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## Genome-Wide Association Study of Blood Pressure Traits by Hispanic/Latino Background: the Hispanic Community Health Study/Study of Latinos

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Hypertension prevalence varies between ethnic groups, possibly due to differences in genetic, environmental, and cultural determinants. Hispanic/Latino Americans are a diverse and understudied population. We performed a genome-wide association study (GWAS) of blood pressure (BP) traits in 12,278 participants from the Hispanics Community Health Study/Study of Latinos (HCHS/SOL). In the discovery phase we identified eight previously unreported BP loci. In the replication stage, we tested these loci in the 1982 Pelotas Birth Cohort Study of admixed Southern Brazilians, the COGENT-BP study of African descent, women of European descent from the Women Health Initiative (WHI), and a sample of European descent from the UK Biobank. No loci met the Bonferroni-adjusted level of statistical significance (0.0024). Two loci had marginal evidence of replication: rs78701042 (*NGF*) with diastolic BP ( $P = 0.008$  in the 1982 Pelotas Birth Cohort Study), and rs7315692 (*SLC5A8*) with systolic BP ( $P = 0.007$  in European ancestry replication). We investigated whether previously reported loci associated with BP in studies of European, African, and Asian ancestry generalize to Hispanics/Latinos. Overall, 26% of the known associations in studies of individuals of European and Chinese ancestries generalized, while only a single association previously discovered in a people of African descent generalized.

Hypertension affects approximately one-third of adults in the United States (US) and is a major risk factor for cardiovascular disease (CVD) morbidity and mortality<sup>1–3</sup>. Blood pressure (BP) is a complex, polygenic trait<sup>4,5</sup>. Prior genome-wide association studies (GWASs) have identified hundreds of genetic variants associated with BP traits (systolic and diastolic BP [SBP and DBP], pulse pressure [PP], mean arterial pressure [MAP], and hypertension

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	Overall	Mainland	Caribbean
n	12278	6722	5556
Mean age (SD)	46 (14)	45 (14)	48 (14)
female sex	7259 (59.1%)	4062 (60.4%)	3197 (57.5%)
Mean BMI (SD)	30 (6)	30 (5.8)	30 (6.3)
Hypertension	3445 (28.1%)	1476 (22%)	1969 (35.4%)
Mean SBP (SD)	125 (20.1)	122 (19.1)	128 (20.8)
Mean DBP (SD)	75 (11.9)	73 (11.3)	78 (12.1)
Mean MAP (SD)	92 (13.8)	89 (13)	94 (14.1)
Mean PP (SD)	50 (13.4)	49 (12.8)	51 (14.1)

**Table 1.** Characteristics of HCHS/SOL study participants 2008–2011, in Mainland and Caribbean groups, and Overall. Means and standard deviations (SD) of the continuous BP traits were calculated after adjustment for using hypertensive medication.

[HT]) in individuals of European<sup>6–10</sup>, East Asian<sup>11</sup>, and African descent<sup>12,13</sup>, or using trans-ethnic approaches<sup>14–17</sup>. Hispanics/Latinos are the largest minority ethnic group in the US, yet the genetic determinants of hypertension in this population remain poorly examined. In particular, only four genome-wide scan of BP traits to date have included Hispanics/Latinos, and these studies interrogated a limited number of single nucleotide polymorphisms (SNPs) from the Metabochip array<sup>18</sup>, or had very small number of Hispanics/Latinos<sup>15–17</sup>.

Hispanics/Latinos are likely to have more undiagnosed, untreated, or uncontrolled hypertension than other ethnic groups<sup>19,20</sup>. Most studies of hypertension prevalence among US Hispanics have focused on adults with Mexican background (from the National Health and Nutrition Examination Survey [NHANES]), while studies that included diverse representation of Hispanics/Latinos have shown a marked heterogeneity in the prevalence of hypertension based on Hispanic/Latino background<sup>19,21,22</sup>. In the Hispanic Community Health Study/Study of Latinos (HCHS/SOL), the overall age-adjusted prevalence of hypertension was 25.5%, but prevalence ranged from as low as 17% in South American women to 34% in Dominican men<sup>19</sup>.

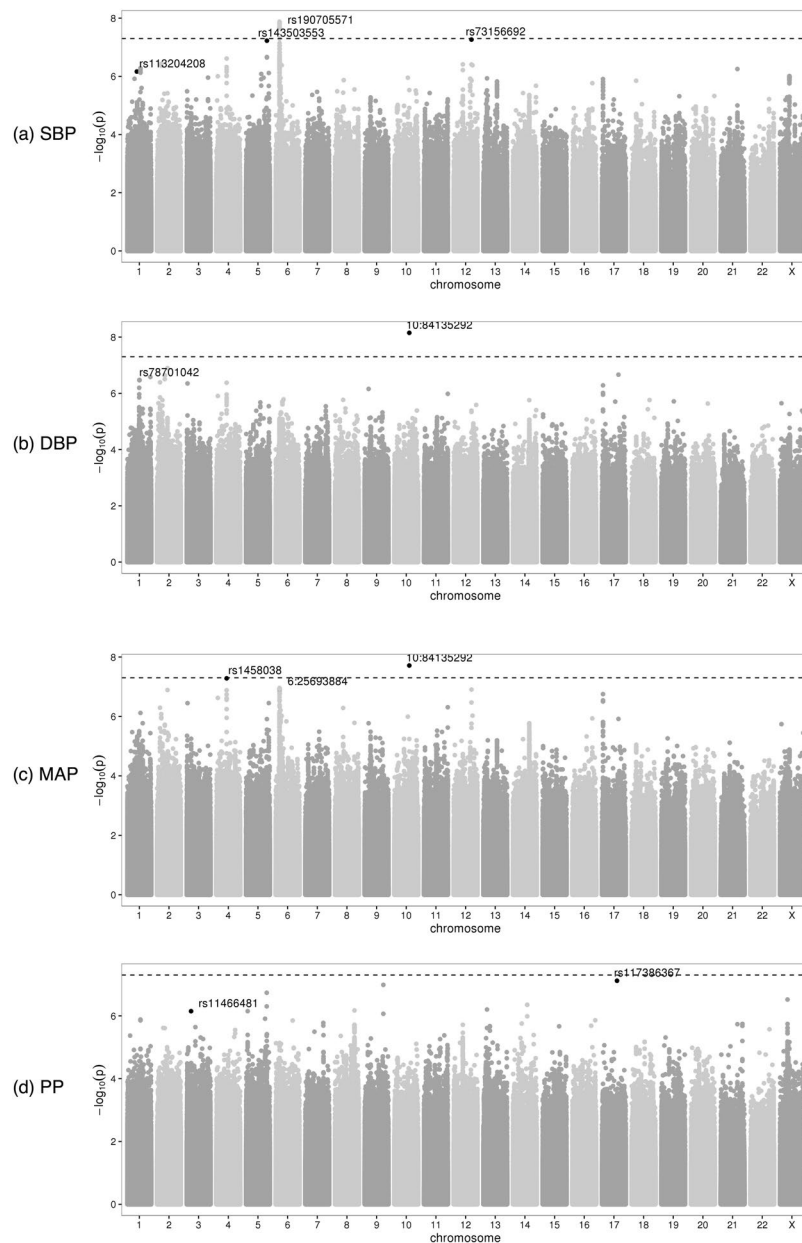
Hispanics/Latinos in the US have varying degrees of Amerindian, European, and African ancestry. We previously have described the genetic diversity among HCHS/SOL participants based on their country of origin and genetic ancestry<sup>23</sup>. The HCHS/SOL comprises of 12,278 ethnically diverse US individuals, classified into two subgroups: Mainland (individuals with Mexican, Central American, and South American background, and a relatively large proportion of Amerindian ancestry) and Caribbean (individuals with Cuban, Dominican, and Puerto Rican background, and a relatively large proportion of African ancestry). We performed a GWAS of BP traits in the HCHS/SOL, in the Mainland and Caribbean groups separately and combined, with the goal of studying genetic diversity within Hispanics/Latinos with respect to BP traits, and to discover novel BP loci.

## Results

Table 1 shows the characteristics of 12,278 Hispanic-/Latino- Americans from the HCHS/SOL, which included 6,722 Mainland and 5,556 Caribbean individuals. The mean age was 46 years and 59% were female. The prevalence of hypertension was 28% overall, but substantially higher among Caribbean than Mainland subgroups (35% vs. 22%).

GWAS genomic inflation factors ranged from 1.006 to 1.034 across the GWAS of the 5 BP traits and three subgroups (Mainland, Caribbean, and combined), indicating minimal population stratification. Manhattan and QQ plots for the 4 quantitative BP traits and hypertension across all analyses (Mainland, Caribbean, and combined) are provided in Fig. 1 (quantitative traits in the combined cohort) and in the Supplementary Information. All analyses excluded SNPs with low minor allele frequency (MAF) < 0.01 and imputation quality score < 0.3. There were no associations with  $P < 1 \times 10^{-7}$  in the HT analyses. We provide information about associations detected in the combined, Mainland, and Caribbean analyses below. Accompanying LocusZoom plots portraying the LD structure in these association regions and across the three subgroups, and forest plots comparing effect sizes are provided in Figures S16–S26 in the Supplementary Information. In addition, Tables S1 and S2 in the Supplementary Information provide summary of association analyses for these variants in all BP trait analyses.

