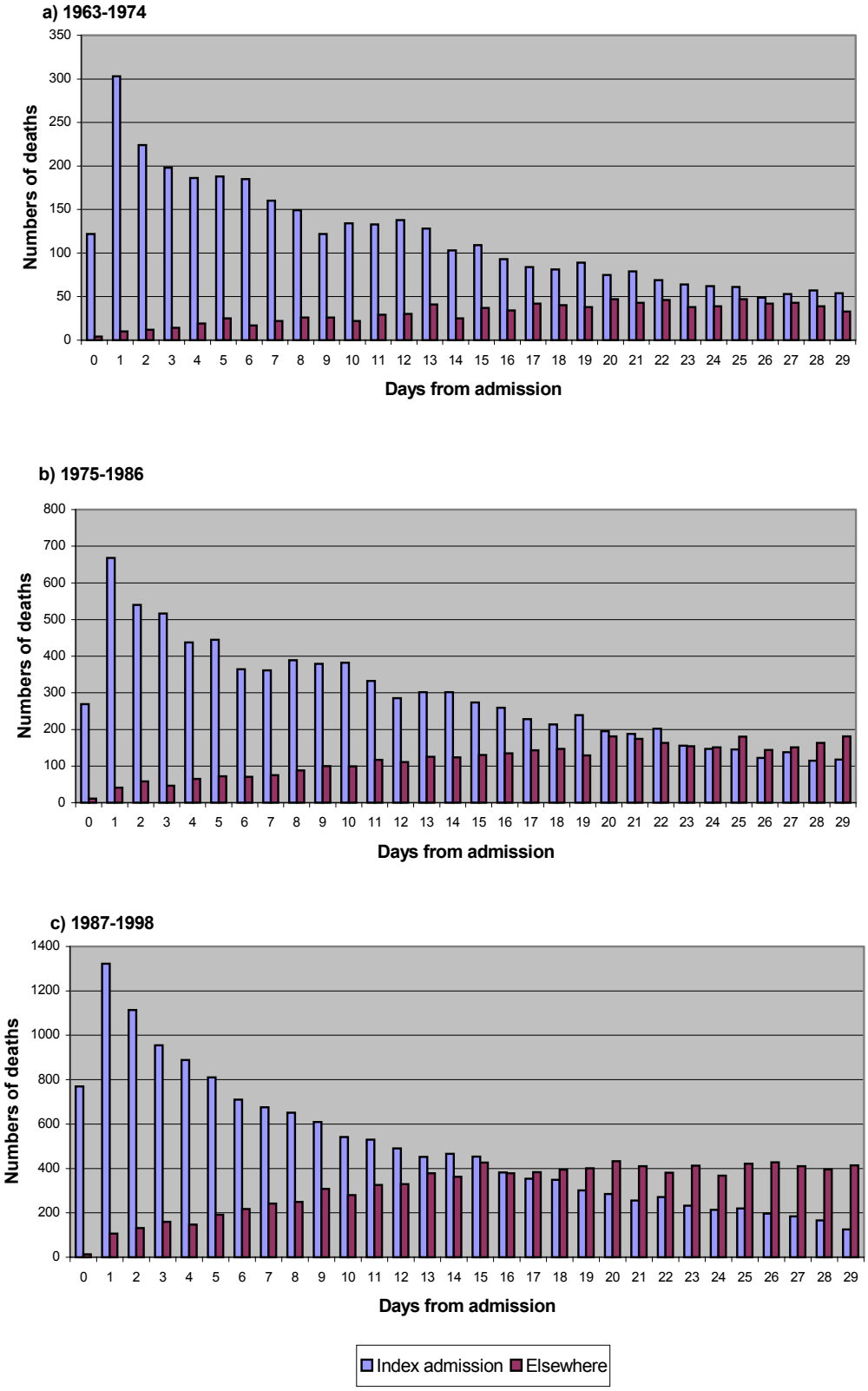
- 79% in 1963-74
- 71% in 1975-86
- 61% in 1987-98.

The great majority of deaths that occurred within a few days of operation were in-hospital deaths. With increasing time from admission, increasing numbers of deaths within 30 days occurred elsewhere and are thus missed by an analysis of in-hospital mortality only.

Conclusion

As so many deaths within 30 days of an admission for an operation now occur outside the hospital at which it took place, the 30-day in-hospital CFR is now a very incomplete measure of hospital performance.

