

# ANTHROPOMETRIC MEASUREMENTS OF HAEMODIALYSIS PATIENTS

Patients' measured height and weight were recorded in the May 2016 census, all prevalent home and hospital HD patients were included.

Height and weight measurements were available for 1760 (93.7%) of the 1878 prevalent HD patients.

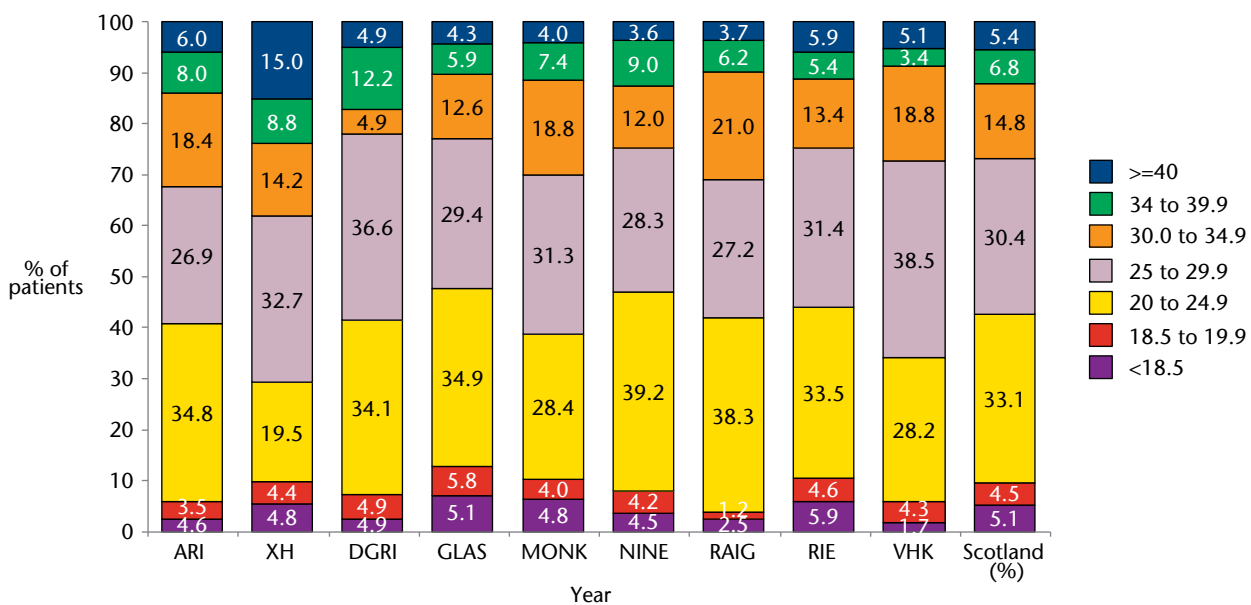
Body mass index (BMI) can be calculated using height and weight in adult patients. Patients aged under 18 (10 patients) and those with one or more limb amputations (86 patients) are excluded from the analyses.

BMI was available for 1672 (93.8%) of 1782 adult patients with no limb amputation

The data collection form and methods are available on the SRR website:

<http://www.srr.scot.nhs.uk/Projects/Main.html#census>

**Figure 1 Distribution of BMI (kg/m<sup>2</sup>) by renal unit May 2016**



The WHO suggest that BMI <18.5 kg/m<sup>2</sup> is underweight in the normal population, that BMI ≥ 25 kg/m<sup>2</sup> is overweight and ≥ 30 kg/m<sup>2</sup> denotes obesity.

A BMI of <20kg/m<sup>2</sup> is suggested as an audit measure by Renal Association clinical guidelines as a measure of under nutrition.

