

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 1996 - 2015 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 (1996-2015)	n	%	Number starting RRT (1996-2014)	n	%	Number starting RRT (1996-2011)	n	%	Number starting RRT (1996-2006)	n	%
≥75	Unknown	680	439	65	663	298	45	582	95	16	401	8	2
	Diabetic nephropathy	291	188	65	280	132	47	223	27	12	140	2	1
	Multisystem	794	468	59	751	307	41	653	73	11	431	2	0
	Interstitial	280	199	71	269	142	53	237	52	22	159	3	2
	Glomerulonephritis	218	138	63	205	93	45	165	27	16	110	6	5
	All Diagnoses	2263	1432	63	2168	972	45	1860	274	15	1241	21	2
65-74	Unknown	579	430	74	556	331	60	500	155	31	382	27	7
	Diabetic nephropathy	635	468	74	594	333	56	481	94	20	321	6	2
	Multisystem	973	611	63	919	431	47	796	159	20	585	21	4
	Interstitial	438	362	83	413	288	70	342	134	39	240	26	11
	Glomerulonephritis	331	275	83	305	209	69	254	97	38	179	21	12
	All Diagnoses	2956	2146	73	2787	1592	57	2373	639	27	1707	101	6
45-64	Unknown	412	345	84	384	279	73	331	178	54	239	71	30
	Diabetic nephropathy	1000	845	85	907	635	70	708	224	32	470	50	11
	Multisystem	704	533	76	656	424	65	564	237	42	403	85	21
	Interstitial	939	873	93	873	762	87	713	520	73	486	244	50
	Glomerulonephritis	584	540	92	539	464	86	449	302	67	296	132	45
	All Diagnoses	3639	3136	86	3359	2564	76	2765	1461	53	1894	582	31
20-44	Unknown	222	210	95	215	194	90	194	161	83	145	106	73
	Diabetic nephropathy	432	394	91	401	328	82	339	216	64	224	101	45
	Multisystem	205	188	92	198	174	88	166	132	80	115	78	68
	Interstitial	546	533	98	515	493	96	434	383	88	305	237	78
	Glomerulonephritis	395	388	98	378	366	97	303	281	93	213	182	85
	All Diagnoses	1800	1713	95	1707	1555	91	1436	1173	82	1002	704	70
<20	Unknown	24	23	96	24	23	96	23	22	96	15	14	93
	Diabetic nephropathy	1	0	0	1	0	0	1	0	0	1	0	0
	Multisystem	30	29	97	28	27	96	26	22	85	18	14	78
	Interstitial	155	151	97	150	146	97	128	120	94	79	69	87
	Glomerulonephritis	35	34	97	32	31	97	28	26	93	21	18	86
	All Diagnoses	245	237	97	235	227	97	206	190	92	134	115	86

Age group (years)	Diagnosis group	1 year survival			2 year survival			5 year survival			10 year survival		
		Number starting RRT (1996-2015)	n	%	Number starting RRT (1996-2014)	n	%	Number starting RRT (1996-2011)	n	%	Number starting RRT (1996-2006)	n	%
All ages	Unknown	1917	1447	75	1842	1125	61	1630	611	37	1182	226	19
	Diabetic nephropathy	2359	1895	80	2183	1428	65	1752	561	32	1156	159	14
	Multisystem	2706	1829	68	2552	1363	53	2205	623	28	1552	200	13
	Interstitial	2358	2118	90	2220	1831	82	1854	1209	65	1269	579	46
	Glomerulonephritis	1563	1375	88	1459	1163	80	1199	733	61	819	359	44
	All Diagnoses	10903	8664	79	10256	6910	67	8640	3737	43	5978	1523	25

