

SECTION C SURVIVAL



This section's data are available on-line in Tableau format which enables interaction with the data: <http://www.srr.scot.nhs.uk/publications/Dashboards/Survival.html>.

C1 Survival analyses

C1.1 Proportion of patients starting RRT 1997 - 2016 surviving at one, two, five and ten years by age and primary renal diagnosis group

Age group (years)	Diagnosis group	1 year survival			2 year survival			5 year survival			10 year survival		
		Number starting RRT (1997-2016)	n	%	Number starting RRT (1997-2015)	n	%	Number starting RRT (1997-2012)	n	%	Number starting RRT (1997-2007)	n	%
≥75	Unknown	681	442	65	663	305	46	602	106	18	422	8	2
	Diabetic nephropathy	309	205	66	284	137	48	232	34	15	150	2	1
	Multisystem	821	494	60	779	328	42	663	77	12	459	3	1
	Interstitial	286	205	72	272	143	53	238	53	22	166	3	2
	Glomerulonephritis	226	145	64	209	96	46	171	30	18	113	5	4
	All Diagnoses	2323	1491	64	2207	1009	46	1906	300	16	1310	21	2
65-74	Unknown	573	427	75	559	335	60	507	159	31	381	28	7
	Diabetic nephropathy	661	488	74	615	345	56	506	111	22	325	6	2
	Multisystem	968	620	64	932	445	48	793	164	21	586	23	4
	Interstitial	456	378	83	422	296	70	347	138	40	252	30	12
	Glomerulonephritis	329	273	83	313	218	70	253	96	38	178	23	13
	All Diagnoses	2987	2186	73	2841	1639	58	2406	668	28	1722	110	6
45-64	Unknown	414	352	85	389	291	75	330	185	56	249	84	34
	Diabetic nephropathy	1028	869	85	956	678	71	731	243	33	471	54	11
	Multisystem	711	544	77	675	441	65	571	242	42	410	91	22
	Interstitial	932	869	93	899	790	88	725	532	73	519	270	52
	Glomerulonephritis	603	558	93	557	482	87	457	311	68	296	137	46
	All Diagnoses	3688	3192	87	3476	2682	77	2814	1513	54	1945	636	33
20-44	Unknown	226	215	95	213	192	90	188	156	83	144	106	74
	Diabetic nephropathy	439	398	91	410	341	83	339	224	66	230	113	49
	Multisystem	204	186	91	191	167	87	160	127	79	112	77	69
	Interstitial	541	527	97	511	487	95	426	374	88	310	237	76
	Glomerulonephritis	399	392	98	372	359	97	303	279	92	212	179	84
	All Diagnoses	1809	1718	95	1697	1546	91	1416	1160	82	1008	712	71
<20	Unknown	23	23	100	22	22	100	21	21	100	15	15	100
	Diabetic nephropathy	1	0	0	1	0	0	1	0	0	1	0	0
	Multisystem	31	31	100	27	27	100	24	21	88	17	14	82
	Interstitial	158	154	97	152	148	97	130	121	93	87	77	89
	Glomerulonephritis	37	36	97	35	34	97	28	26	93	22	19	86
	All Diagnoses	250	244	98	237	231	97	204	189	93	142	125	88

Age group (years)	Diagnosis group	1 year survival			2 year survival			5 year survival			10 year survival		
		Number starting RRT (1997-2016)	n	%	Number starting RRT (1997-2015)	n	%	Number starting RRT (1997-2012)	n	%	Number starting RRT (1997-2007)	n	%
All ages	Unknown	1917	1459	76	1846	1145	62	1628	606	37	1211	241	20
	Diabetic nephropathy	2438	1960	80	2266	1501	66	1829	633	35	1177	175	15
	Multisystem	2735	1875	69	2604	1408	54	2211	631	29	1584	208	13
	Interstitial	2373	2133	90	2256	1864	83	1866	1218	65	1334	617	46
	Glomerulonephritis	1594	1404	88	1486	1189	80	1212	742	61	821	363	44
	All Diagnoses	11057	8831	80	10458	7107	68	8746	3830	44	6127	1604	26