**Association testing with quantitative BP traits in the combined discovery sample.** Table 2 provides the lead SNPs from each of the regions reaching the genome-wide significance threshold ( $P < 5 \times 10^{-8}$ ), or the suggestive significance level ( $P < 1 \times 10^{-7}$ ) in the combined discovery sample. Two common variants reached genome-wide significance (Table 2). The minor allele of a 1 bp indel intronic to *NRG3* located at the genomic region 10q23.1 (MAF = 0.30) was associated with higher DBP ( $P = 7.05 \times 10^{-9}$ ) and MAP ( $P = 1.93 \times 10^{-8}$ ). An intronic variant rs190705571 of *SCGN* at the genomic region 6p25.7 (MAF = 0.35) was associated with higher SBP ( $P = 2.16 \times 10^{-8}$ ). The same variant was also associated with higher MAP, although with a suggestive  $p$ -value ( $P = 2.29 \times 10^{-7}$ ). The allele frequencies of the *SCGN* rs190705571 variant differed considerably between Amerindian and African or European ancestral populations (Table S3 in the Supplementary Information). The minor allele of rs190705571 is more common among the Mainland group (MAF = 0.43) compared to the Caribbean group (MAF = 0.25). The associations of both SBP and MAP with rs190705571 in the combined groups were driven primarily by the Mainland group ( $\beta = 1.65$ ,  $P = 3.93 \times 10^{-9}$ , compared to the Caribbean group  $\beta = 0.56$ ,  $P = 0.14$ ). However, there was no significant evidence for heterogeneity between the Mainland



**Figure 1.** Manhattan plots from the combined analyses of all HCHS/SOL study individuals, for the four quantitative BP traits. For each of the available variants with MAF  $\geq 0.01$  and imputation quality  $\geq 0.3$ , a Manhattan plot provides its  $-\log_{10}(P)$  against its genomic position. The top SNPs of interest described Tables 2 and 3 are highlighted.

and the Caribbean groups (p-value for heterogeneity = 0.21). Therefore, the Mainland group results are due to both higher MAF and larger sample size.

Four additional variants had suggestive evidence of association with BP (Table 2). Two of these variants were common (MAF  $\geq 0.05$ ) and two were low frequency (MAF  $\approx 0.01$ ). The minor allele of rs117386367 (MAF = 0.01) on chromosome 17 was associated with higher PP ( $P = 7.61 \times 10^{-8}$ ), the minor allele of rs73156692 (MAF = 0.16) located 5 kb 5' of *SLC5A8* on chromosome 12 was associated with higher MAP ( $P = 5.44 \times 10^{-8}$ ), the minor allele of rs143503553 (MAF = 0.01) on chromosome 5 was associated with higher SBP ( $P = 5.94 \times 10^{-8}$ ), and the minor allele of rs1458038 (MAF = 0.24) on chromosome 4 (*FGF5*) was associated with higher MAP ( $P = 5.22 \times 10^{-8}$ ). rs1458038 is a known association variant for BP traits<sup>8</sup>. There were no significant differences in MAF or evidence of heterogeneity of effect for any of the variants among Mainland and Caribbean groups (Table 2) except for rs73156692, which had slightly higher MAF among Caribbean individuals (MAF = 0.19, compared to Mainland MAF = 0.13). However, there was no significant evidence of heterogeneity between Mainland and Caribbean Hispanic/Latino subgroups for this SNP.

Trait	rsID	Chr	position	A1	A2	type	EAF	beta	SE	p-value	heterogeneity p-value	Gene
MAP	rs1458038	4	81164723	T	C	g	0.24	0.97	0.178	5.22E-08	0.84	<i>FGF5</i>
SBP	rs143503553	5	159593663	G	C	i	0.01	7.994	1.475	5.94E-08	0.26	
SBP	rs190705571	6	25693887	T	G	i	0.65	1.268	0.226	2.16E-08	0.21	<i>SCGN</i>
MAP	rs190705571	6	25693887	T	G	i	0.65	0.827	0.16	2.29E-07	0.19	<i>SCGN</i>
MAP		10	84135292	CA	C	i	0.3	1.031	0.184	1.93E-08	0.59	<i>NRG3</i>
DBP		10	84135292	CA	C	i	0.3	0.938	0.162	7.05E-09	0.54	<i>NRG3</i>
SBP	rs73156692	12	101608695	A	G	i	0.16	1.646	0.303	5.44E-08	0.37	<i>SLC5A8</i>
PP	rs117386367	17	53098512	A	G	i	0.01	5.006	0.931	7.61E-08	0.11	

**Table 2.** Main association results for BP traits in the overall HCHS/SOL discovery sample. For each locus associated with a BP trait we provide the lead SNP. The effect size, beta, is of the effect allele A1. EAF is the frequency of A1 in the overall sample. Imputation “type” is either ‘i’ (imputed) or ‘g’ (genotyped). The effect estimates, standard errors (SEs) and heterogeneity test p-values were obtained from a fixed-effects meta-analysis across the genetic analysis groups.

**Mainland- and Caribbean-specific associations.** The GWAS restricted to the Caribbean and Mainland subgroups of the HCHS/SOL identified three genome-wide significant variants associated with BP traits, all for low frequency variants (MAF of 0.01) in the Caribbean group (Table 3). rs11466481, an intronic variant to *TGFBR2* on chromosome 3 was associated with PP; rs78701042, an intronic variant to *NGF* on chromosome 1, was associated with DBP; and rs113204208, an intergenic variant on chromosome 1, was associated with SBP. However, these variants were not significantly associated with the corresponding traits in the Mainland subgroup (all p-value > 0.2). Nonetheless, the estimated directions of these variant associations in the Mainland group were consistent with those in the Caribbean group. Therefore, it is possible that these association were not detected in the Mainland group and in the combined cohort due to lack of power. Specifically, even if the effect size in the Caribbean group is the true effect size, given the frequencies of the variants the powers to detect these associations in the combined group (with p-value <  $5 \times 10^{-8}$ ) are < 0.1, and the powers to detect these associations in the Mainland group with p-value < 0.05 are 0.4–0.6). The *NGF* variant rs78701042 is in the same region as an unvalidated variant rs11102916 reported by ref. 17. In conditional analysis adjusted for rs11102916, the DBP association of our *NGF* variant remained genome-wide significant in the Caribbean group. Also note that the previously-reported rs11102916 was only marginally associated with DBP in the HCHS/SOL (p-value = 0.051 in the combined cohort).

**Replication of newly discovered loci in independent samples.** Table 4 reports association testing results for leading variants from the loci that were identified in the HCHS/SOL in three independent data sets of admixed Southern Brazilians (the 1982 Pelotas Birth Cohort Study,  $n = 2,764$ ), African American (COGENT-BP consortium  $n = 22,000$ – $32,000$ ), and European ancestry (WHI,  $n = 14,900$ – $17,200$ , and UK Biobank,  $n = 140,886$ ). Results for 6 of the lead SNPs and traits were available in the 1982 Pelotas Birth Cohort Study, 4 lead SNPs were available in COGENT-BP, and 4 (different) lead SNPs were available in the European ancestry follow-up. Lead SNPs were not available when they were monomorphic in African or European populations. MAP data was not available in COGENT-BP and UK Biobank, so we also examined the association of an MAP variant of *SCGN* with SBP, since it was also near-significant for this trait in our discovery sample. Overall, we corrected for 21 hypothesis tests for replication testing, leading to significance threshold of 0.0024. Of the 11 variants in 8 regions examined in replication, 4 were proxies, i.e. not the lead HCHS/SOL variants in their region.

Using the 0.0025 significant replication threshold, none of the associations replicated. However, a few loci had suggestive evidence for replication: rs78701042 association with DBP had p-value 0.0086 in the 1982 Pelotas Birth Cohort Study and a similar effect size to the HCHS/SOL (HCHS/SOL  $\beta = 4.38$ , PELOTAS  $\beta = 4.24$ ). This variant is more common in African Americans (MAF = 0.04 in COGENT-BP), yet the estimated effect size in COGENT was 0.28 and the p-value was 0.33. In addition, the SBP locus rs73156692 had p-value = 0.007 in the European ancestry replication results. Note that this variant has similar estimated effect directions and sizes in all replication studies (between 0.16 to 0.21). Other loci were nominally associated with BP ( $P = 0.01$ – $0.07$ ), but some of these associations had different directions of effect between discovery and replication studies.

**Generalization of previously reported associations to the HCHS/SOL.** To assess the generalizability of previously identified BP loci to HCHS/SOL Hispanics/Latinos, we tested previously reported associations using a directional False Discovery Rate (FDR)-based generalization testing procedure. A comprehensive table with results is provided in the Supplementary Information. We here report a summary of these results that account for most prior published BP GWAS papers, excluding those published in 2017. That is, although we performed and report results from generalization testing using<sup>17</sup> results (3 generalized associations), these are not used in the summary presented here.

