

SECTION H VASCULAR ACCESS FOR HAEMODIALYSIS

Details of vascular access used for haemodialysis for all hospital and home haemodialysis patients were collected during the SRR census week in May 2016. The SRR has collected data about the access used for first haemodialysis for incident patients since the start of 2012.

The Renal Association guideline suggests that 65% of all incident adult haemodialysis patients should commence dialysis with an arteriovenous (AV) fistula and that 85% of established patients should have AV access.

In 2015 there were 478 incident adult haemodialysis in Scotland.

201 (42.1%) of these commenced dialysis with AV access and 277 (57.9%) with a central venous catheter (CVC).

Between the 01 January 2016 and 30 June 2016 there were 207 incident adult haemodialysis patients. 89 (43.0%) patients commenced with AV access and 118 (57.0%) with a CVC.

During the same time 6-month period, 4 paediatric patients started HD in total at RHC and all commenced HD with a CVC.

There are no missing data for 2016.

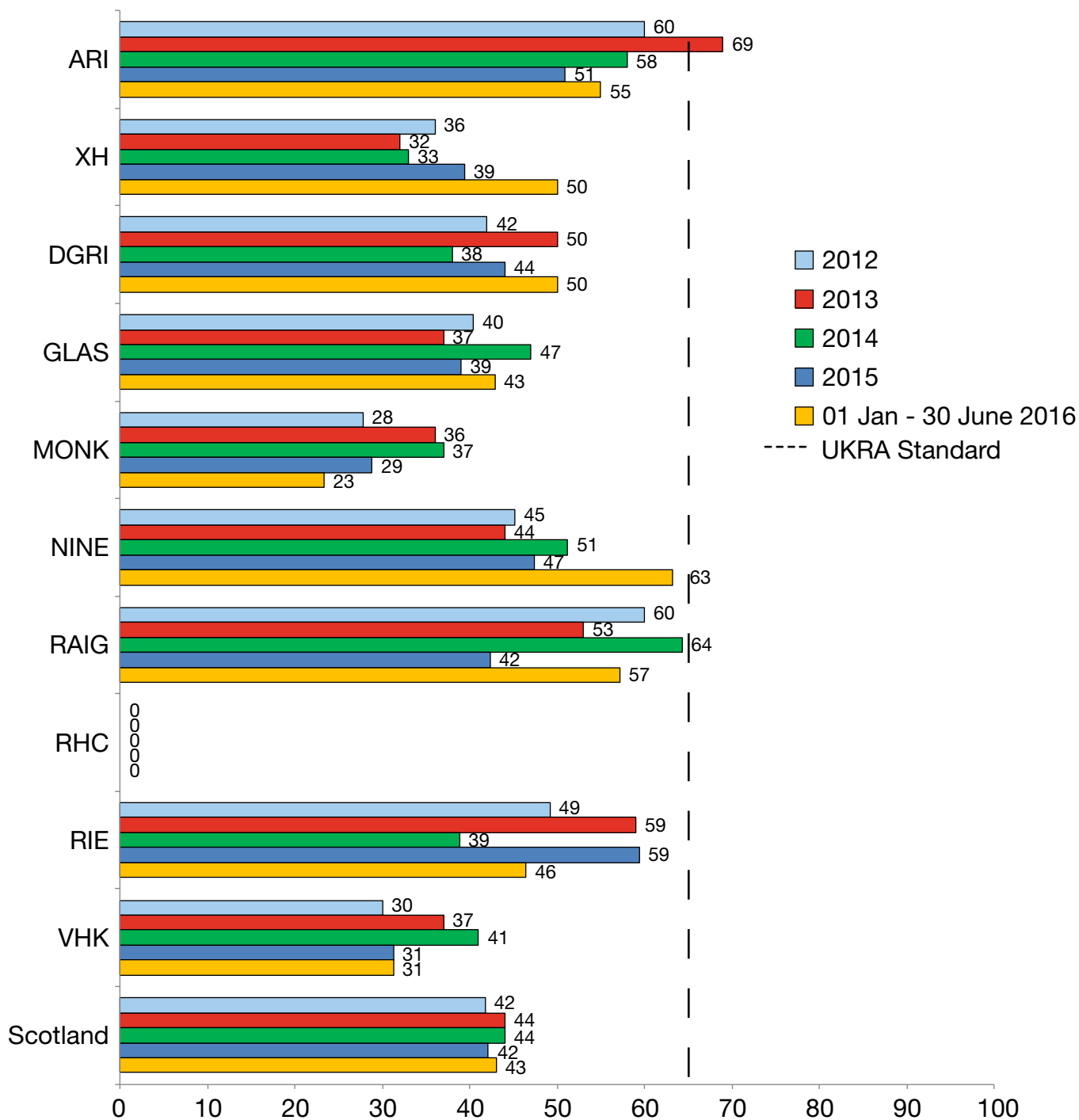
H1 Types of vascular access used for first haemodialysis 2012 to June 2016										
Year	No. starting HD	No. with data	Arteriovenous				Central Venous Catheter			
			Fistula	Graft	Total		Tunnelled	Non-tunnelled	Total	
					n	%			n	%
2012	422	422	174	2	176	41.7	167	79	246	58.3
2013	398	398	169	7	176	44.2	146	76	222	55.8
2014	434	434	184	9	193	44.5	155	86	241	55.5
2015	478	478	188	13	201	42.1	165	112	277	57.9
2016*	207	207	76	13	89	43.0	71	47	118	57.0

* 01 January - 30 June 2016.