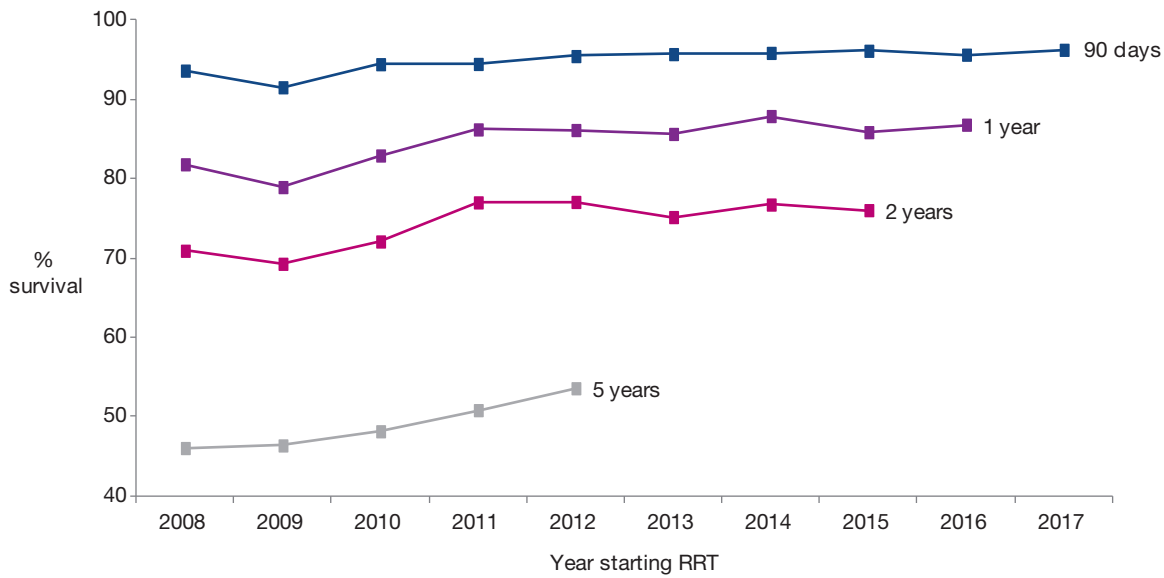
C1.2 Survival of patients by year of start of RRT 2008-2017

Year starting RRT	% surviving 90 days	% surviving 1 year	% surviving 1 year + 90 days	% surviving 2 years	% surviving 2 years + 90 days	% surviving 5 years	% surviving 5 years+ 90 days
2008	93.6	81.8	78.9	70.9	67.4	46.0	45.3
2009	91.5	78.9	77.3	69.3	66.6	46.4	44.5
2010	94.4	82.9	79.3	72.1	68.9	48.1	47.7
2011	94.5	86.2	83.8	77.0	73.8	50.8	48.8
2012	95.4	86.1	83.8	77.1	75.0	53.6	51.3
2013	95.7	85.6	82.4	75.1	72.6	/	/
2014	95.8	87.9	85.9	76.7	75.1	/	/
2015	96.1	85.9	83.5	76.0	72.8	/	/
2016	95.6	86.8	84.2	/	/	/	/
2017	96.2	/	/	/	/	/	/

Note: Censored patients are excluded from this table.

Patients with insufficient follow-up and those who recovered within 90 days or who were lost to follow-up within the relevant period have been excluded.

C1.3 Trends in survival of patients starting RRT 2008-2017



Trend in 90 days survival: year to year OR is 1.09 (95% CI 1.04 -1.13)

Trend in 1 year survival: year to year OR is 1.07 (95% CI is 1.04 - 1.10).

Trend in 2 years survival: year to year OR is 1.05 (95% CI is 1.02 -1.09).