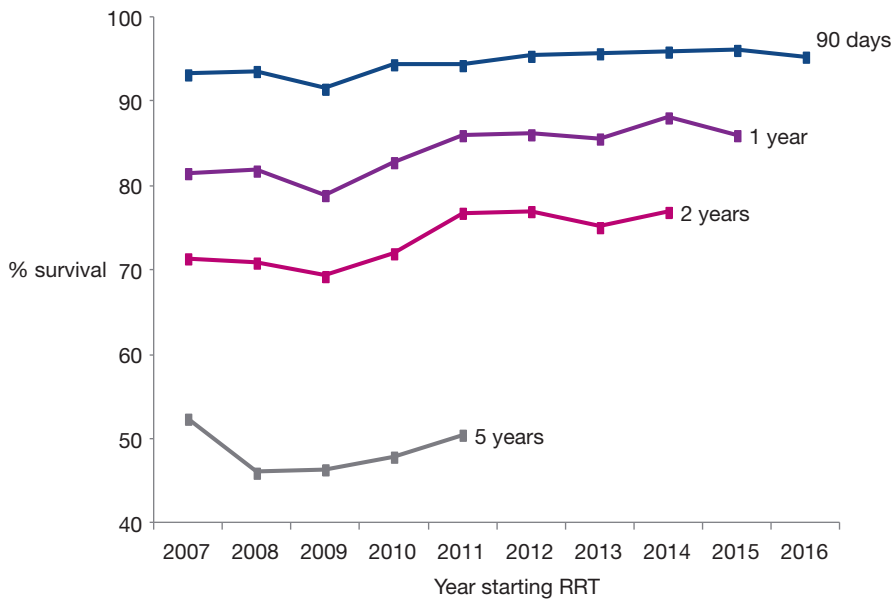
C1.2 Survival of patients by year of start of RRT 2007-2016

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
2007	93.2	81.5	78.3	71.4	69.4	52.4	50.6
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	82.8	79.3	72.0	68.8	47.9	47.5
2011	94.3	86.0	83.6	76.8	73.7	50.5	48.7
2012	95.4	86.1	83.7	77.0	74.9	/	/
2013	95.7	85.6	82.4	75.1	72.5	/	/
2014	95.9	88.1	86.1	76.9	75.0	/	/
2015	96.1	86.0	83.1	/	/	/	/
2016	95.3	/	/	/	/	/	/

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 2006-2016



Trend in 90 days survival: year to year OR is 1.07 (95% CI 1.03 -1.12).

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 1.06 (95% CI is 1.02 -1.09).

Trend in 5 years survival: year to year OR is 0.9 (95% CI is 0.94 -1.05).

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

C1.4 Proportion of patients starting RRT 2007-2015 surviving at 90 days and 1 year, by NHS Board area of residence

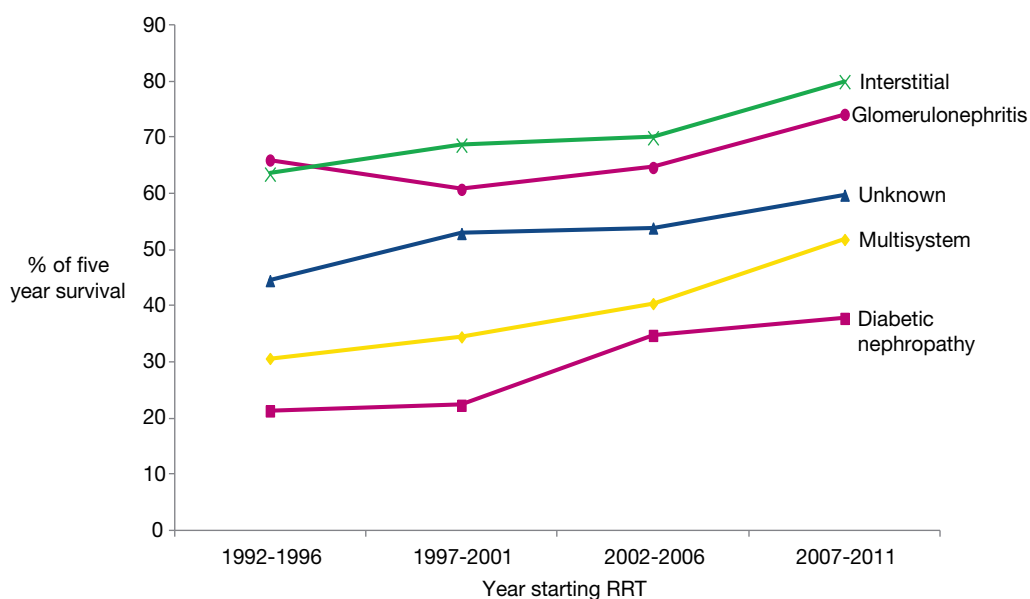
NHS Board	Number of patients	90 day survival		1 year survival	
		n	%	n	%
A&A	434	404	93	356	82
BORD	113	109	96	106	94
D&G	163	153	94	139	85
FIFE	446	415	93	369	83
FV	325	306	94	269	83
GRAM	552	528	96	472	86
GG&C	1237	1155	93	1020	82
HIGH	290	277	96	246	85
LAN	664	639	96	565	85
LOTH	704	651	92	552	78
ORKN	23	21	91	20	87
SHET	17	16	94	13	76
TAY	490	459	94	397	81
WI	35	34	97	30	86
SCOTLAND	5493	5167	94	4554	83