Exhibit 1: Days from admission to death 1963-1998 to 30 days, subdividing deaths into those in the index admission and those elsewhere



3. MORTALITY AFTER ADMISSION FOR FRACTURED FEMUR

Methods

The data used were the 8,148 admissions for fractured femur in persons aged over 65 for 1994-98.

Standardised mortality ratios (SMR) for deaths occurring anywhere and for all causes were calculated at monthly intervals after admission. Case fatality rates were calculated, including deaths for all causes, for different locations of death and periods after admission as follows:

- 30-day in-hospital deaths
- 30-day deaths anywhere
- 90-day deaths anywhere
- 120-day deaths anywhere.

To compare fatality rates between trusts, logistic regression was used to adjust for age and sex differences in the populations. Odds ratios and their 95% confidence intervals were calculated relative to a reference trust A.

Results

Exhibit 2 shows the SMR for each month after start of admission. It was raised in the first month and remained significantly higher than in the general population (SMR=100) throughout the year after the fracture.

Exhibit 3 shows CFRs for the eight NHS trusts on the database calculated using different locations of death and time scales. They increased substantially as the follow-up period was extended from 10% dead at 30 days to 25% by 180 days.

Exhibit 4 shows the odds ratios of the trusts relative to the reference trust A (odds ratio=1). The number of trusts with significantly lower ratios varied with the measure used as follows:

- 30-day deaths in-hospital had three trusts lower than A
- 30-day deaths anywhere had five trusts lower than A
- 90-day deaths anywhere had one trust lower than A
- 180-day deaths anywhere no significant differences between trusts.

Conclusion

This study shows that the 30-day in-hospital CFR is an inappropriate measure of outcome following hospital admission for fractured femur as the mortality is still significantly high 180 days after admission. The danger of using inappropriate measures for assessing clinical performance is shown by the fact that, although differences between trusts were detected at earlier time periods, by 90 days there was no significant difference between the eight trusts.

Exhibit 2 **SMRs with 95% confidence intervals at monthly intervals following hospital admission for fractured neck of femur**