Trend in 5 years survival: year to year OR is 1.08 (95% CI is 1.02-1.14).

There is a statistically significant trend of improving survival at 90 days, 1 year, 2 years and 5 years after starting RRT.

C1.4 Proportion of patients starting RRT 2008-2016 surviving at 90 days and 1 year, by NHS Health Board area of residence

NHS Health Board	Number of patients	90 day survival		1 year survival	
		n	%	n	%
A&A	398	370	93	333	84
BORD	93	91	98	87	94
D&G	141	134	95	123	87
FIFE	401	374	93	336	84
FV	276	263	95	231	84
GRAM	493	473	96	430	87
GG&C	1129	1070	95	949	84
HIGH	245	234	96	209	85
LAN	616	593	96	527	86
LOTH	606	563	93	478	79
ORKN	20	18	90	17	85
SHET	15	14	93	12	80
TAY	434	414	95	367	85
WI	28	28	100	25	89
Scotland	4895	4639	95	4124	84

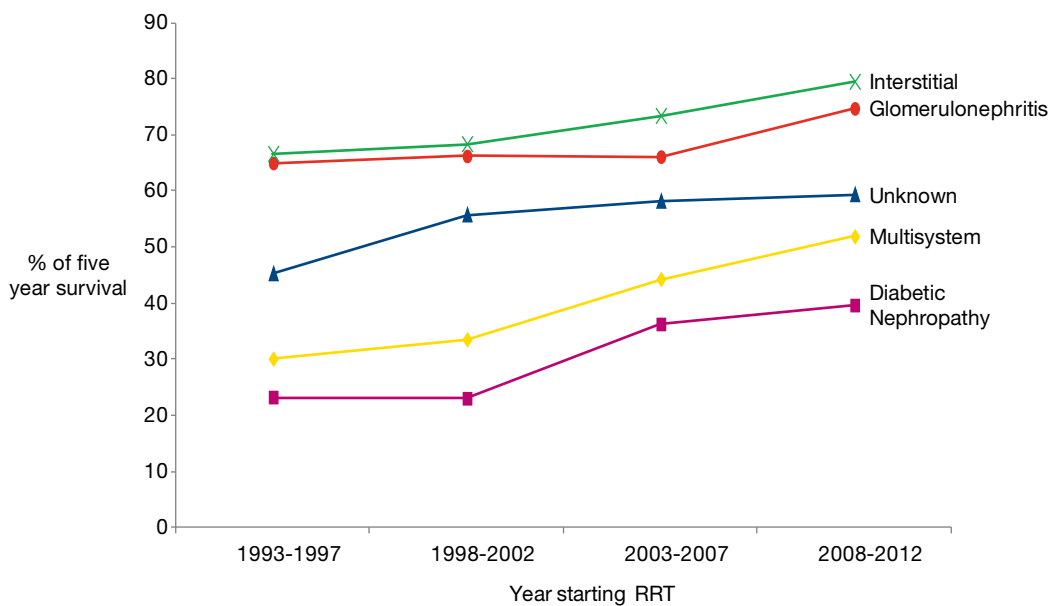
C2 Survival analyses

The trend in survival was calculated to investigate whether survival has improved over time for patients who started RRT aged between 45 and 64 years old.

This age group account for 34% of the whole RRT population between 1993-2012.

Data relating to patients starting RRT after 2012 are excluded to ensure a minimum available follow up period of 5 years.

C2.1 Trend in 5 year survival from starting RRT 1993-2012 for patients aged 45-64 for each PRD group



Glomerulonephritis - there is an increasing trend in survival (OR 1.14, 95% CI 1.02 to 1.39, $p = 0.07$).

Interstitial - there is an increasing trend in survival which is statistically significant (OR 1.246, 95% CI 1.08 to 1.44, $p = 0.002$).

Multisystem - there is an increasing trend in survival which is statistically significant (OR 1.38, 95% CI 1.2 to 1.6, $p < 0.001$).