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.

Data relating to patients starting RRT after 2011 are excluded to ensure a minimum available follow up period of 5 years.

C2.1 Trend in 5 year survival from starting RRT 1992-2011 for patients aged 45-64 for each primary renal diagnosis group



There is a statistically significant trend of improving 5 year survival for all primary renal diagnosis groups except Glomerulonephritis.

	Odds Ratio	95% Confidence Interval	p-value
Glomerulonephritis	1.14	(0.98,1.33)	0.10
Interstitial	1.28	(1.12,1.48)	p<0.001
Multisystem	1.34	(1.17,1.56)	p<0.001
Diabetic Nephropathy	1.36	(1.18,1.58)	p<0.001
Unknown	1.21	(1.02,1.44)	0.04

C3 Survival by NHS Board area of residence

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

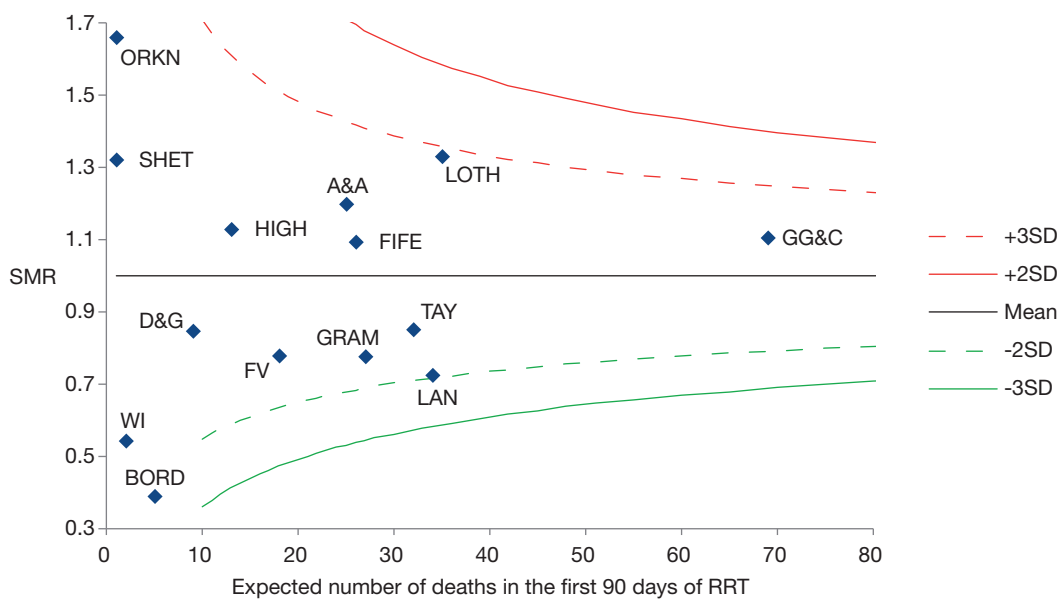
A SMR close to one means that the observed number of deaths is close to the expected number.