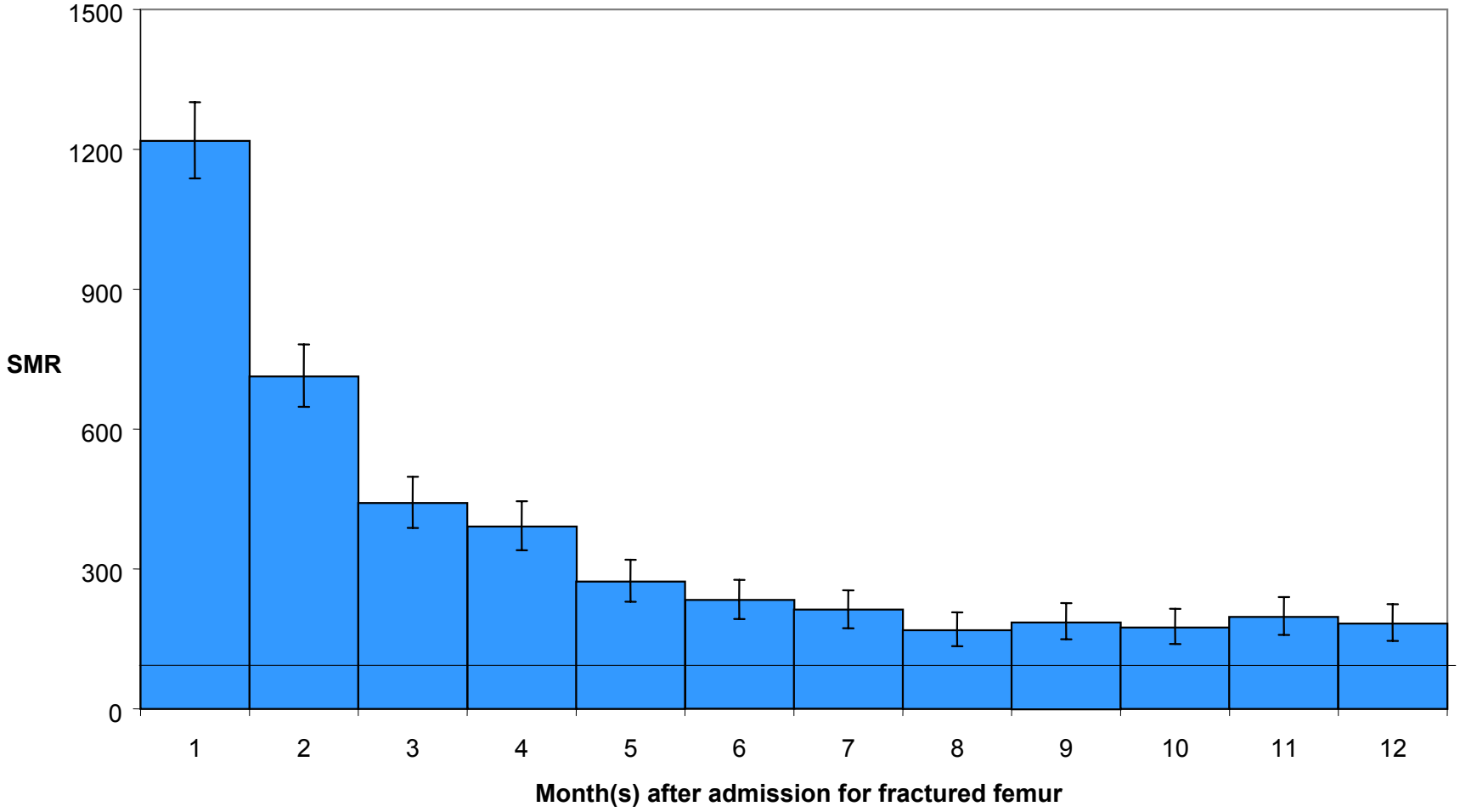


Exhibit 3 CFRs for fractured neck of femur by trust using different definitions

		In-hospital deaths		Deaths anywhere					
	No. of	Within 30 days		Within 30 days		Within 90 days		Within 180 days	
Trust	admissions	No.	%	No.	%	No.	%	No.	%
A	2,070	210	10.1	274	13.2	406	19.6	508	24.5
B	916	30	3.3	60	6.6	139	15.2	191	20.9
C	1,093	72	6.6	92	8.4	206	18.8	277	25.3
D	772	64	8.3	77	10.0	157	20.3	193	25.0
E	387	31	8.0	37	9.6	65	16.8	87	22.5
F	380	38	10.0	49	12.9	82	21.6	98	25.8
G	1,447	125	8.6	155	10.7	278	19.2	373	25.8
H	1,083	77	7.1	109	10.1	200	18.5	274	25.3
All 8 trusts	**8, 148**	**647**	**7.9**	**853**	**10.5**	**1, 533**	**18.8**	**2, 001**	**24.6**

Exhibit 4 Odds ratios for CFRs for fractured neck of femur by trust, adjusted for age and sex, using different definitions, showing rankings

	In-hospital deaths			Deaths anywhere								
Trust	Odds ratio– 30 days (95% CI) [rank]			Odds ratio– 30 days (95% C) [rank]			Odds ratio– 90 days (95% CI) [rank]			Odds ratio– 180 days (95% CI) [rank]		
A	1.00		[7]	1.00		[7]	1.00		[4]	1.00		[3]
B	0.32	(0.21-0.47)	[1]	0.49	(0.36-0.65)	[1]	0.78	(0.63-0.97)	[1]	0.87	(0.71-1.05)	[1]
C	0.65	(0.49-0.86)	[2]	0.63	(0.49-0.81)	[2]	1.01	(0.83-1.22)	[6]	1.11	(0.93-1.32)	[7]
D	0.81	(0.60-1.09)	[5]	0.73	(0.56-0.96)	[4]	1.06	(0.86-1.31)	[7]	1.03	(0.85-1.26)	[4]
E	0.81	(0.54-1.20)	[4]	0.72	(0.50-1.04)	[3]	0.86	(0.64-1.15)	[2]	0.92	(0.71-1.21)	[2]
F	1.04	(0.72-1.51)	[8]	1.03	(0.74-1.44)	[8]	1.21	(0.92-1.59)	[8]	1.14	(0.88-1.48)	[8]
G	0.85	(0.67-1.08)	[6]	0.80	(0.64-0.99)	[6]	1.00	(0.84-1.19)	[5]	1.09	(0.93-1.28)	[6]
H	0.68	(0.52-0.90)	[3]	0.74	(0.58-0.94)	[5]	0.94	(0.77-1.14)	[3]	1.06	(0.89-1.26)	[5]

4. MORTALITY AFTER ADMISSION FOR STROKE

Methods

The data used were the 10,618 stroke admissions for 1979-86 and the 10,382 admissions for stroke 1994-98.