Based on 314 SNP-trait associations, involving 178 unique SNPs in 114 distinct genomic regions of 1 MB around a SNP reported in blood pressure GWAS<sup>6–9, 11–14, 16</sup> in populations of European, Chinese, and African ancestries, and in a trans-ancestry analysis. Overall, 58 (18%) associations generalized to one of the HCHS/SOL groups (Mainland/Caribbean, or combined). Of the 44 associations reported in studies of African ancestry, only 1 association generalized to Hispanics/Latinos. Of the 57 associations reported in Chinese ancestry studies, 15



Trait	rsID	Chr	position	A1	A2	type	Caribbean				Mainland				overall	heterogeneity
							EAF	beta	SE	p-value	EAF	beta	SE	p-value	p-value	p-value
SBP	rs113204208	1	90549106	G	C	i	0.01	7.919	1.416	2.23E-08	0.01	1.363	2.037	5.03E-01	6.83E-07	<0.001
DBP	rs78701042	1	115841602	T	C	i	0.01	5.443	0.957	1.31E-08	<0.005	0.035	1.927	9.85E-01	3.40E-07	0.03
PP	rs11466481	3	30664148	T	C	i	0.04	3.182	0.568	2.08E-08	0.01	0.336	0.916	7.13E-01	7.10E-07	<0.001

**Table 3.** Association results in analyses stratified by Mainland and Caribbean subgroups. For each locus associated with a BP trait in one of the Mainland or Caribbean subgroups we provide the lead SNP. Imputation “type” is either ‘i’ (imputed) or ‘g’ (genotyped). The effect size, beta, is of the effect allele A1. EAF is the frequency of A1 in the appropriate subsample. The effect estimates, standard errors (SEs) and heterogeneity p-values were obtained from a fixed-effects meta-analysis across the genetic analysis groups.

trait	rsID	Chr	position	A1	HCHS/SOL			COGENT			Pelotas			EA meta	
					EAF	beta	p-value	EAF	beta	p-value	EAF	beta	p-value	beta	p-value
SBP	rs113204208	1	90549106	G	0.01	5.78	6.83E-07	0.06	-0.48	2.28E-01	0.01	-4.28	3.20E-02		
DBP	rs78701042	1	115841602	T	0.01	4.38	3.40E-07	0.04	0.28	3.35E-01	0.01	4.24	8.56E-03		
PP	rs11466481	3	30664148	T	0.02	2.4	7.10E-07	0.15	-0.04	8.49E-01	0.03	-0.16	8.15E-01		
SBP	rs143503553	5	159593663	G	0.01	7.99	5.94E-08				0.01	0.8	7.41E-01	0.42	3.70E-01
SBP	rs9366626*	6	25684953	G	0.55	1.18	8.75E-08	0.7	0.14	5.00E-01	0.6	-0.5	1.12E-01	-0.16	1.50E-02
MAP	rs9366626*	6	25684953	G	0.55	0.79	3.04E-07				0.6	-0.29	2.56E-01	-0.31	2.25E-02
DBP		10	84135292	CA	0.3	0.94	7.05E-09							0.06	3.15E-01
MAP	rs7909484*	10	84206002	T	0.4	0.68	1.50E-05							0.15	3.37E-01
DBP	rs7909484*	10	84206002	T	0.4	0.6	1.55E-05							0.01	8.97E-01
SBP	rs73156692	12	101608695	A	0.16	1.65	5.44E-08	0.16	0.11	6.85E-01	0.2	-0.53	1.71E-01	0.21	7.05E-03
PP	rs117386367	17	53098512	A	0.01	5.01	7.61E-08				0.01	2.38	6.76E-02	-0.1	8.05E-01

**Table 4.** Association testing results in follow-up studies. For each locus reported in Tables 2 and 3 (associated with a BP trait in either the overall sample, or one of the Mainland or Caribbean groups), and available in the follow-up studies, we provide effect allele frequency (EAF), estimated effect size (beta), and p-value in both the HCHS/SOL (from analysis in the overall sample) and the follow-up cohorts. \*In a few instances, we report available proxy SNP rather than the lead SNPs, or more weakly associated trait.

(26%) generalized to Hispanics/Latinos. Of the 36 associations reported in trans-ancestry analyses 4 generalized to the HCHS/SOL, of these, 2 associations were also reported in European ancestry studies. Finally, of the 188 associations reported in studies of European ancestry, 41 (22%) associations generalized.

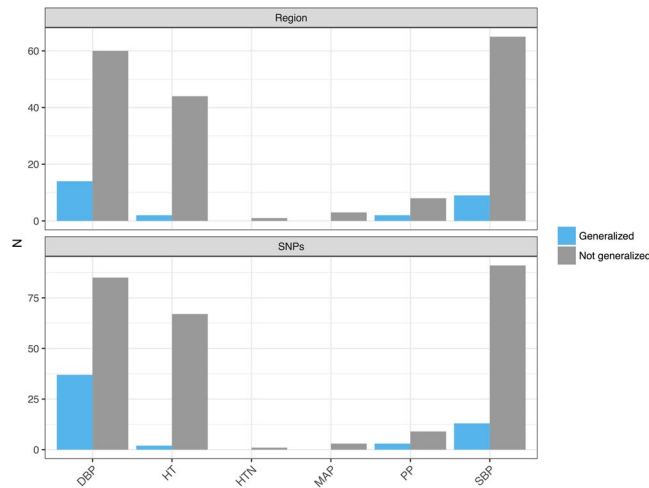
Most of the associations that generalized in the Caribbean and in the Mainland groups, also generalized in the combined analysis. There are five exceptions. First, rs1173771 (*NPR3-C5orf23*) and rs13359291 (*PRDM6*), both on chromosome 5, and rs1378942 (chromosome 15, *CYP11A1-ULK3*) generalized in Mainland group but not in the combined (or Caribbean group) analysis. These associations were all reported in studies of Europeans. rs1378942 was additionally reported in a trans-ancestry analysis which was potentially driven by a large European sample. The directions of estimated associations of these SNPs were the same in the discovery studies and in the Mainland and the Caribbean subgroups but with attenuated estimates in the Caribbean group. This is possibly due to the lower proportion of European admixture in the Caribbean group, compared to the Mainland group<sup>23</sup>. Second, two PP-association variants rs7255 (chromosome 2) and rs57448815 (chromosome 21) reported in trans-ethnic analyses generalized only in the Caribbean group. These variants also had the same directions of associations in the Mainland group, but with smaller effect size.

In general, a very low proportion of the variants investigated for hypertension and SBP (Fig. 2) generalized across these populations (hypertension: 2 of 69 interrogated SNPs, or 2 SNPs from 46 regions (4%), SBP: 14 of 105 (13%), or 10 out of 75 (13%) of regions, while a high proportion of DBP SNP associations generalized: 39 of 125 SNPs (31%) corresponding to 16 of 76 (21%) regions.

## Discussion

This is the largest GWAS of BP traits conducted using high density imputed and genotyped SNPs in Hispanics/Latinos, a culturally and genetically diverse population comprised of many subgroups. Our main findings are (1) the identification of two potential novel loci for SBP and DBP at *SCGN* and *NRG3*, (2) the identification of three potential loci in the stratum of Caribbean subgroup, which showed heterogeneity of effects across the Mainland and Caribbean subgroups, and (3) the validation of several established loci for BP traits identified in GWAS of European, African and East Asian ancestries. However, none of the newly discovered BP loci in HCHS/SOL replicated when accounting for multiple testing the four independent samples of admixed Southern Brazilian, African American, or European American ethnicity.

We tested multiple traits, and multiple subsets of the data set (Caribbean, Mainland, and combined), and also investigated variants with MAF at least 1%, while the conventional  $5 \times 10^{-8}$  genome-wide significance threshold



**Figure 2.** Generalization of BP association SNPs and regions in the HCHS/SOL participants ( $n = 12,278$ ). For each of the traits investigated in the HCHS/SOL, the figure provides the counts of SNP-trait associations that generalized, and did not generalize to the HCHS/SOL Hispanics/Latinos.

was developed based on testing common variants<sup>24</sup>. We attempted to replicate all potential novel findings, as it is less likely that a handful of false discoveries will be replicated or generalized in an independent study<sup>25</sup>. It is possible that associations did not replicate because the findings are false positives. However, non-replication could also be due to low power. Under the (unlikely) assumption that the variants reported in Table 4 are causal in all populations and have the same effect size as estimated using the combined cohort, and that BP traits have similar variance in all study populations, the combined cohort of European ancestry had power  $>0.99$  to detect all associations in the available variants, the COGENT-BP consortium had power  $>0.9$  for most associations (0.58 for one), while the 1982 Pelotas birth cohort study had power  $<0.1$  for all associations. However, these power calculations do not account for the “winner’s curse”, and true effects are probably smaller than the effects estimated from the discovery GWAS<sup>26</sup>. Moreover, it is likely that the detected variants are not in fact the causal variants, but rather tag them. Due to differing genetic architectures, we expect that optimal tag variants may differ among populations. Since the estimated effect at a tag SNPs is related to the effect of the true causal SNP via the LD between them, the same tag SNP may have different association with the trait in different populations, suggesting that the associations of the interrogated SNPs may be lower in the replication populations compared to the HCHS/SOL.

One of the newly identified BP loci in the overall sample is located in a region of high LD on chromosome 6p22 intronic to *SCGN*. The association signal spans about 75 kb and extends into a region containing the large histone gene cluster and a family of sodium-dependent phosphate and urate transporter genes (*SLC17A1*, *SLC17A3*, and *SLC17A4*). The sodium/phosphate cotransporter *NPT1* (*SLC17A1*; MIM 182308) is located in the renal proximal tubule and regulates renal phosphate excretion. *SLC17A4* is a similar sodium/phosphate cotransporter in the intestinal mucosa that plays an important role in the absorption of phosphate from the intestine<sup>27</sup>. The Hispanic BP variant is also located about 500 kb from the HFE BP GWAS locus previously reported in Europeans. HFE encodes the protein associated with hemochromatosis. Several LD proxies for the *SCGN* intronic index SNP are located within intestinal and liver promoter regions and are cis-eQTLs for *SLC17A3*, *SLC17A4*, *TRIM38*, an E3 ubiquitin ligase reported to regulate signaling in innate immune and inflammatory responses. The extended 6p22 region also contains a number of GWAS signals for iron and red blood count traits and serum uric acid levels.