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.

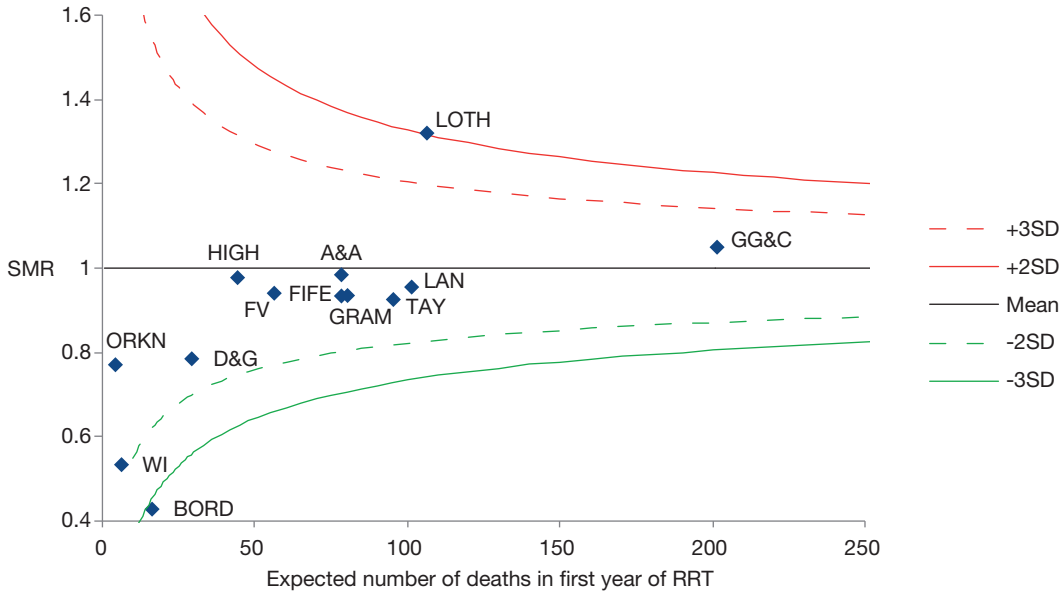
C3.1 90 day standardised mortality ratio for patients starting RRT 2007-2016 by NHS Board area of residence



All NHS 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 2007-2016 was 5.6%.

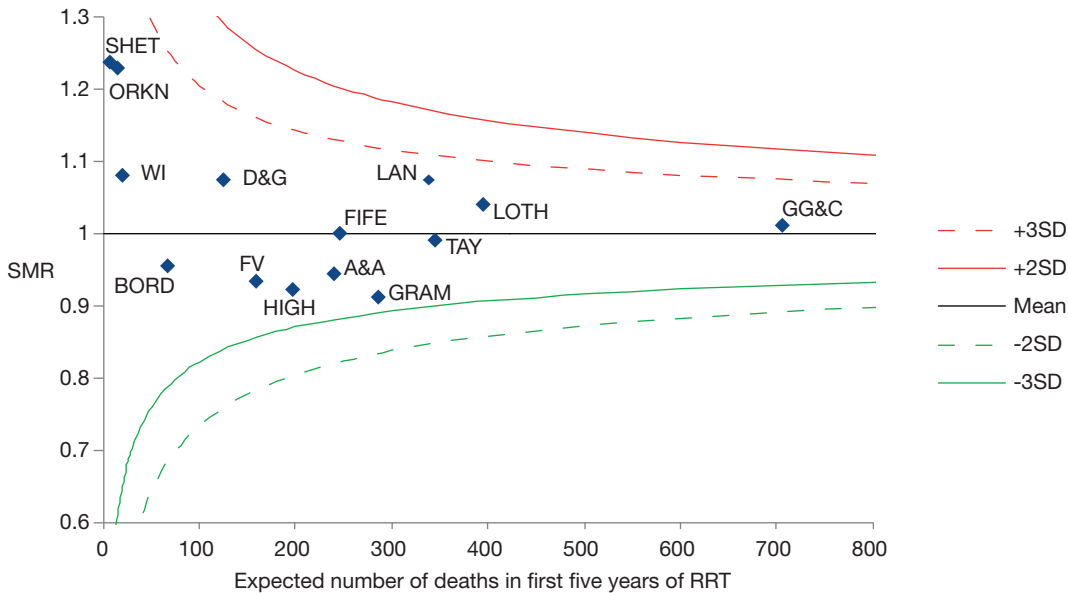
C3.2 One year standardised mortality ratio for patients starting RRT 2006-2015 by NHS Board area of residence