Analysis of access of incident patients by age, sex and primary renal diagnosis showed no significant differences.

H2 Relationship between time of first referral to nephrology and access used for first HD 01 January 2012 - 30 June 2016								
Type of Access	Total on HD	No. with data	Early referral		Late referral		Median time between referral and RRT	
			n	%	n	%	Months	IQR
AV	835	772	759	51.1	13	4.0	58.0	30.2 - 109
CVC	1104	1036	725	48.9	311	96.0	21.0	1.5 - 65.1
Total	1939	1808	1484	-	324	-	37.4	8.3 - 87.5

H3 Percentage of patients with AV access for first haemodialysis by renal unit 2012 - 30 June 2016



H4 Types of vascular access for prevalent haemodialysis patients each May 2009-2016											
Year	No. on HD	No. with data		Arteriovenous				Central Venous Catheter			
		n	%	Fistula	Not known	Total		Tunnelled	Non-tunnelled	Total	
						n	%			n	%
2009	1848	1699	91.9	1206	16	1280	75.3	385	34	419	24.7
2010	1868	1748	93.6	1262	2	1315	75.2	400	33	433	24.8
2011	1877	1810	96.4	1275	40	1369	75.6	405	36	441	24.4
2012	1873	1769	94.4	1284	10	1366	77.2	379	24	403	22.8
2013	1885	1680	89.1	1217	0	1286	76.5	343	51	394	23.5
2014	1853	1803	97.3	1256	4	1336	74.1	437	30	467	25.9
2015	1906	1831	96.1	1236	0	1315	71.8	482	34	516	28.2
2016	1878	1817	96.8	1207	1	1322	72.8	470	25	495	27.2

1878 patients with established renal failure were being treated by haemodialysis in May 2016, details of vascular access were available for 1817 (96.8%).

As in previous years, in 2016 males were significantly more likely than females to be using AV access (76% v 68%; $p < 0.001$).

70% of patients in the oldest quartile were using AV access, as were 70% in the youngest quartile.

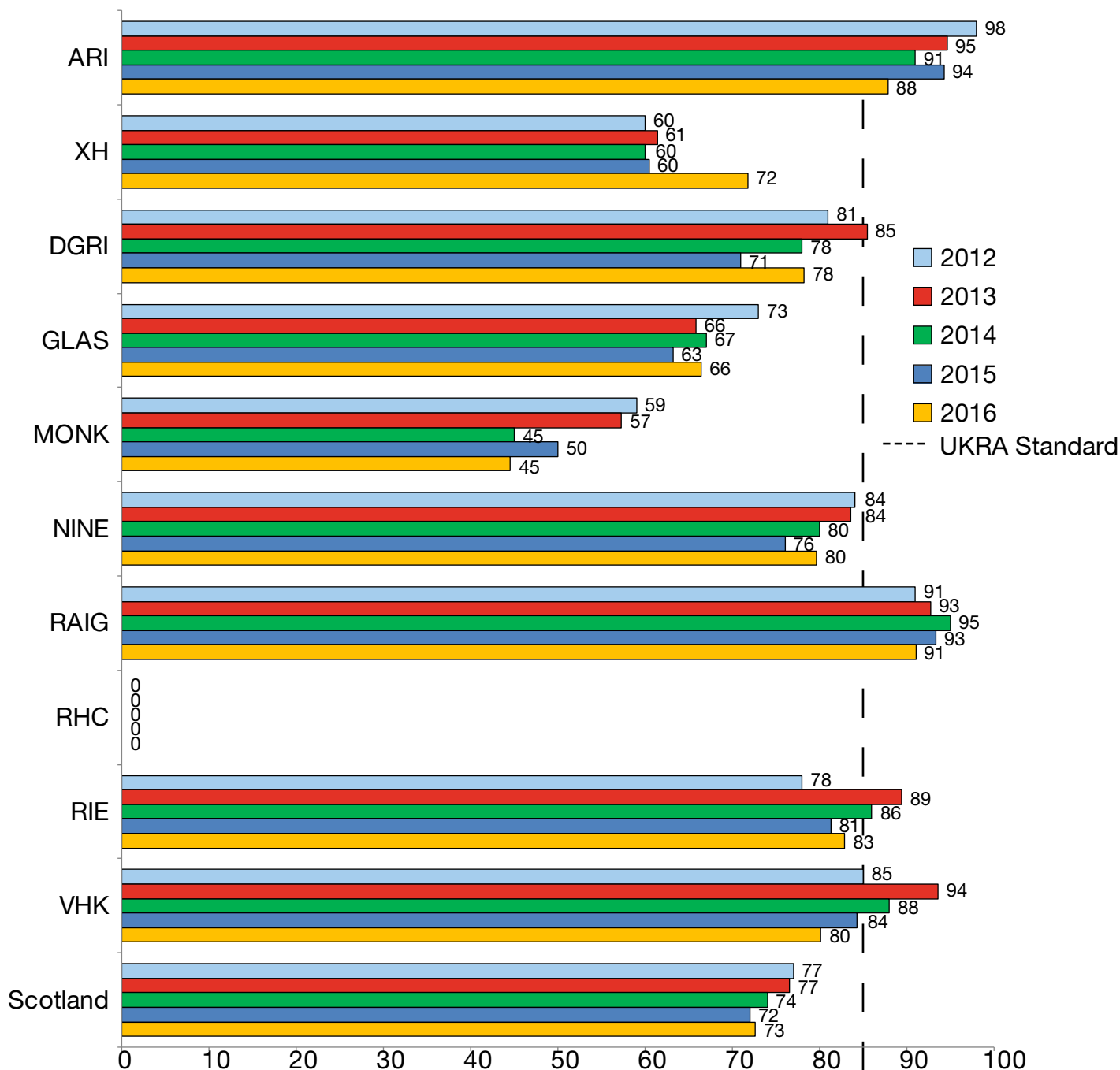
75% of patients in the 2nd age quartile, and 76% in the 3rd quartile had AV access. This difference was significant ($p < 0.05$).