Standardised mortality ratios for deaths occurring anywhere and for all causes were calculated at monthly intervals after admission. Case fatality rates were calculated, including deaths for all causes, for different locations of death and periods after admission as follows:

- 30-day in-hospital deaths
- 30-day deaths anywhere
- 90-day deaths anywhere
- 365-day deaths anywhere.

To compare fatality rates, logistic regression was used to adjust for age and sex differences in the relevant populations. Odds ratios and their 95% confidence intervals were calculated relative to a reference hospital I and a trust A.

Results

Exhibit 5 shows the SMR for each month after admission (1994-1998). Mortality remained significantly higher than in the general population throughout the full year after hospital admission for both time periods.

Exhibit 6 shows CFRs for ten hospitals (1979-86) and for eight NHS trusts (1994-98) calculated using different locations of death and time scales. During both study periods the CFRs increased substantially as the follow-up period extended. In 1979-86 the rise was from 38% at 30 days to 55% at one year and the corresponding figures for 1994-98 were 32% and 48% respectively.

Exhibit 7 shows the odds ratios of the trusts relative to the reference trust A (odds ratio=1). For 1994-98 the results were as follows:

- 30-day deaths in-hospital had one trust higher and two lower than A
- 30-day deaths anywhere had three trusts higher and one lower than A
- 90-day deaths anywhere had four trusts higher but none lower than A
- 365-day deaths anywhere had four trusts higher but none lower than A.

During the earlier period, also shown in Exhibit 7:

- Hospital I had significantly lower mortality than others for three of the CFRs
- Hospital VI was not significantly different from I for 365-day CFR.

Conclusion

This study shows that 30-day in-hospital CFR is an inappropriate measure of outcome following hospital admission for stroke as the mortality is still significantly high 365 days after admission.

The danger of using inappropriate measures for assessing clinical performance is shown by the fact that the trust rankings for the 30-day in-hospital CFR bear no relationship to those for the more clinically relevant longer timescales.

Exhibit 5 SMRs with 95% confidence intervals at monthly intervals following hospital admission for stroke (1994-1998)

