Supplemental Table S1. Beta-coefficients (95% confidence intervals) for the association between standardized scores in cognitive tests and anemia, restricting the sample to individuals without low body-mass index, low glomerular filtration rate or using antipsychotic, antiparkinsonian or anticonvulsant medications.

	Crude			Adjusted model 1			Adjusted model 2		
	Beta	95% CI		Beta	95% CI		Beta	95% CI	
		LB	UB		LB	UB		LB	UB
All sample									
Global	-0.021	-0.100	0.057	0.031	-0.048	0.110	0.017	-0.061	0.096
Verbal learning	0.059	-0.019	0.137	0.056	-0.023	0.135	0.050	-0.029	0.130
Late recall	0.011	-0.067	0.089	0.025	-0.054	0.104	0.020	-0.059	0.100
Word recognition	-0.035	-0.113	0.043	-0.039	-0.118	0.040	-0.039	-0.119	0.041
Animal semantic fluency test	-0.036	-0.114	0.042	0.017	-0.062	0.096	0.003	-0.076	0.082
Trail Making Test, Part B	-0.065	-0.143	0.013	0.037	-0.041	0.115	0.021	-0.057	0.099
Men									
Global	0.058	-0.111	0.226	0.097	-0.071	0.265	0.110	-0.057	0.277
Verbal learning	0.131	-0.037	0.299	0.127	-0.041	0.295	0.133	-0.035	0.302
Late recall	0.058	-0.110	0.226	0.066	-0.103	0.234	0.069	-0.100	0.237
Word recognition	0.037	-0.131	0.205	0.040	-0.129	0.209	0.046	-0.124	0.215
Animal semantic fluency test	-0.030	-0.198	0.138	0.009	-0.159	0.178	0.018	-0.150	0.186
Trail Making Test, Part B	-0.015	-0.183	0.153	0.062	-0.105	0.229	0.081	-0.085	0.247
Women									
Global	-0.044	-0.133	0.045	0.015	-0.075	0.105	-0.002	-0.092	0.088
Verbal learning	0.039	-0.050	0.128	0.043	-0.048	0.134	0.034	-0.057	0.125
Late recall	-0.002	-0.091	0.087	0.020	-0.071	0.111	0.012	-0.079	0.103
Word recognition	-0.056	-0.145	0.033	-0.060	-0.151	0.031	-0.065	-0.156	0.026
Animal semantic fluency test	-0.039	-0.128	0.050	0.014	-0.076	0.104	0.000	-0.090	0.090
Trail Making Test, Part B	-0.080	-0.169	0.008	0.030	-0.059	0.119	0.013	-0.075	0.101

95% CI: 95% confidence interval. LB: Lower bound. UB: Upper bound. Adjusted model 1 is adjusted for race, family income, smoking status, hypertension, diabetes, dyslipidemia, thyroid function and excessive alcohol use. Adjusted model 2 is adjusted for variables included in the adjusted model 1 plus age, sex and years of formal education (to reduce residual confounding), body-mass index, estimated glomerular filtration rate and use of antipsychotic medications, antiparkinsonian agents, and/or anticonvulsants.

Supplemental Table S2. Beta-coefficients for the association between global scores and sex-specific hemoglobin quintiles.