Diabetic nephropathy - there is an increasing trend in survival which is statistically significant (OR 1.35, 95% CI 1.18 to 1.55, $p < 0.001$).

Unknown PRD - there is an increasing trend in survival which is statistically significant (OR 1.21, 95% CI 1.02 to 1.45, $p = 0.033$).

C3 Survival by NHS Health Board area of residence

The standardised mortality ratio (SMR) is the number of deaths in every NHS Health Board or unit divided by the number of expected deaths in that NHS Health Board or unit.

This makes the SMR a measure of case-mix adjusted mortality (hence the label ‘standardised’).

The expected number of deaths is based on a logistic regression comprising patient’s age, sex, SIMD and primary renal diagnosis group.

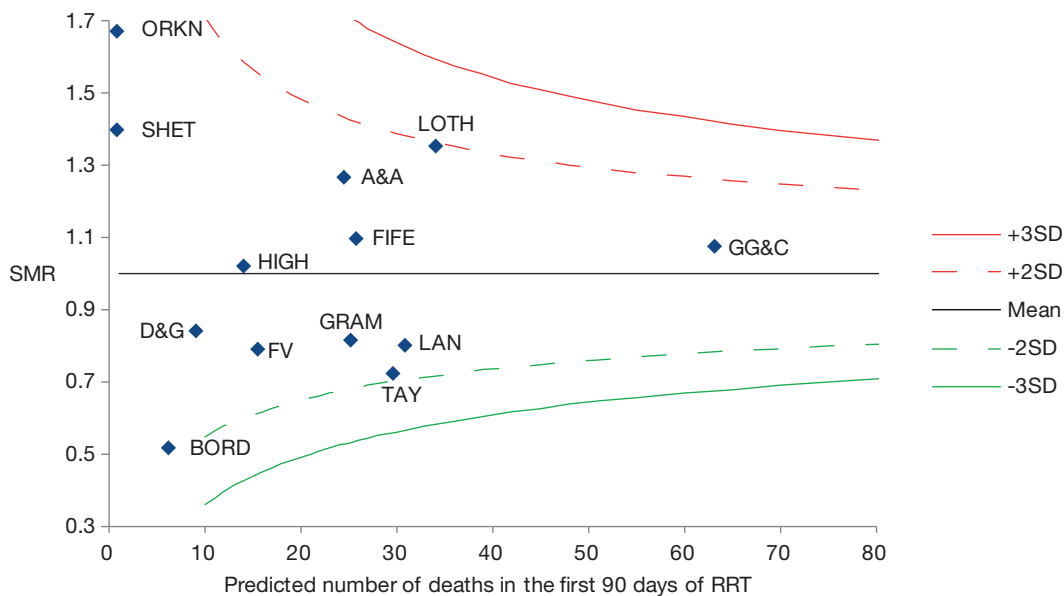
A SMR close to one means that the observed number of deaths is close to the expected number.

A SMR higher than one means that the observed number of deaths is higher than the expected number.

The units within the outer control limits (-3SD, +3SD) are considered equivalent and different only by chance.

The control limits are calculated via the Poisson probability distribution.