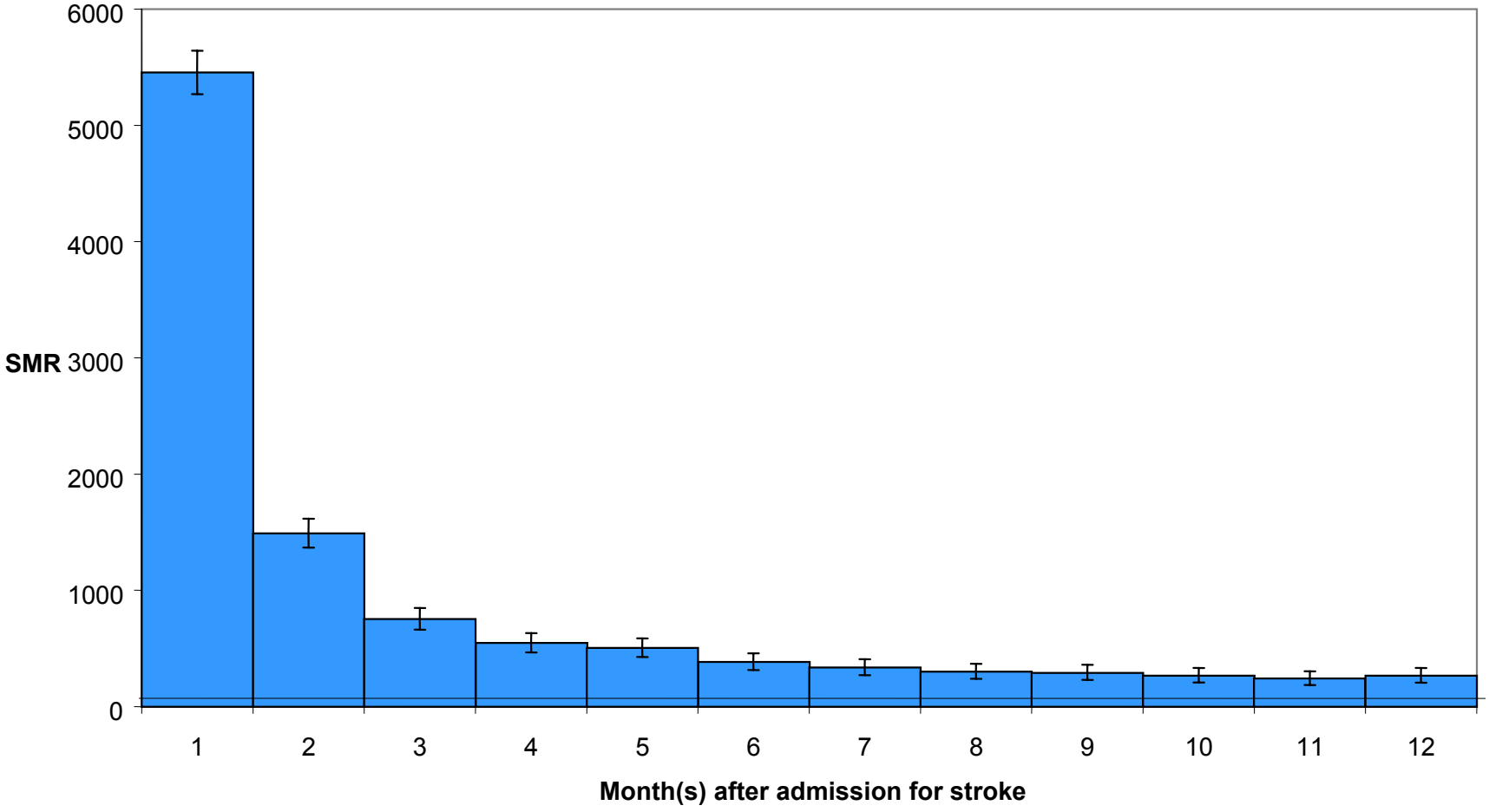


Exhibit 6 CFRs for stroke by hospital or NHS trust, using different definitions 1979-1986 and 1994-1998

Hospital	No. of admissions	In-hospital deaths		Deaths anywhere					
		Within 30 days		Within 30 days		Within 90 days		Within 365 days	
		No	%	No	%	No	%	No	%
Time period 1979-86									
I	2,380	660	(27.7)	724	(30.4)	907	(38.1)	1,125	(47.3)
II	773	264	(34.2)	295	(38.2)	370	(47.9)	451	(58.3)
III	896	306	(34.2)	341	(38.1)	423	(47.2)	492	(54.9)
IV	1,285	514	(40.0)	587	(45.7)	673	(52.4)	774	(60.2)
V	464	175	(37.7)	187	(40.3)	220	(47.4)	251	(54.1)
VI	1,008	375	(37.2)	385	(38.2)	462	(45.8)	565	(56.1)
VII	984	409	(41.6)	442	(44.9)	510	(51.8)	580	(58.9)
VIII	1,733	609	(35.1)	646	(37.3)	777	(44.8)	984	(56.8)
IX	731	282	(38.6)	298	(40.8)	345	(47.2)	398	(54.4)
X	364	146	(40.1)	157	(43.1)	182	(50.0)	208	(57.1)
All 10 Hospitals	**10,618**	**3,740**	**(35.3)**	**4,062**	**(38.3)**	**4,869**	**(45.9)**	**5,828**	**(54.9)**
95% CI		(34.3 - 36.2)		(37.4 - 39.2)		(45.0 - 46.8)		(54.0 – 55.8)	
Time period 1994-98									
A	2,707	743	(27.4)	818	(30.2)	1,000	(36.9)	1,244	(46.0)
B	948	117	(12.3)	312	(32.9)	379	(40.0)	468	(49.4)
C	1,447	379	(26.2)	413	(28.5)	539	(37.2)	672	(46.4)
D	1,171	338	(28.9)	369	(31.5)	451	(38.5)	530	(45.3)
E	517	115	(22.2)	128	(24.8)	165	(31.9)	213	(41.2)
F	598	169	(28.3)	187	(31.3)	251	(42.0)	300	(50.2)
G	1,740	600	(34.5)	627	(36.0)	760	(43.7)	908	(52.2)
H	1,254	372	(29.7)	420	(33.5)	525	(41.9)	624	(49.8)
All 8 Trusts	**10,382**	**2,833**	**(27.3)**	**3,274**	**(31.5)**	**4,070**	**(39.2)**	**4,959**	**(47.8)**
95% CI		(26.4 - 28.2)		(30.6 - 32.4)		(38.3 – 40.1)		(46.8 – 48.8)	