All boards fall within 3 standard deviations of the mean with the exception of BORD.

The mortality in first year of RRT for patients starting RRT in the ten years 2006-2015 was 17.1%.

C3.3 Five year standardised mortality ratio for patients starting RRT 2002-2011 by NHS Board area of residence

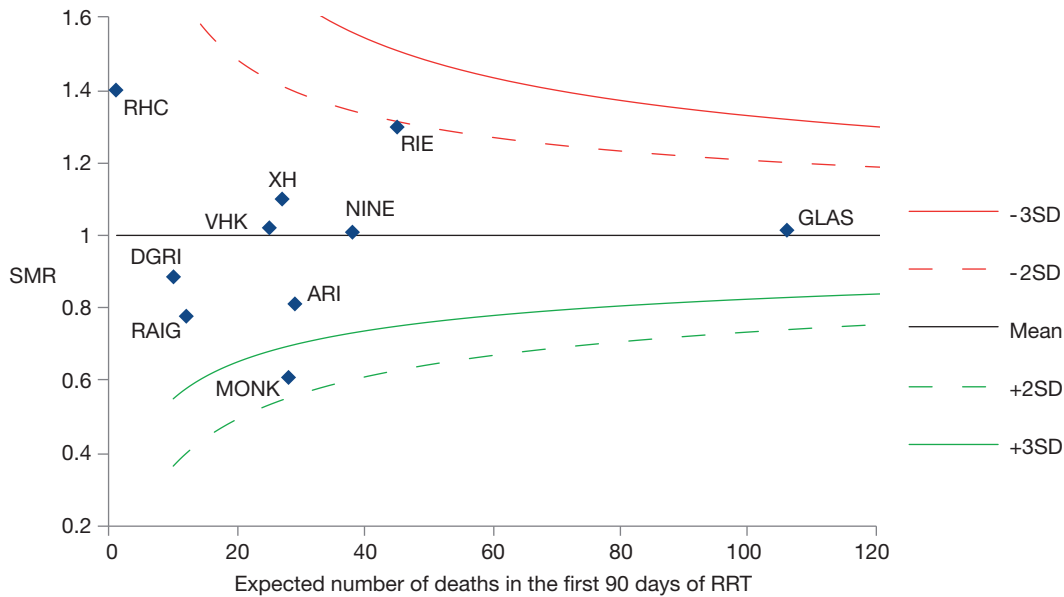


All NHS Board areas fall within 3 standard deviations of the mean.

The mortality in first five years of RRT for patients starting RRT in the ten years 2001 - 2010 was 55.6%.