There were significant differences between diagnostic groups, patients with diabetic nephropathy being the least likely to have AV access (68%).

Patients with interstitial disease most likely (79%). ($p < 0.002$).

There were significant differences between renal units. Figure H5 shows the percentage of AV access in each unit for 2012-2016.

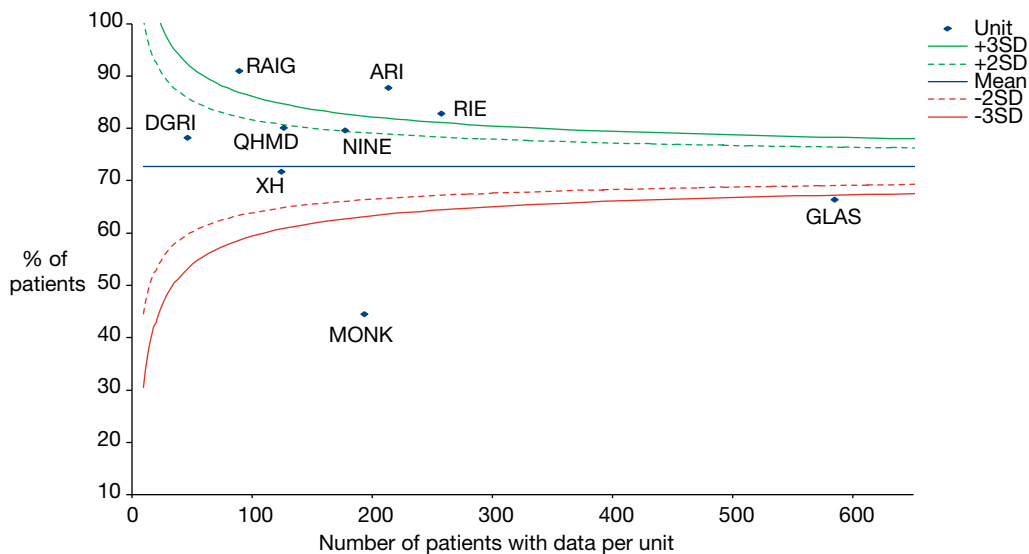
H5 Percentage of haemodialysis patients with AV access by renal unit: Census results 2012 - 2016



Rates of AV access (for patients with data submitted) in the adult units in May 2016 ranged from 45% to 91% (Chi square $p < 0.001$).

The Renal Association guideline suggests that 85% of all prevalent adult patients on haemodialysis should receive dialysis via a functioning arteriovenous fistula.

H6 Percentage of patients on hospital haemodialysis with AV access by renal unit May 2015



RHC had no patients with AV access and is not shown on the funnel plot.

Of the 45 patients receiving home haemodialysis during the census, information on vascular access was available for 39 (86.7%).

Of those with data, 36 patients were receiving dialysis via AV fistula or graft (92.3%) and 3 via a central venous catheter (7.7%).

Patients who had been on dialysis for less than a year were significantly less likely to be using AV access than those who had been on dialysis for longer (59% v 76%; $p < 0.001$).

H7 Number of patients confirmed as using buttonhole cannulation technique by renal unit May 2016

	ARI	XH	DGRI	GLAS	MONK	NINE	RAIG	RHC	RIE	VHK	Scotland
Total on HD	220	128	52	592	193	184	90	9	272	138	1878
Total with AV access	187	89	36	387	85	141	81	0	213	101	1320
Sufficient data	186	86	36	365	76	140	78	0	213	101	1281
Buttonhole yes	143	74	1	15	63	88	52	0	96	6	538
Buttonhole no	43	12	35	350	13	52	26	0	117	95	743

1281 patients had the AV access cannulation technique in use in May 2016 recorded.