Exhibit 7 Odds ratios for CFRs for stroke by hospital or trust, adjusted for age group and sex, using different definitions, showing rankings, 1979-86 and 1994-98

	In-hospital deaths			Deaths anywhere								
Hospital	**Odds ratio – 30 days (95% CI) [rank]**			**Odds ratio – 30 days (95% CI) [rank]**			**Odds ratio – 90 days (95% CI) [rank]**			**Odds ratio – 365 days (95% CI) [rank]**		
Time period 1979-86												
I	1.00		[1]	1.00		[1]	1.00		[1]	1.00		[1]
II	1.27	(1.06-1.51)	[2]	1.32	(1.12-1.57)	[4]	1.38	(1.17-1.63)	[4]	1.43	(1.20-1.69)	[4]
III	1.43	(1.21-1.69)	[5]	1.49	(1.27-1.75)	[5]	1.59	(1.36-1.87)	[5]	1.54	(1.31-1.81)	[5]
IV	1.76	(1.52-2.03)	[6]	1.95	(1.69-2.25)	[10]	1.83	(1.59-2.11)	[10]	1.77	(1.53-2.04)	[10]
V	1.83	(1.48-2.26)	[9]	1.79	(1.45-2.21)	[8]	1.81	(1.47-2.22)	[9]	1.74	(1.41-2.15)	[9]
VI	1.36	(1.16-1.60)	[4]	1.24	(1.07-1.46)	[2]	1.17	(1.00-1.36)	[2]	1.15	(0.99-1.34)	[2]
VII	1.86	(1.59-2.18)	[10]	1.87	(1.61-2.19)	[9]	1.77	(1.52-2.06)	[8]	1.64	(1.40-1.92)	[8]
VIII	1.31	(1.15-1.50)	[3]	1.26	(1.11-1.44)	[3]	1.20	(1.06-1.37)	[3]	1.31	(1.15-1.49)	[3]
IX	1.75	(1.39-2.21)	[7]	1.75	(1.39-2.19)	[7]	1.65	(1.31-2.07)	[7]	1.52	(1.21-1.92)	[6]
X	1.77	(1.48-2.11)	[6]	1.70	(1.43-2.02)	[6]	1.62	(1.36-1.92)	[6]	1.54	(1.29-1.83)	[7]
Time period 1994-98												
A	1.00		[4]	1.00		[3]	1.00		[2]	1.00		[3]
B	0.38	(0.31-0.47)	[1]	1.20	(1.02-1.40)	[7]	1.22	(1.05-1.43)	[5]	1.26	(1.08-1.47)	[6]
C	0.96	(0.83-1.11)	[3]	0.95	(0.82-1.09)	[2]	1.05	(0.92-1.20)	[3]	1.07	(0.93-1.22)	[4]
D	1.07	(0.92-1.25)	[5]	1.06	(0.91-1.23)	[4]	1.07	(0.92-1.24)	[4]	0.97	(0.84-1.12)	[2]
E	0.76	(0.61-0.96)	[2]	0.77	(0.62-0.96)	[1]	0.81	(0.66-1.00)	[1]	0.84	(0.69-1.03)	[1]
F	1.11	(0.91-1.35)	[6]	1.13	(0.93-1.37)	[5]	1.37	(1.14-1.65)	[8]	1.34	(1.11-1.61)	[8]
G	1.13	(0.97-1.31)	[7]	1.18	(1.02-1.37)	[6]	1.26	(1.10-1.46)	[6]	1.21	(1.05-1.39)	[5]
H	1.36	(1.36-1.56)	[8]	1.28	(1.12-1.45)	[8]	1.30	(1.15-1.48)	[7]	1.27	(1.12-1.44)	[7]

5. MORTALITY AFTER ADMISSION FOR AMI

Issues

Superficially acute myocardial infarction (AMI) case-fatality rates are a leading candidate for a comparative health outcome indicator. The condition is common, treatable and there are a considerable number of deaths associated with it.

