

## Supplement 1

Supplementary Table 1. Distributions of predictor variables in all five datasets. Numeric variables are described by their median and (interquartile range) unless otherwise stated. Dichotomous variables are described by the proportion of observations.

Visits by male donors					
Variable	Australia	Belgium	Finland	Netherlands	South Africa
Number of donors	10000	8552	10000	10000	10000
Age in years	41 (29-54)	39 (25-52)	53 (41-60)	52 (39-60)	44 (33-54)
Mean consecutive deferrals	0.003	0.025	0.018	0.029	0.213
Days to previous donation	98 (84-167)	99 (90-182)	106 (77-168)	92 (70-147)	73 (59-118)
Hemoglobin in g/L	149 (142-157)	153 (147-159)	154 (147-162)	148 (142-156)	153 (142-163)
Proportion of Hb deferrals	0.004	0.022	0.018	0.029	0.129
First Hb level in g/L	150 (143-158)	154 (148-160)	155 (147-162)	150 (143-158)	153 (140-163)
Time of day as hour between 0-24	13.1 (10.8-15.6)	18.9 (17.8-19.7)	14.8 (13.1-16.4)	16.3 (13.1-18.7)	12.8 (11.2-14.6)
Hb level at previous visit in g/L	148 (139-156)	151 (143-158)	153 (144-161)	148 (140-155)	151 (137-162)
Proportion of low Hb at previous visit	0.003	0.020	0.018	0.030	0.124
Mean recent low Hb	0.008	0.066	0.074	0.127	0.553
Recent donations	4 (2-6)	4 (2-6)	5 (2-9)	5 (2-9)	4 (2-7)
Warm season proportion	0.500	0.477	0.491	0.494	0.524

Visits by female donors					
Variable	Australia	Belgium	Finland	Netherlands	South Africa
Number of donors	10000	9028	10000	10000	10000
Age in years	37 (25-50)	34 (21-47)	50 (35-58)	47 (31-57)	41 (31-52)
Mean consecutive deferrals	0.016	0.131	0.040	0.057	0.146
Days to previous donation	104 (87-183)	111 (91-196)	140 (106-224)	154 (132-222)	84 (62-156)
Hemoglobin in g/L	133 (127-140)	135 (130-141)	140 (133-147)	135 (129-142)	136 (128-144)
Proportion of Hb deferrals	0.021	0.106	0.038	0.054	0.141
First Hb level in g/L	134 (128-141)	137 (132-143)	141 (134-147)	135 (129-142)	135 (128-144)
Time of day as hour between 0-24	13.1 (11.0-15.4)	18.7 (17.7-19.6)	15.3 (13.5-16.6)	15.5 (13.1-18.3)	13.0 (11.4-14.7)
Hb level at previous visit in g/L	131 (124-138)	134 (126-140)	138 (130-146)	134 (127-142)	134 (125-143)
Proportion of low Hb at previous visit	0.017	0.096	0.040	0.057	0.127
Mean recent low Hb	0.039	0.287	0.110	0.151	0.390
Recent donations	3 (1-5)	3 (1-5)	4 (2-6)	3 (1-6)	3 (1-6)
Warm season proportion	0.506	0.472	0.504	0.491	0.523