In generalization analysis, we investigated and summarized more than 300 previously reported SNP associations with BP traits, corresponding to 115 genomic regions, and also close to 500 additional associations that were mostly not replicated or validated before, which we report in the Supplementary Information. We say that a region generalizes if at least one SNP-BP trait association in the region generalizes. While about 18% of the associations and regions generalized to Hispanics/Latinos, most of the generalized associations are DBP loci. Interestingly about the same proportion of associations generalized from Chinese (26%) and European (22%) ancestry studies to Hispanics/Latinos, while only a single association reported in an African ancestry study generalized to Hispanics/Latinos. The slightly lower percentage of generalized associations from Europeans compared to Asians is likely due to the recent GWAS studies with very large sample sizes, detecting small effect sizes that the HCHS/SOL is not powered to detect. In fact, the power for detecting associations reported in the large recent GWAS<sup>9, 16</sup> was no higher than 0.34 and usually lower than 0.2 for all associations, when using the liberal  $\alpha$  level 0.05. When requiring correction for multiple testing (as needed), power for all associations is close to 0. Considering all studies used in generalization analyses, there were only 3 associations with power larger than 0.8 at the liberal 0.05  $\alpha$  level. Two of them were reported in Chinese and did in fact generalize, the third was reported in a population of European ancestry and did not generalize. While these analyses were done under the assumption that the estimated effect sizes in the previously reported SNPs are the true ones, and are the same in the discovery populations and in the HCHS/SOL, these assumptions likely do not hold. Interestingly, for 33% of the SNPs, the effect size estimated in HCHS/SOL was larger than the one observed in the previous studies, while

usually we would expect to see lower effect sizes in a follow-up study compared to a discovery study. Future whole genome sequencing studies will help unveil the underlying genetic architecture of these traits and association loci.

## Methods

**HCHS/SOL Population.** The HCHS/SOL is a community-based cohort study of 16,415 self-identified Hispanic/Latino persons aged 18–74 years selected from households in predefined census-block groups from four US field centers (Chicago, Miami, the Bronx, and San Diego). The census-block groups were chosen to provide diversity with regard to socioeconomic status and national origin or background. Participants self-identified as having a Hispanic/Latino background; the largest groups were Central American, Cuban Dominican, Mexican, Puerto Rican, and South American. The sample design and cohort selection have been previously described<sup>28</sup>. HCHS/SOL participants were recruited between 2008 and 2011 and underwent a baseline clinical examination<sup>29</sup> including biological, behavioral, and sociodemographic assessments. The study was approved by the institutional review boards at each field center, where all subjects gave written informed consent. All analyses were in accordance with the relevant guidelines and regulations.

**Genotyping and Quality Control in HCHS/SOL.** Consenting HCHS/SOL participants were genotyped at Illumina on the HCHS/SOL custom 15041502 B3 array. The custom array comprised the Illumina Omni 2.5 M array (HumanOmni2.5–8v.1-1) ancestry-informative markers, known GWAS hits and drug absorption, distribution, metabolism, and excretion (ADME) markers, and additional custom content including ~150,000 SNPs selected from the CLM (Colombian in Medellin, Colombia), MXL (Mexican Ancestry in Los Angeles, California), and PUR (Puerto Rican in Puerto Rico) samples in the 1000 Genomes phase 1 data to capture a greater amount of Amerindian genetic variation<sup>30</sup>.

We applied standardized quality-assurance and quality-control (QA/QC) methods<sup>31</sup> to generate recommended SNP- and sample-level quality filters. Samples were checked for sex discrepancies, gross chromosomal anomalies, relatedness and population structure, missing call rates, batch effects, and duplicate-sample discordance. SNPs were checked for Hardy-Weinberg equilibrium, minor allele frequency (MAF), duplicate-probe discordance, Mendelian errors, and missing call rate. A total of 12,803 unique study participants passed QC and met specific clinical inclusion criteria. A total of 2,232,944 SNPs passed filters for both quality and informativeness (polymorphic and unduplicated) and were carried forward for imputation and downstream association analyses.

**Imputation in the HCHS/SOL.** Genome-wide imputation was carried out with the full, cosmopolitan 1000 Genomes Project phase 1 reference panel ( $n = 1,092$ )<sup>32</sup>. The HCHS/SOL samples were imputed together with genotyped SNPs passing the quality filter and representing unique genomic positions on the autosomes and non-pseudoautosomal portion of the X chromosome. Genotypes were first pre-phased with SHAPEIT2 (v.2.r644) and then imputed with IMPUTE2 (v.2.3.0)<sup>33,34</sup>. Only variants with at least two copies of the minor allele present in any of the four 1000 Genomes continental panels were imputed. In addition to calculating the quality metrics output by IMPUTE2, we also calculated *oevar* (the ratio of the observed variance of imputed dosages to the expected binomial variance) by using the MaCH imputation software<sup>35</sup>. We assessed overall imputation quality by looking at the distribution of imputed quality metrics across the MAF spectrum and by examining results from the IMPUTE2 internal masking experiments. We performed downstream association analyses on the results 27,887,661 variants, and considered only variants with imputation quality *oevar* > 0.3 and MAF  $\geq 1\%$ .

**Outcomes.** We analyzed five blood pressure outcomes. Systolic and diastolic blood pressure (SBP, DBP), Pulse Pressure (PP), defined as SBP-DBP, and Mean Arterial Pressure (MAP), defined as  $DBP + 1/3PP$ . The SBP and DBP values used were adjusted for hypertensive medication use, by adding 5 mmHg to DBP values and 10 mmHg to SBP values. Hypertension was defined by an indication of antihypertensive drug use, or by either SBP  $\geq 140$  mmHg or DBP  $\geq 90$  mmHg. For all outcomes, we excluded 95 individuals with inconsistencies in their measured SBP or DBP (Omron mean and mean of raw measures difference  $\geq 5$  mmHg), 19 individuals with high degree of Asian ancestry, 328 individuals with missing covariates or outcomes, and 70 individuals with either SBP < 80 or DBP < 50. In addition, we removed a single individual with negative PP value. We winsorized two outlying extreme values to have the value of the mean +6 standard deviations of the PP distribution, calculated on the analyzed sample set.

**Genetic analysis groups.** Genetic analysis groups<sup>23</sup> were constructed based on a combination of self-identified Hispanic/Latino background and genetic similarity, and are classified as Cuban, Dominican, and Puerto Rican (Caribbean groups); and Mexican, Central American, and South American (Mainland groups). The average proportions of three continental ancestries (European, African and Native American) differ among these groups, with Caribbean groups having more African and less Native American ancestry than the Mainland groups.

**Association Testing.** To study the association between genotypes and any trait of interest, while controlling for population structure, we use mixed models, either linear for quantitative traits, or logistic for hypertension<sup>36</sup>. All models were adjusted for sex, age, age squared, study center, BMI, sampling weights to prevent potential selection bias resulting from the study design as fixed effects, the 5 first principal components estimated from the autosomal chromosome, and the 2 first principal components estimated from the X-chromosome to account for population stratification on both the autosomes and the X-chromosome. Finally, we used random effects for genetic relatedness (kinship) in the autosomes and in the X-chromosome, and random effects accounting for environmental correlations corresponding to household and community (block unit).

In all analyses, we set the threshold for follow-up at  $p$ -value  $< 1 \times 10^{-7}$  and  $MAF \geq 1\%$  in the appropriate sample. SNP associations passing these thresholds were further studied in conditional analyses if they were less than 1 Mbp away from a formerly reported BP locus, and in replication testing.

**Stratified analyses.** For quantitative traits, we performed a stratified analysis in which each genetic analysis group was analyzed separately, and then the association analysis results were meta-analyzed for the Caribbean group, for the Mainland group, and for all groups. We use the MetaCor method<sup>37</sup>, which accounts for the correlations between the genetic analysis groups in the meta-analysis.

Since there is no appropriate method to meta-analyze analysis by subgroups for binary traits, when some of the subgroups' individuals are correlated with each other, we performed three hypertension analyses for Mainland, Caribbean, and all individuals together.

**Allelic heterogeneity analysis.** To study potential allelic heterogeneity in known BP-associated loci, we examined loci that were highly associated with at least one of the BP traits of interest, and were also within a region of 1 Mbp around a known BP locus. We conducted a conditional analysis that was performed in the same manner as the main association analysis, with the added known index SNP as a covariate in the regression model. If the detected SNP-trait association was still highly significant, it suggests allelic heterogeneity at the region.

**Replication of discovery loci in independent follow-up samples.** To study the replication of detected loci in independent studies, we tested our significant and suggestive associations, when available, in the 1982 Pelotas Birth Cohort Study of admixed Southern Brazilians<sup>38,39</sup> ( $n = 2,764$ ), the COGENT study of individuals of African descent<sup>12</sup> ( $n = 22,000$ – $32,000$ ), and in two studies of European ancestry: the WHI study of European American women<sup>40,41</sup> ( $n = 14,900$ – $17,200$ ), and the UK Biobank<sup>10</sup> ( $n = 140,886$ ). The criterion for significant replication was  $p$ -value below  $0.05/21 = 0.0024$ , where 21 was the number of follow-up tests, i.e. the combined number of tested SNPs across traits and ancestries. More information about these studies is provided in the Supplementary Information.

**Generalization of previously reported associations to the HCHS/SOL.** We performed generalization analysis<sup>25</sup> for BP-associated SNPs previously reported in GWAS of other populations, including those of European<sup>6–9,42</sup>, African<sup>12,13</sup>, Chinese<sup>11,43</sup>, and multiple<sup>14,16,17</sup> ancestries. For<sup>17</sup>, we also tested for generalization the reported SNP associations that were not validated and had  $p$ -value  $< 10^{-5}$  in their combined meta-analysis. We controlled for the directional false-discovery rate (FDR) of the generalization null hypotheses whenever direction of effect was published in the previous results, and we did not control for directionality when generalizing SNP-trait associations published in ref. 13, since directions of associations were not provided. The generalization null hypothesis states that the effect does not exist in both the discovery study and HCHS/SOL and is rejected if there is enough evidence that a SNP affects the outcome, with the same direction of effect, in both the discovery study and HCHS/SOL. We used the number of SNPs tested in the discovery study and the  $p$ -values for the set of tested SNPs from both the discovery study and HCHS/SOL, and we computed an  $r$ -value for each of the SNPs to quantify the evidence for generalization. A SNP was generalized if its  $r$ -value  $< 0.05$ . We also report association results for both the Caribbean and Mainland groups separately, to glean into potential effect heterogeneity between the groups in this set of SNP-trait associations.