C4 Survival by renal unit providing first RRT

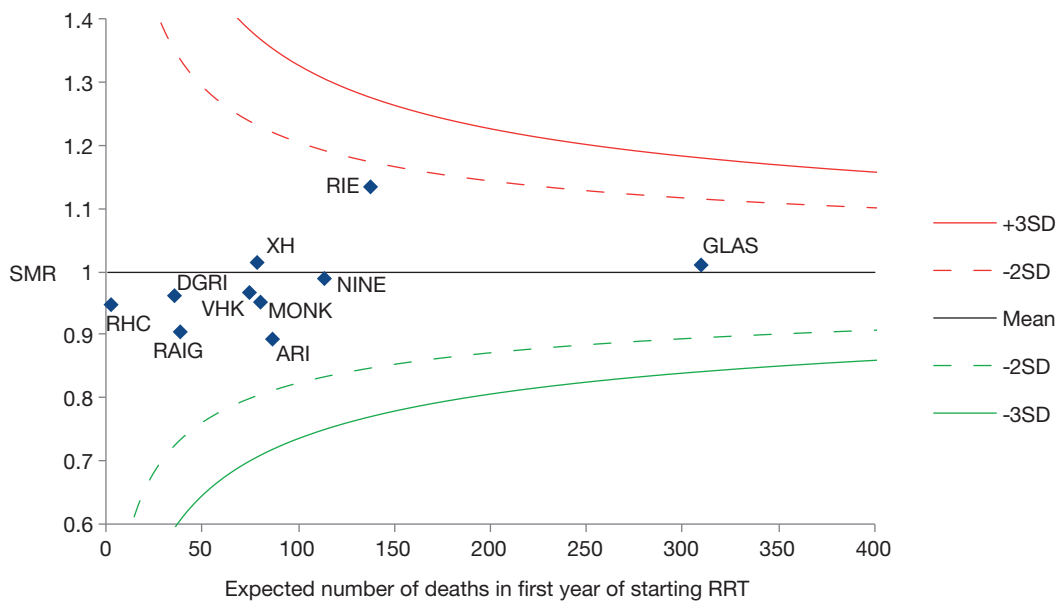
C4.1 90 day standardised mortality ratio by renal unit providing first RRT for patients starting RRT 2007-2016



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 2007-2016 was 5.6%.

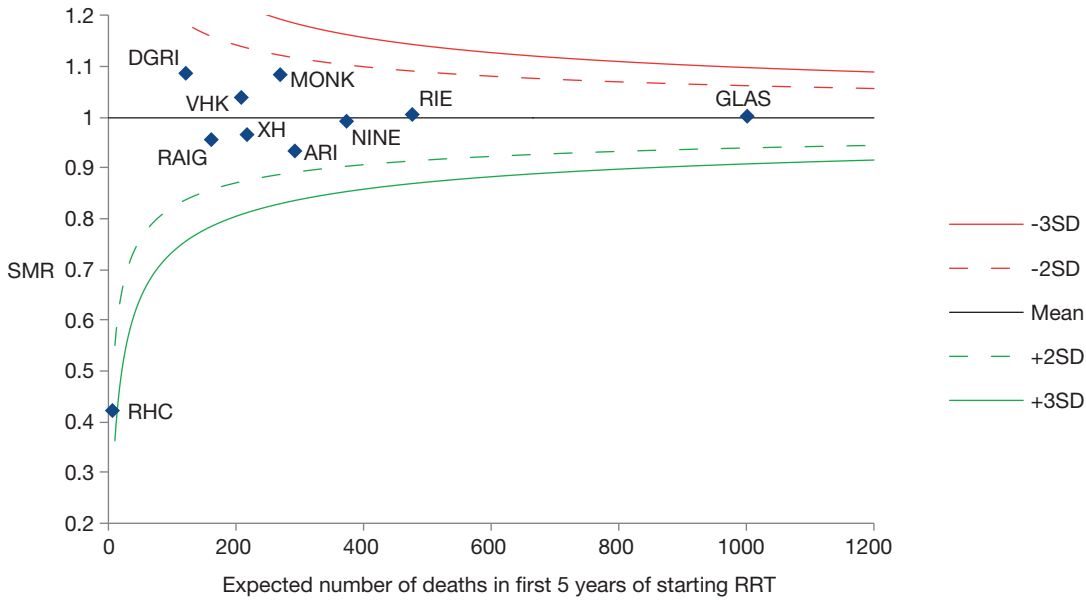
C4.2 One year standardised mortality ratio by renal unit providing first RRT for patients starting RRT 2006-2015



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 2006-2015 was 17.1%.

C4.3 Five year standardised mortality ratio by renal unit providing first RRT for patients starting RRT 2002-2011



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 2002 - 2011 was 55.6%.