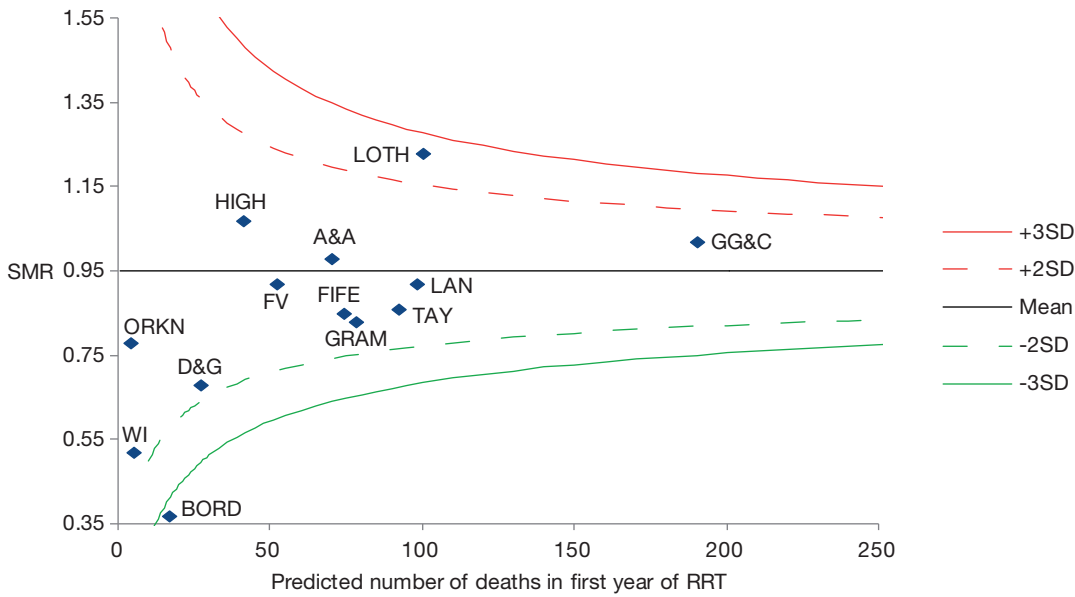
C3.1 90 day standardised mortality ratio for patients starting RRT 2008-2017 by NHS Health Board area of residence



All NHS Health Board areas fall within 3 standard deviations of the mean.

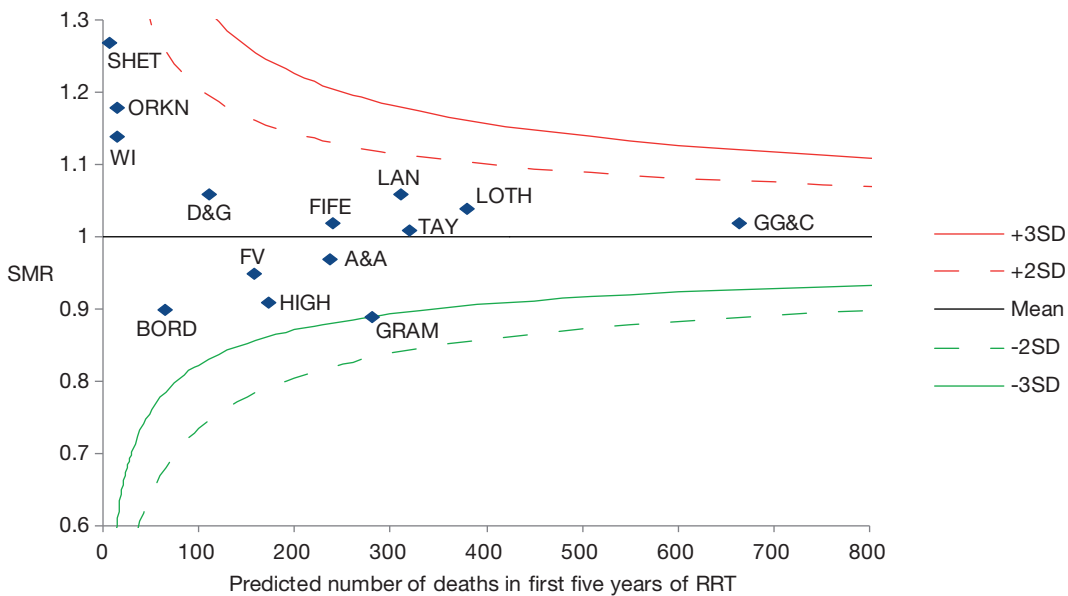
The mortality in the first 90 days of RRT for patients starting RRT in the ten years 2008-2017 was 6.2%.