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## Additional Information

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## Consortia

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Genome-Wide Association Study of Blood Pressure Traits  
by Hispanic/Latino Background: the Hispanic Community Health  
Study/Study of Latinos - Supplementary Information

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# 1 Manhattan and QQ plots from GWAS of blood pressure traits

## 1.1 SBP

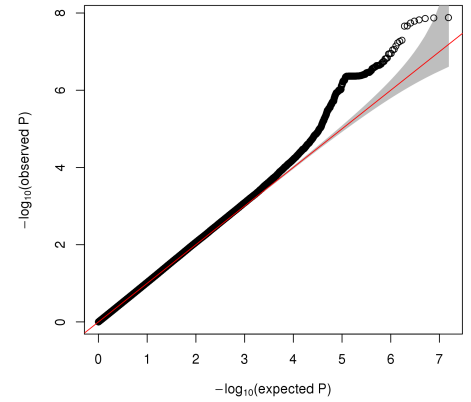
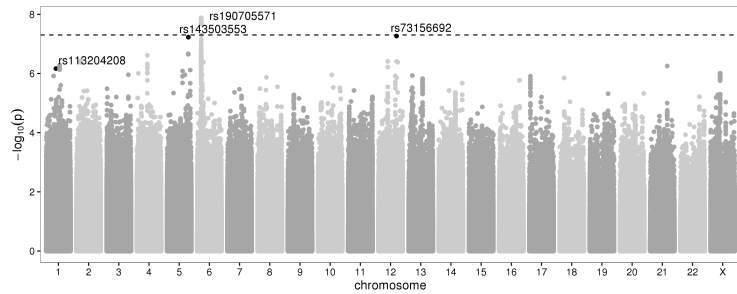


Fig. S1: Manhattan and QQ plots of SBP GWAS meta-analyzed across all genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.028$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with SBP are highlighted.



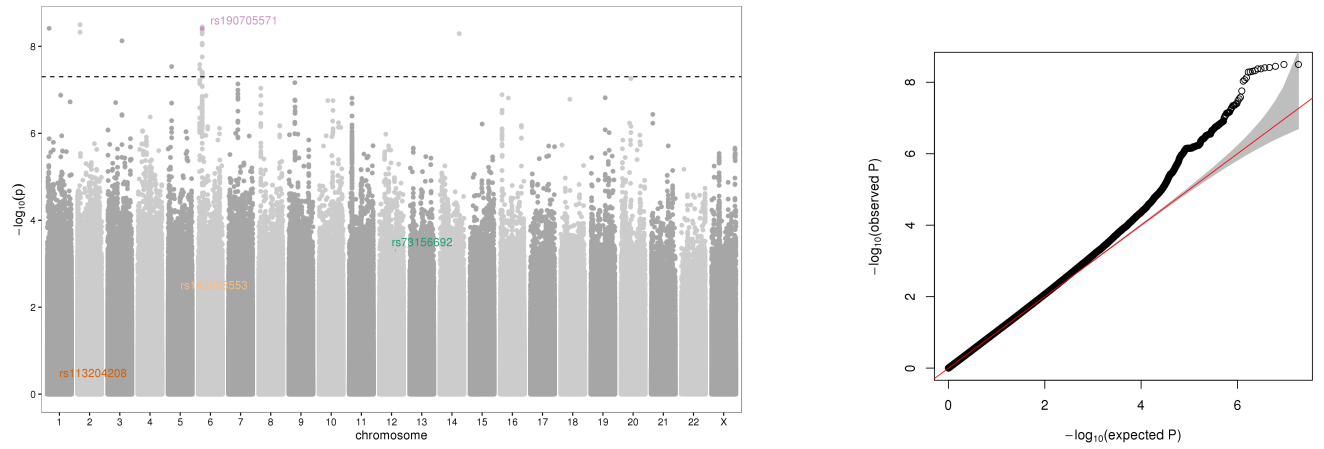


Fig. S2: Manhattan and QQ plots of SBP GWAS meta-analyzed across the Mainland genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.032$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with SBP are highlighted.

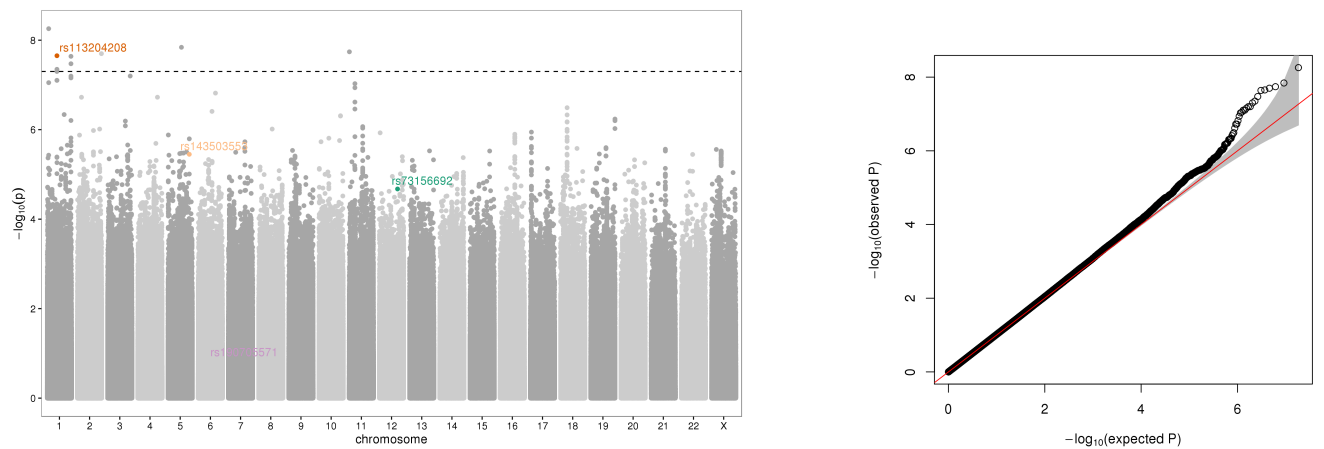


Fig. S3: Manhattan and QQ plots of SBP GWAS meta-analyzed across the Caribbean genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.023$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with SBP are highlighted.

## 1.2 DBP

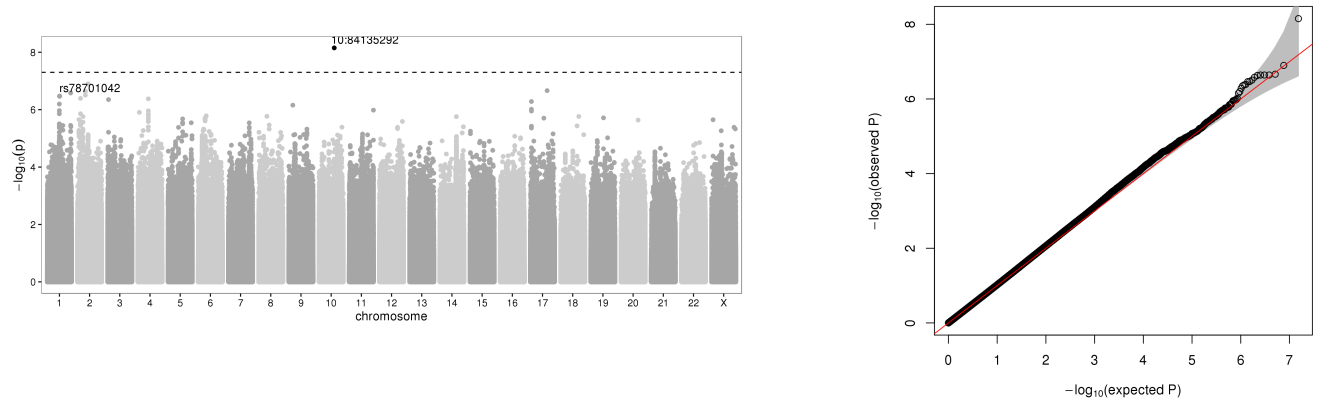


Fig. S4: Manhattan and QQ plots of DBP GWAS meta-analyzed across all genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.027$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with DBP are highlighted.

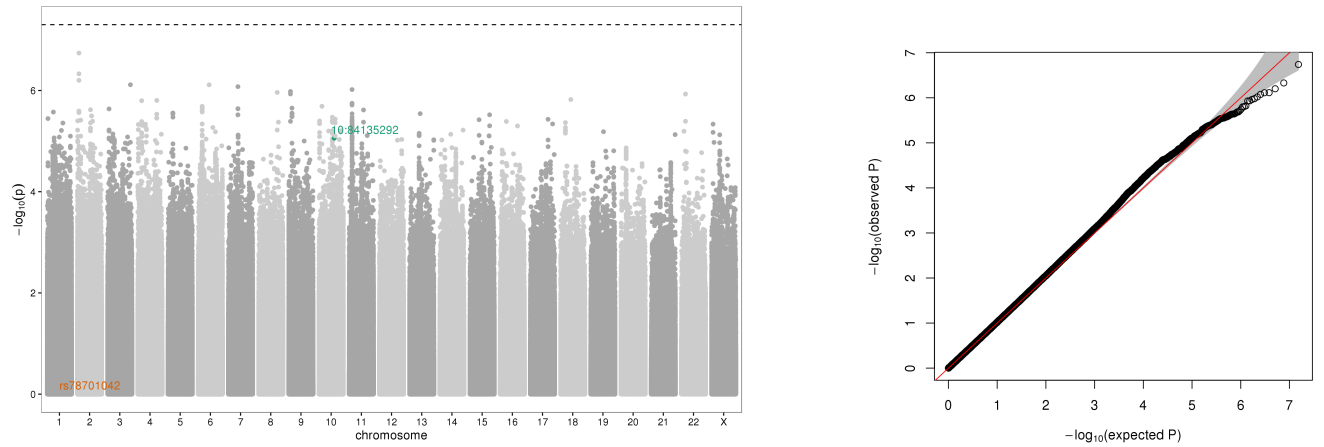


Fig. S5: Manhattan and QQ plots of DBP GWAS meta-analyzed across the Mainland genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.023$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with DBP are highlighted.