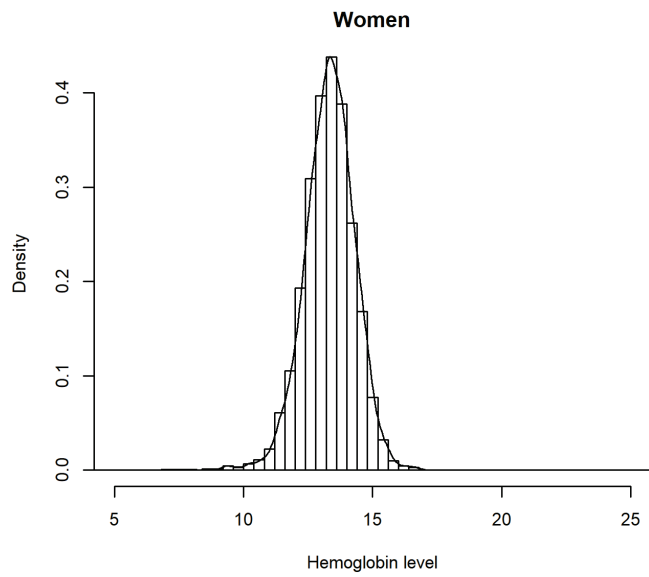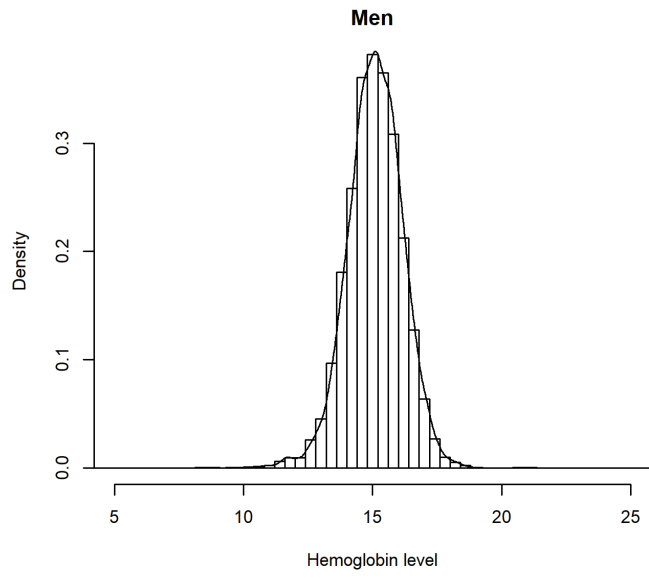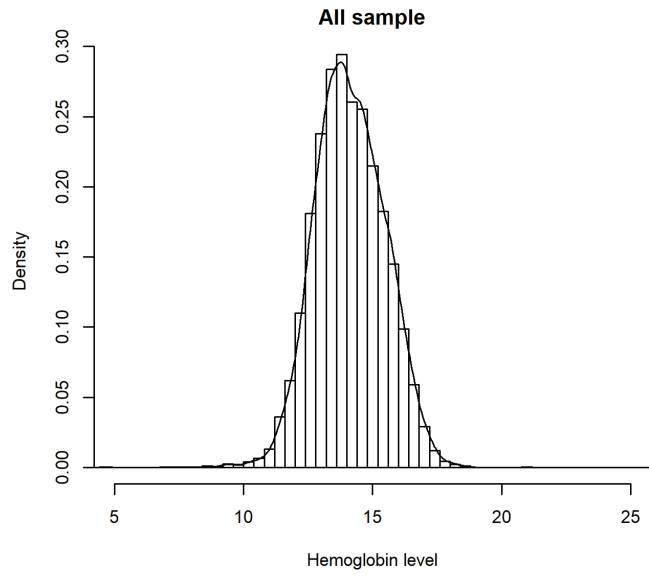|	Crude			Adjusted model 1			Adjusted model 2		
	Beta	95% CI		Beta	95% CI		Beta	95% CI	
		LB	UB		LB	UB		LB	UB
All sample									
1st quintile	-0.020	-0.053	0.014	-0.002	-0.036	0.031	-0.003	-0.037	0.030
2nd quintile	-0.001	-0.035	0.033	0.001	-0.032	0.035	0.003	-0.030	0.037
3rd quintile (Reference)	0			0			0		
4th quintile	0.001	-0.032	0.035	-0.001	-0.034	0.032	0.000	-0.033	0.033
5th quintile	-0.019	-0.052	0.013	-0.019	-0.052	0.013	-0.018	-0.050	0.015
Men									
1st quintile	-0.016	-0.067	0.034	-0.007	-0.057	0.044	0.002	-0.048	0.052
2nd quintile	0.009	-0.041	0.059	0.009	-0.041	0.059	0.014	-0.036	0.063
3rd quintile (Reference)	0			0			0		
4th quintile	-0.010	-0.060	0.040	-0.015	-0.065	0.035	-0.017	-0.067	0.033
5th quintile	-0.041	-0.091	0.009	-0.036	-0.086	0.014	-0.036	-0.086	0.014
Women									
1st quintile	-0.024	-0.069	0.021	0.003	-0.043	0.048	-0.006	-0.051	0.039
2nd quintile	-0.011	-0.057	0.035	-0.004	-0.050	0.042	-0.006	-0.052	0.040
3rd quintile (Reference)	0			0			0		
4th quintile	0.011	-0.034	0.055	0.011	-0.033	0.056	0.014	-0.030	0.058
5th quintile	-0.003	-0.046	0.041	-0.007	-0.051	0.036	-0.004	-0.047	0.039

95% CI: 95% confidence interval. LB: Lower bound. UB: Upper bound. Adjusted model 1 is adjusted for race, family income, smoking status, hypertension, diabetes, dyslipidemia, thyroid function and excessive alcohol use. Adjusted model 2 is adjusted for variables included in the adjusted model 1 plus age, sex and years of formal education (to reduce residual confounding), body-mass index, estimated glomerular filtration rate and use of antipsychotic medications, antiparkinsonian agents, and/or anticonvulsants.

Supplemental Table S3. Beta-coefficients for the association between global cognition z-scores and anemia or sex-specific hemoglobin quintiles (defined by the distribution of normal hemoglobin levels).