In practice calculating a clinically relevant CFR for the condition is extremely difficult because of issues relating to:

- definition of myocardial infarction
- inclusion of all the deaths related to it.

Clinically an AMI is diagnosed when two of the three criteria of symptoms, ECG changes and rise in enzyme levels have been met. However:

- The recent adoption of a new enzyme test has led to a significant increase in the diagnosis of AMI with the additional patients having a much milder condition and thus lower risk of death than those diagnosed with the old test.
- About 30% of patients with AMI have no symptoms.
- Significant numbers of patients thought originally to have had a clinical AMI on admission have not had one.

With regards to the inclusion of deaths:

- Death from AMI may happen quickly after the onset of symptoms, occurring before arriving at hospital or in hospital before a record has been entered on the patient administration system.
- Significant numbers of people die from AMI having primarily been admitted for another condition.
- The great majority of sudden deaths are probably due to AMI.
- For hospital comparisons an attempt should be made to include only those deaths that treatment within the hospital might have prevented.

NCHOD has been engaged on an extensive programme to research those issues that can be resolved by the use of linked HES and death registration records. The example given below is only one of many. It studies the effect on CFRs when the indicator:

- Excludes admissions misdiagnosed as AMI (those discharged alive after three days or less) from the denominator.
- Excludes deaths occurring early in the stay that might not be attributable to the hospital care (those occurring on day of admission, day 0, and further analyses involving days one and two) from the numerator.

Methods

Data were used for the study period 1994-98.

The 30-day CFRs were calculated in six different ways, the numbers refer to the definition used:

- Using unlinked HES data:
  - all lengths of stay included (1)
  - less those discharged alive after three days or less from denominator (2).
- Using linked HES and death registration data:
  - less those discharged alive after three days or less from denominator (3)
  - less deaths on day of admission (day 0) from numerator (4)
  - less deaths on days 0 and 1 from numerator (5)
  - less deaths on days 0, 1 and 2 from the numerator (6).

To compare fatality rates between trusts, logistic regression was used to adjust for age and sex differences in the populations. Odds ratios and their 95% confidence intervals were calculated relative to a reference trust A.

Results

Using definition 1, there were 14,041 admissions, 2,224 deaths and a CFR of 15.8%.

Using definition 2 that excludes those discharged alive within three days of admission and thus assumed to have been misdiagnosed as AMI, there were 13,081 admissions and thus an increased CFR of 17.0%.

Using definition 3 that excludes the misdiagnosed AMIs and uses linked data there were 2,558 deaths and thus an increased CFR of 19.6%.

Using definition 4 that excludes deaths occurring on the day of admission (0), thus eliminating some of the deaths that may have been rapid and unavoidable, there were 2,034 deaths and a lowered CFR of 15.5%.

Using definition 5 that excludes deaths occurring on days 0 and 1, there were 1,491 deaths and a CFR further lowered to 11.4%.

Using definition 6 that excludes deaths occurring on days 0, 1 and 2, there were 1,230 deaths and a further lowering of the CFR to 9.4%.

Exhibit 8 shows the CFRs for the eight participating trusts calculated in the six different ways. It should be noted that:

- Trust B had low CFRs explained by the fact that it did not code many of its deaths as such and probably omitted some of its fatal cases altogether.
- Apart from B the other trusts did not show striking differences in their CFRs.

Exhibit 9 shows the odds ratios of the trusts relative to the reference trust A (odds ratio=1). It should be noted that:

- For all definitions, trust B had a lower CFR than reference trust A
- Using definition 1 involving unlinked data, Trusts C and F had significantly higher CFRs than reference trust A.
- Using definitions 2 and 3, only trust C had a significantly higher CFR than A.
- Using definitions 4-6, no trust had a significantly higher CFR than A.

Conclusion

The calculation of an appropriate CFR for acute myocardial infarction is complex and more difficult than any other condition. In one of the NCHOD studies the 30-day in-hospital CFR showed two trusts with significantly worse rates than the index trust. However, the use of more clinically relevant definitions for the indicator caused these differences to disappear.