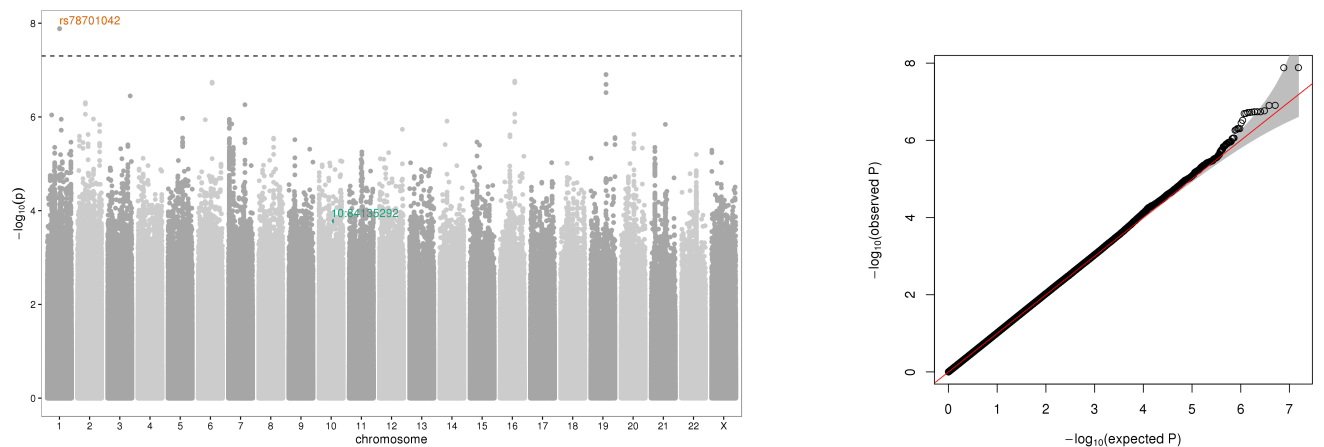


Fig. S6: Manhattan and QQ plots of DBP GWAS meta-analyzed across the Caribbean genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.016$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with DBP are highlighted.

### 1.3 MAP

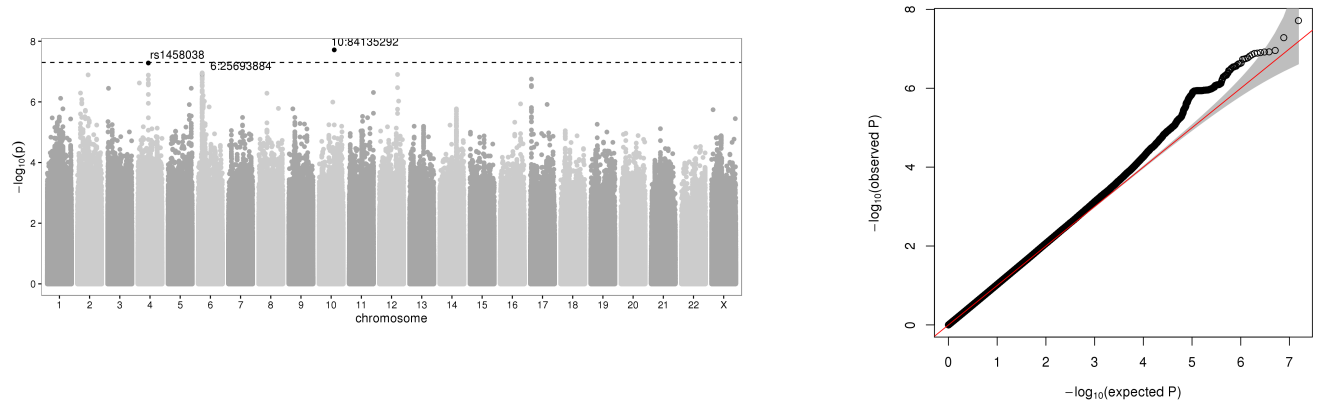


Fig. S7: Manhattan and QQ plots of MAP GWAS meta-analyzed across all genetic analysis groups. SNPs were filtered by  $\text{MAF} > 0.1\%$  and imputation quality  $\text{oevar} \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.027$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with MAP are highlighted.

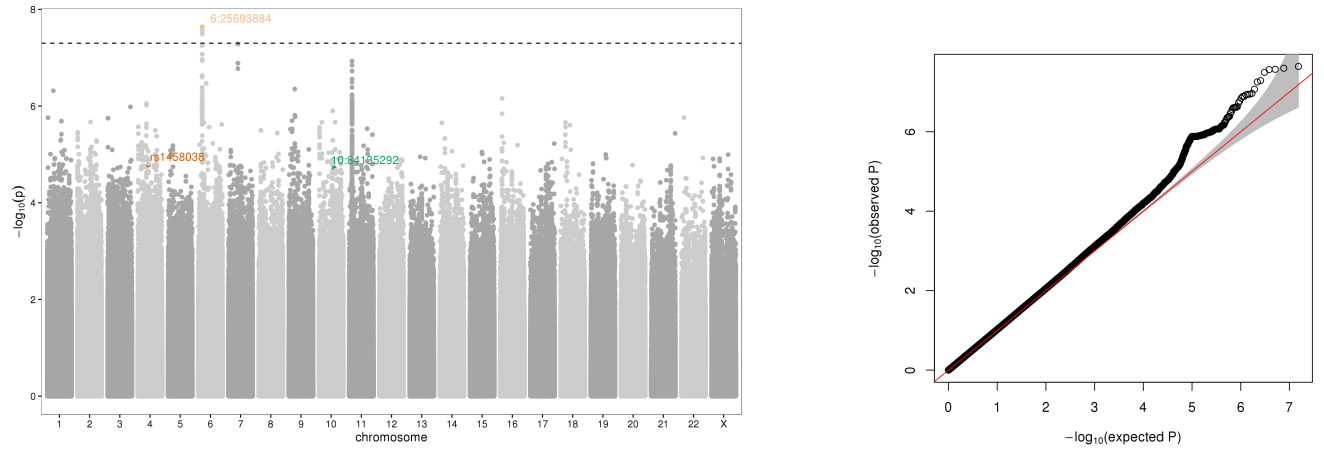


Fig. S8: Manhattan and QQ plots of MAP GWAS meta-analyzed across the Mainland genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.030$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with MAP are highlighted.

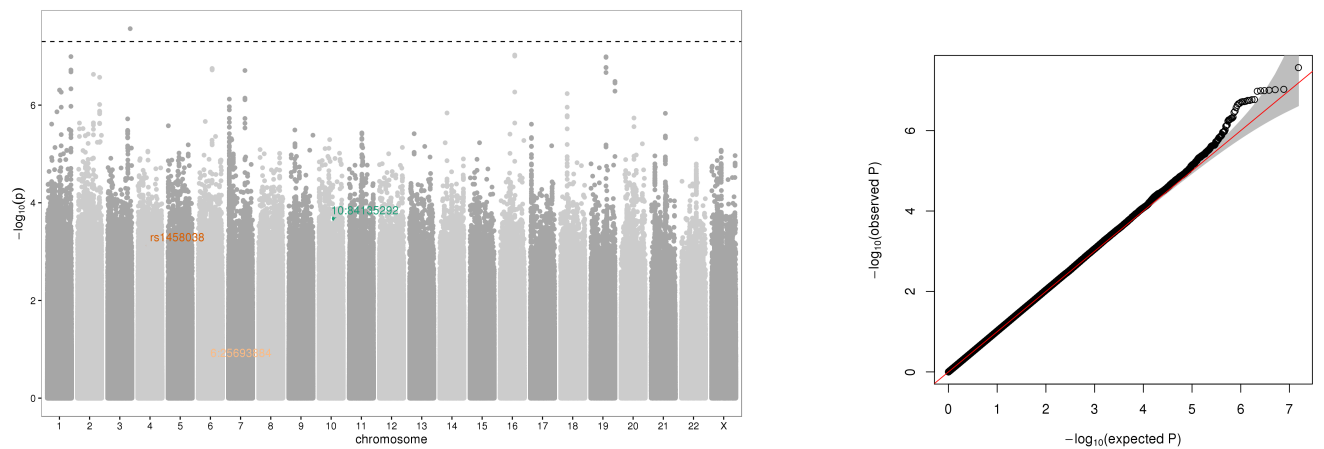


Fig. S9: Manhattan and QQ plots of MAP GWAS meta-analyzed across the Caribbean genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.020$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with MAP are highlighted.