C3.2 One year standardised mortality ratio for patients starting RRT 2007-2016 by NHS Health Board area of residence



The mortality in first year of RRT for patients starting RRT in the ten years 2006-2015 was 15.6%.

C3.3 Five year standardised mortality ratio for patients starting RRT 2003-2012 by NHS Health Board area of residence

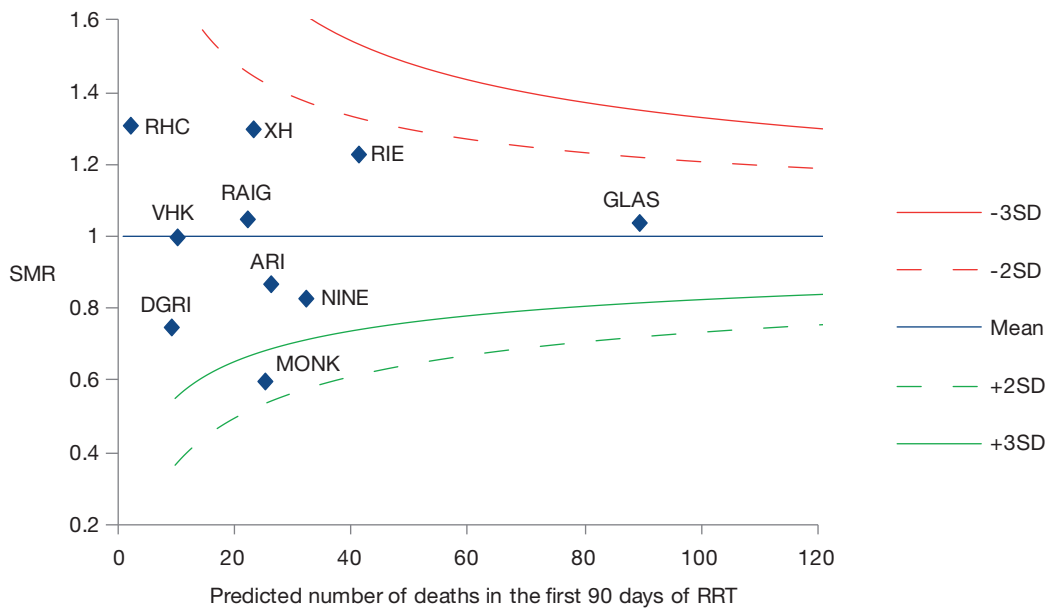


All NHS Health Board areas fall within 3 standard deviations of the mean.

The mortality in first five years of RRT for patients starting RRT in the ten years 2003 - 2012 was 53.5%.

C4 Survival by renal unit providing first RRT

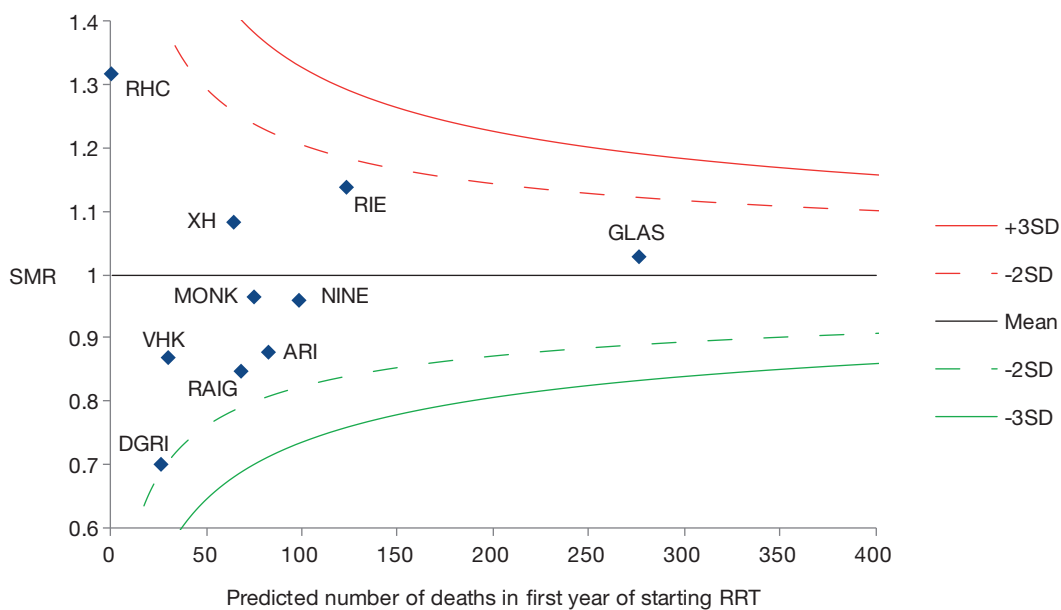
C4.1 90 day standardised mortality ratio by renal unit providing first RRT for patients starting RRT 2008-2017