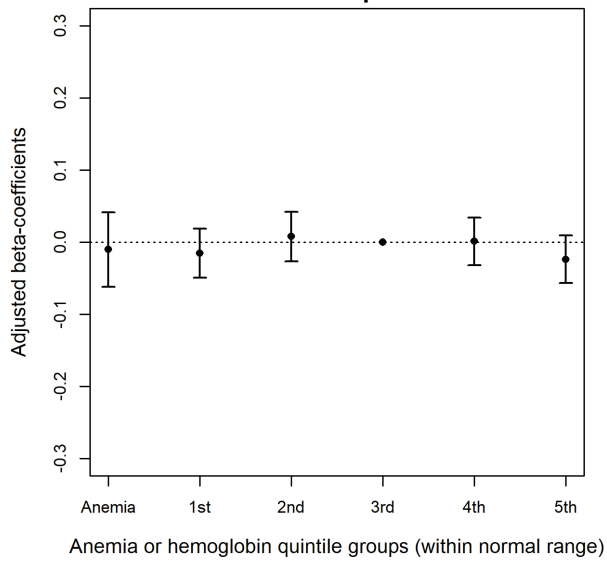|	Crude			Adjusted model 1			Adjusted model 2		
	Beta	95% CI		Beta	95% CI		Beta	95% CI	
		LB	UB		LB	UB		LB	UB
All sample									
Anemia	-0.038	-0.090	0.014	-0.002	-0.054	0.050	-0.010	-0.062	0.041
1st quintile (within normal levels)	-0.027	-0.061	0.007	-0.015	-0.049	0.020	-0.016	-0.050	0.018
2nd quintile (within normal levels)	0.003	-0.031	0.038	0.006	-0.028	0.041	0.008	-0.026	0.042
3rd quintile (within normal levels; Reference)	0			0			0		
4th quintile (within normal levels)	0.002	-0.031	0.036	0.002	-0.032	0.035	0.001	-0.032	0.034
5th quintile (within normal levels)	-0.026	-0.060	0.007	-0.025	-0.059	0.008	-0.024	-0.057	0.009
Men									
Anemia	-0.001	-0.105	0.104	0.026	-0.079	0.130	0.039	-0.065	0.143
1st quintile (within normal levels)	-0.018	-0.071	0.034	-0.011	-0.064	0.041	-0.004	-0.056	0.048
2nd quintile (within normal levels)	0.009	-0.041	0.059	0.009	-0.041	0.059	0.014	-0.036	0.063
3rd quintile (within normal levels; Reference)	0			0			0		
4th quintile (within normal levels)	-0.010	-0.060	0.040	-0.015	-0.065	0.035	-0.017	-0.067	0.032
5th quintile (within normal levels)	-0.041	-0.091	0.009	-0.036	-0.086	0.014	-0.036	-0.086	0.014
Women									
Anemia	-0.048	-0.109	0.012	-0.007	-0.068	0.055	-0.019	-0.080	0.042
1st quintile (within normal levels)	-0.034	-0.079	0.012	-0.016	-0.061	0.030	-0.023	-0.069	0.022
2nd quintile (within normal levels)	-0.003	-0.051	0.045	0.006	-0.042	0.054	0.002	-0.046	0.049
3rd quintile (within normal levels; Reference)	0			0			0		
4th quintile (within normal levels)	0.014	-0.032	0.059	0.018	-0.028	0.063	0.017	-0.028	0.062
5th quintile (within normal levels)	-0.013	-0.058	0.031	-0.016	-0.060	0.029	-0.014	-0.058	0.031

95% CI: 95% confidence interval. LB: Lower bound. UB: Upper bound. Adjusted model 1 is adjusted for race, family income, smoking status, hypertension, diabetes, dyslipidemia, thyroid function and excessive alcohol use. Adjusted model 2 is adjusted for variables included in the adjusted model 1 plus age, sex and years of formal education (to reduce residual confounding), body-mass index, estimated glomerular filtration rate and use of antipsychotic medications, antiparkinsonian agents, and/or anticonvulsants.
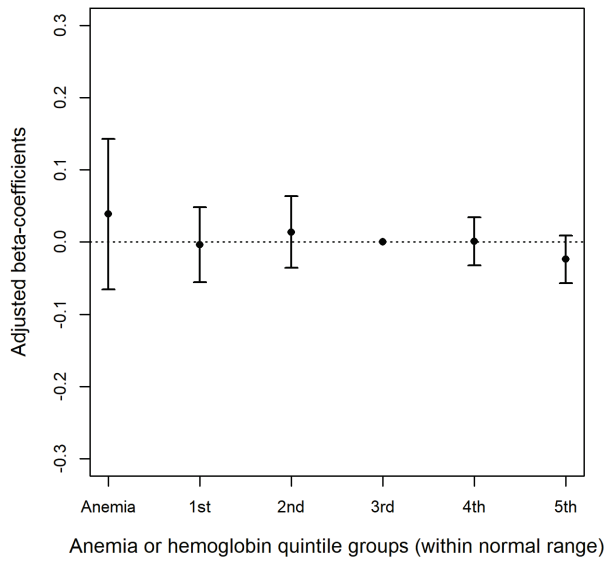
Supplemental Figure S1

Supplemental Figure S2

All sample

Men

Women