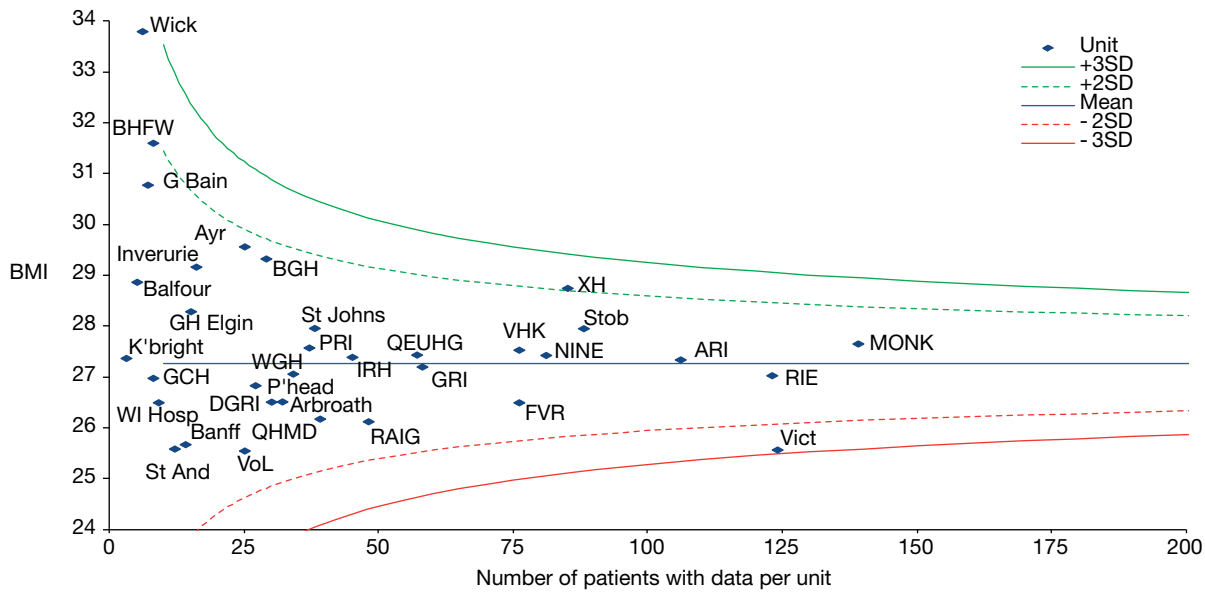
The Renal Association guideline regarding evaluation and selection for potential renal transplant states that patients with BMI >30 kg/m<sup>2</sup> present technical difficulties, and those with BMI >40 kg/m<sup>2</sup> are less likely to benefit from transplantation.

The Scottish Health Survey reports a rising trend in obesity and in 2015, 65% of adults were overweight (BMI >25) with 29% of them in the obese category (BMI >30).

<http://www.scotland.gov.uk/Topics/Statistics/Browse/Health/scottish-health-survey>

In the Scottish haemo-dialysis population in May 2016 57.3% of patients were overweight with 26.9% in the obese category.

**Figure 2 Distribution of mean BMI (kg/m<sup>2</sup>) by dialysis unit May 2016**



The mean BMI of HD patients in Scotland was 27 kg/m<sup>2</sup> (overweight).

**Figure 3 Median BMI (kg/m<sup>2</sup>) of patients in each primary renal diagnosis group May 2016**

Diagnosis group	Number of patients	Median BMI	IQR
Glomerulonephritis	292	26.5	22.9 - 31.0
Interstitial	391	25.2	22.5 - 29.7
Multisystem	358	25.2	22.2 - 28.9
Diabetes	373	28.5	24.1 - 33.5
Unknown	243	25.4	21.8 - 28.4

There are significant differences in BMI between PRD groups (p<0.001 Kruskal-Wallis).

**Figure 4 Median BMI (kg/m<sup>2</sup>) by census year 2012-2016**

Year	HD census records*	Exclusions due to amputation	Missing BMI		Median BMI	IQR**
			No.	%		
2012	1782	85	138	7.7	25.7	22.4 - 29.9
2013	1793	86	234	13.0	25.8	22.6 - 29.8
2014	1753	91	191	10.9	25.9	22.5 - 30.4
2015	1802	95	221	12.3	26.0	22.8 - 30.5
2016	1782	86	110	6.2	26.0	22.7 - 30.5

\* Adult patients only. Patients reported to have one or more amputation are excluded.

\*\* IQR Inter quartile range

**Figure 5 Distribution of BMI (kg/m<sup>2</sup>) by year 2012-2016**