## 1.4 PP

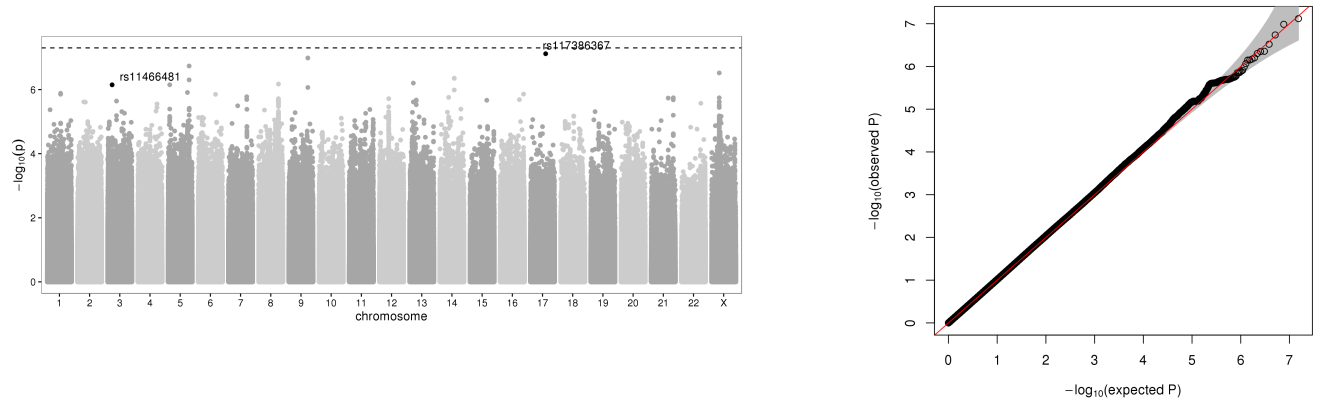


Fig. S10: Manhattan and QQ plots of PP GWAS meta-analyzed across all genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.021$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with PP are highlighted.

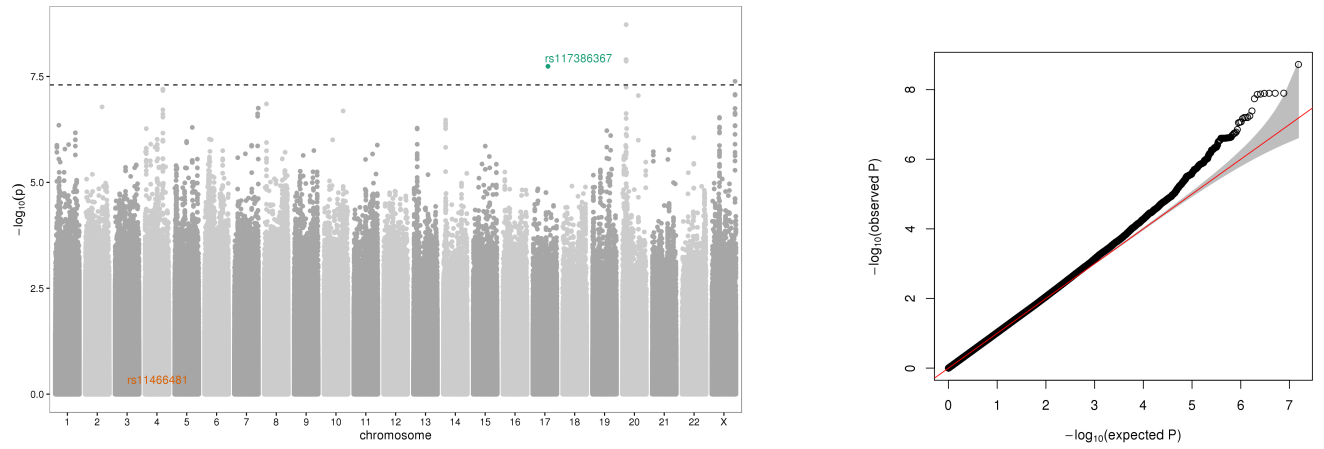


Fig. S11: Manhattan and QQ plots of PP GWAS meta-analyzed across the Mainland genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.023$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with PP are highlighted.

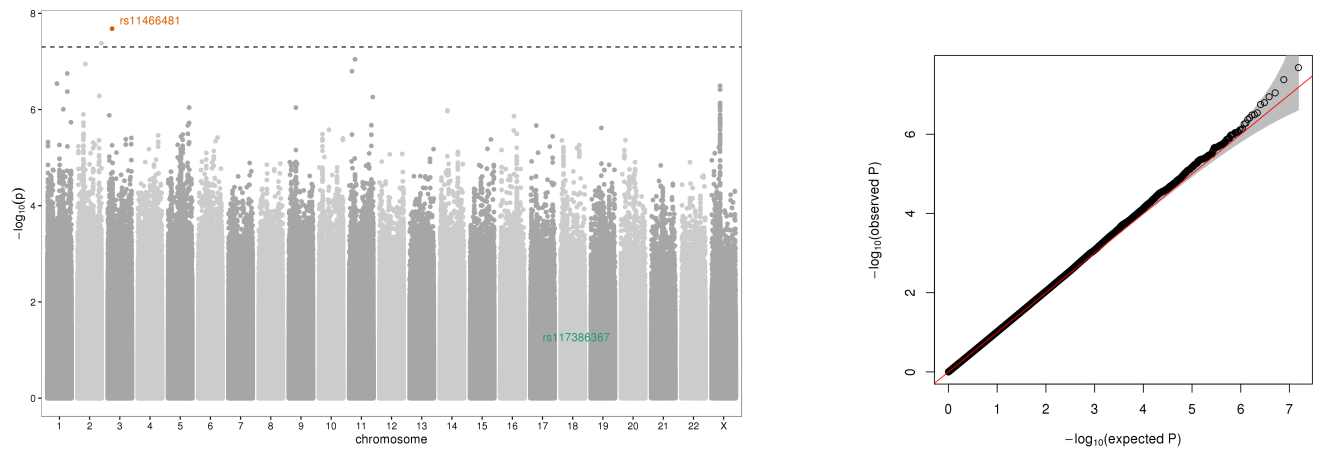


Fig. S12: Manhattan and QQ plots of PP GWAS meta-analyzed across the Caribbean genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.018$ . The SNPs reported in Tables 2 and 3 of the manuscript as associated with PP are highlighted.

## 1.5 HT

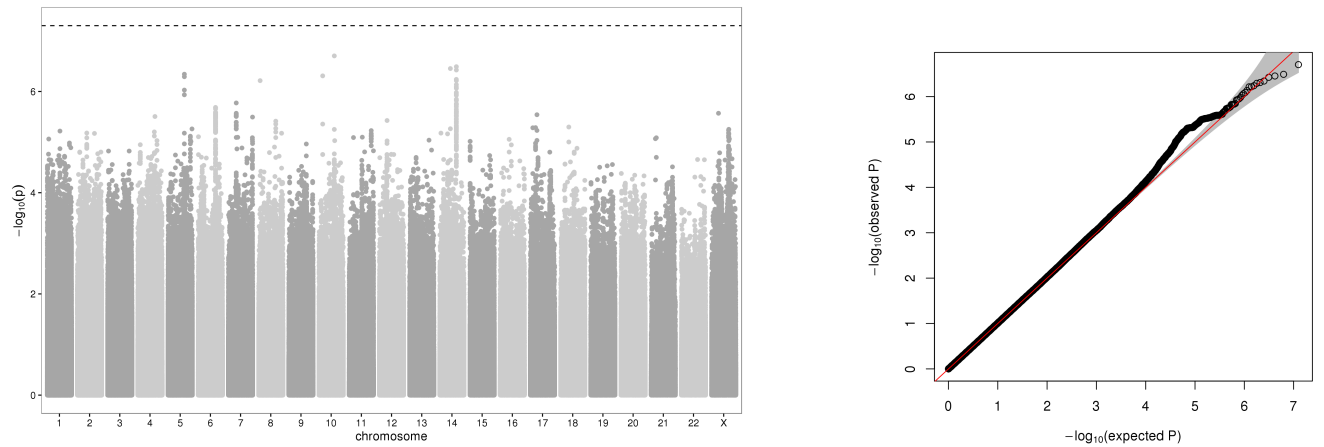


Fig. S13: Manhattan and QQ plots of HT GWAS meta-analyzed across all genetic analysis groups. SNPs were filtered by  $\text{MAF} > 0.1\%$  and imputation quality  $\text{oevar} \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.006$ .

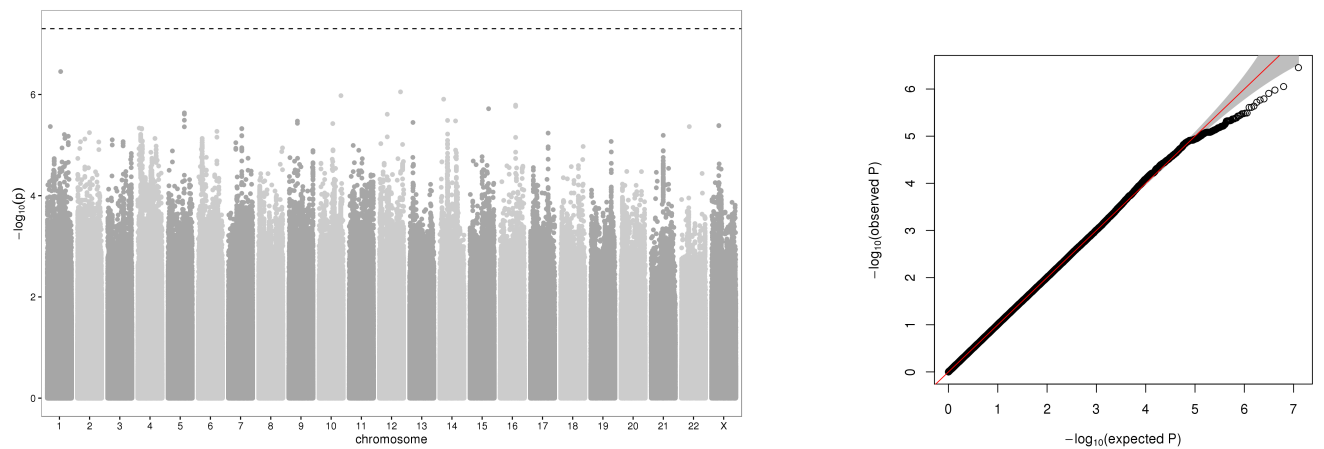


Fig. S14: Manhattan and QQ plots of HT GWAS meta-analyzed across the Mainland genetic analysis groups. SNPs were filtered by  $\text{MAF} > 0.1\%$  and imputation quality  $\text{oevar} \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.007$ .