Exhibit 8 CFRs for trusts 1994-98

Trust	No. of admissions (denominators) CFR 1	No. of admissions (denominators) CFRs 2-6	CFR 1 No. of deaths - 30 days	CFR 1 (%)	CFR 2 No. of deaths - 30 days	CFR 2 (%)	CFR 3 No. of deaths - 30 days	CFR 3 (%)	CFR 4 No. of deaths - 30 days	CFR 4 (%)	CFR 5 No. of deaths - 30 days	CFR 5 (%)	CFR 6 No. of deaths - 30 days	CFR 6 (%)
A	2,954	2,818	502	(17.0%)	502	(17.8%)	562	(19.9%)	468	(16.6%)	328	(11.6%)	278	(9.9%)
B	1,767	1,564	117	(6.6%)	117	(5.7%)	195	(12.5%)	138	(8.8%)	108	(6.9%)	92	(5.9%)
C	1,684	1,617	346	(20.4%)	346	(21.4%)	386	(23.9%)	288	(17.8%)	201	(12.4%)	160	(9.9%)
D	1,344	1,301	224	(16.7%)	224	(17.2%)	251	(19.3%)	206	(15.8%)	161	(12.4%)	139	(10.7%)
E	736	702	126	(17.1%)	126	(17.9%)	142	(20.2%)	115	(16.4%)	87	(12.4%)	67	(9.5%)
F	950	908	161	(16.9%)	161	(17.7%)	177	(19.5%)	143	(15.7%)	105	(11.6%)	82	(9.0%)
G	2,433	2,144	378	(15.5%)	378	(17.6%)	432	(20.1%)	337	(15.7%)	252	(11.8%)	211	(9.8%)
H	2,163	2,027	370	(17.0%)	370	(18.3%)	413	(20.4%)	339	16.7%)	249	(12.3%)	201	(9.9%)
All 8 Trusts	**14,041**	**13,081**	**2,224**	**(15.8%)**	**2,224**	**(17.0%)**	**2,558**	**(19.6%)**	**2,034**	**(15.5%)**	**1,491**	**(11.4%)**	**1,230**	**(9.4%)**

Exhibit 9 Odds ratios, adjusted for age group and sex, for trusts, 1994-1998

Trust	CFR 1 Odds ratio - 30 days (95% CI) [Rank]			CFR 2 Odds ratio - 30 days (95% CI) [Rank]			CFR 3 Odds ratio - 30 days (95% CI) [Rank]			CFR 4 Odds ratio - 30 days (95% CI) [Rank]			CFR 5 Odds ratio - 30 days (95% CI) [Rank]			CFR 6 Odds ratio - 30 days (95% CI) [Rank]		
A	Reference		[3]	Reference		[2]	Reference		[2]	Reference		[3]	Reference		[2]	Reference		[2]
B	0.38	0.30-0.47	[1]	0.43	(0.35-0.54)	[1]	0.67	(0.56-0.81)	[1]	0.56	(0.46-0.69)	[1]	0.66	(0.52-0.83)	[1]	0.67	(0.52-0.86)	[1]
C	1.35	1.15-1.59	[8]	1.35	(1.15-1.59)	[8]	1.35	(1.16-1.58)	[8]	1.14	(0.97-1.35)	[8]	1.12	(0.93-1.36)	[4]	1.04	(0.84-1.26)	[4]
D	1.06	0.89-1.28	[4]	1.05	(0.88-1.26)	[4]	1.05	(0.88-1.25)	[3]	1.03	(0.85-1.24)	[4]	1.16	(0.95-1.43)	[7]	1.18	(0.95-1.48)	[8]
E	1.08	0.86-1.35	[5]	1.08	(0.86-1.35)	[5]	1.08	(0.87-1.34)	[5]	1.04	(0.83-1.31)	[5]	1.13	(0.87-1.46)	[6]	1.01	(0.76-1.34)	[3]
F	1.23	1.00-1.51	[7]	1.22	(0.99-1.50)	[7]	1.18	(0.97-1.44)	[7]	1.13	(0.91-1.39)	[7]	1.18	(0.93-1.50)	[8]	1.07	(0.82-1.39)	[7]
G	0.97	0.83-1.13	[2]	1.03	(0.89-1.21)	[3]	1.06	(0.92-1.23)	[4]	0.97	(0.83-1.14)	[2]	1.06	(0.88-1.26)	[3]	1.04	(0.86-1.26)	[5]
H	1.09	0.93-1.27	[6]	1.10	(0.94-1.29)	[6]	1.10	(0.94-1.27)	[6]	1.07	(0.91-1.26)	[6]	1.12	(0.94-1.34)	[5]	1.06	(0.87-1.28)	[6]