Expected mortality is based on sex, age group, SIMD and primary renal diagnosis group.

The mortality in the first 90 days of RRT for patients starting RRT in the ten years 2008-2017 was 6.2%.

C4.2 One year standardised mortality ratio by renal unit providing first RRT for patients starting RRT 2007-2016

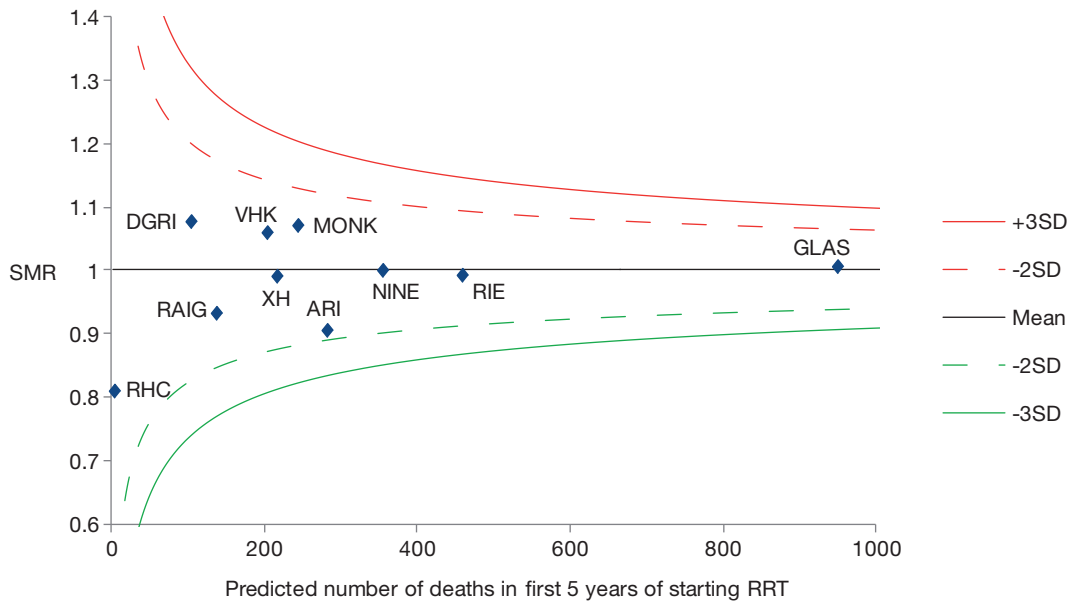


All units fall within three standard deviations of the mean.

Expected mortality is based on sex, age group, SIMD and primary renal diagnosis group.

The mortality in first year of RRT for patients starting RRT in the ten years 2007-2016 was 15.6%.

C4.3 Five year standardised mortality ratio by renal unit providing first RRT for patients starting RRT 2003-2012



All units fall within 3 standard deviations of the mean.

Expected mortality is based on sex, age group, SIMD and primary renal diagnosis group.

The mortality in first five years of RRT for patients starting RRT in the ten years 2003 - 2012 was 53.5%.