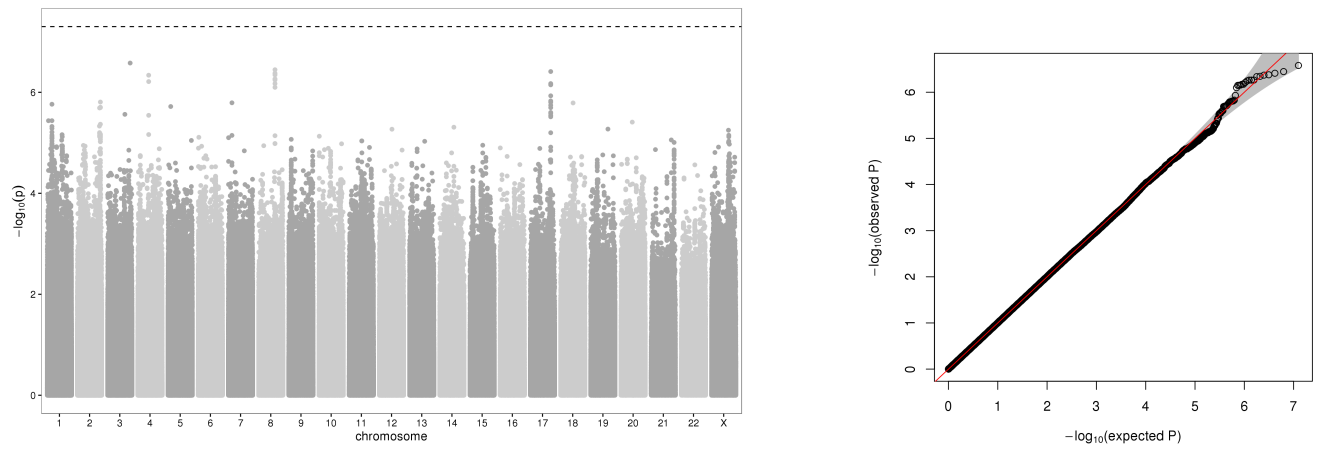


Fig. S15: Manhattan and QQ plots of HT GWAS meta-analyzed across the Caribbean genetic analysis groups. SNPs were filtered by  $MAF > 0.1\%$  and imputation quality  $oevar \geq 0.3$ . The inflation factor is  $\lambda_{gc} = 1.005$ .

## 2 Additional tables describing BP traits associations with the top SNPs

Table S1 provides the estimated associations of the SNPs reported in Tables 2 and 3 in the main manuscript with all BP traits. The estimates are from the analyses that combined individuals from all the genetic analysis groups. Table S2 provides estimated associations of SNPs reported in Table 3 of the main manuscript with all BP traits. Here, the estimated associations are provided only in the subgroups (Mainland, Caribbean) in which the reported associations were discovered. Finally, Table S3 provides local ancestry estimates from all variants reported in Tables 2 and 3 of the main manuscript (except for one variant that did not have inferred local ancestry). These estimates were obtained by the ASAFE software (Zhang et al., 2016) applied on inferred local ancestry estimates from the HCHS/SOL (Browning et al., 2016).



rsID	Chr	position	DBP		SBP		MAP		PP		HT	
			beta	<i>p</i> -value	beta	<i>p</i> -value	beta	<i>p</i> -value	beta	<i>p</i> -value	OR	<i>p</i> -value
rs1458038	4	81164723	-0.80	$4.2e \times 10^{-7}$	-1.30	$2.44 \times 10^{-7}$	-0.97	$5.22 \times 10^{-8}$	-0.49	$0.00 \times 10^{-4}$	0.85	$9.90 \times 10^{-6}$
rs143503553	5	159593663	-3.64	$8.00 \times 10^{-5}$	-7.99	$5.94 \times 10^{-8}$	-5.07	$1.23 \times 10^{-6}$	-4.40	$3.82 \times 10^{-6}$	0.57	$0.00 \times 10^{-2}$
rs190705571	6	25693887	-0.61	$1.74 \times 10^{-5}$	-1.27	$2.16 \times 10^{-8}$	-0.83	$2.29 \times 10^{-7}$	-0.66	$7.25 \times 10^{-6}$	0.87	$7.07 \times 10^{-5}$
NA	10	84135292	-0.94	$7.05 \times 10^{-9}$	-1.22	$2.97 \times 10^{-6}$	-1.03	$1.93 \times 10^{-8}$	-0.27	$0.11 \times 10^{-5}$	0.81	$6.82 \times 10^{-8}$
rs73156692	12	101608695	-0.87	$4.13 \times 10^{-6}$	-1.65	$5.44 \times 10^{-8}$	-1.13	$1.25 \times 10^{-7}$	-0.76	$0.00 \times 10^{-2}$	0.87	$0.00 \times 10^{-7}$
rs117386367	17	53098512	0.50	$0.57 \times 10^{-9}$	5.57	$0.00 \times 10^{-1}$	2.18	$0.03 \times 10^{-2}$	5.01	$7.61 \times 10^{-8}$	1.60	$0.02 \times 10^{-4}$
rs113204208	1	90549106	-2.64	$0.00 \times 10^{-9}$	-5.78	$6.83 \times 10^{-7}$	-3.69	$6.86 \times 10^{-6}$	-3.23	$1.78 \times 10^{-5}$	0.52	$5.61 \times 10^{-5}$
rs78701042	1	115841602	-4.38	$3.40 \times 10^{-7}$	-4.19	$0.00 \times 10^{-9}$	-4.31	$1.03 \times 10^{-5}$	0.23	$0.79 \times 10^{-7}$	0.53	$1.82 \times 10^{-3}$
rs11466481	3	30664148	-0.75	$0.10 \times 10^{-8}$	-3.09	$3.78 \times 10^{-5}$	-1.53	$0.00 \times 10^{-6}$	-2.40	$7.1e \times 10^{-7}$	0.82	$0.06 \times 10^{-6}$
NA	6	25693884	0.63	$9.12 \times 10^{-6}$	1.28	$1.39 \times 10^{-8}$	0.85	$1.21 \times 10^{-7}$	0.66	$8.06 \times 10^{-6}$	1.15	$8.02 \times 10^{-5}$

Table S1: SNPs associations with all BP traits, for the SNPs reported in Tables 2 and 3 in the main manuscript, estimated in a meta-analysis of all genetic analysis groups.

rsID	Chr	position	group	DBP		SBP		MAP		PP		HT	
				beta	$p$ -value	beta	$p$ -value	beta	$p$ -value	beta	$p$ -value	OR	$p$ -value
rs113204208	1	90549106	Caribbean	-3.31	$0.00 \times 10^{-3}$	-7.92	$2.22 \times 10^{-8}$	-4.83	$1.37 \times 10^{-6}$	-4.67	$2.88 \times 10^{-7}$	0.40	$1.86 \times 10^{-6}$
rs78701042	1	115841602	Caribbean	-5.44	$1.30 \times 10^{-8}$	-5.53	$0.00 \times 10^{-7}$	-5.49	$4.91 \times 10^{-7}$	-0.05	$0.95 \times 10^{-8}$	0.47	$0.00 \times 10^{-4}$
rs11466481	3	30664148	Caribbean	-0.54	$0.32 \times 10^{-7}$	-3.68	$3.24 \times 10^{-5}$	-1.59	$0.01 \times 10^{-5}$	-3.18	$2.08 \times 10^{-8}$	0.84	$0.13 \times 10^{-7}$
NA	6	25693884	Mainland	0.83	$2.05 \times 10^{-6}$	1.66	$3.57 \times 10^{-9}$	1.11	$2.27 \times 10^{-8}$	0.82	$8.65 \times 10^{-6}$	1.24	$1.16 \times 10^{-5}$

Table S2: SNPs associations with all BP traits, for the SNPs reported in Table 3 in the main manuscript, in the subgroups in which these associations had  $p$ -value  $\times 10^{-7}$ .

rsID	chromosome	position	A1	A2	type	oevar	AFR	AMR	EUR
rs78701042	1	115841602	T	C	i	1.00	0.05	0.00	0.00
rs113204208	1	90549106	G	C	i	0.97	0.06	0.00	0.00
rs1458038	4	81164723	T	C	g	1.00	0.03	0.31	0.25
rs1458038	4	81164723	T	C	g	1.00	0.03	0.31	0.25
rs143503553	5	159593663	G	C	i	0.93	0.00	0.00	0.01
	6	25693884	GATT	G	i	1.06	0.85	0.29	0.75
rs190705571	6	25693887	T	G	i	1.06	0.86	0.29	0.75
rs9366626	6	25684953	G	A	i	1.00	0.75	0.25	0.62
	10	84135292	CA	C	i	0.86	0.64	0.37	0.12
	10	84135292	CA	C	i	0.86	0.64	0.37	0.12
rs73156692	12	101608695	A	G	i	0.99	0.13	0.01	0.23
rs117386367	17	53098512	A	G	i	0.78	0.00	0.00	0.01

Table S3: Local ancestry estimates for most of the loci reported in Tables 2 and 3 of the main manuscript, as estimated in the HCHS/SOL data set. The frequencies are of the allele A1. AFR is the frequency estimate in the African ancestry, AMR in Amerindian ancestry, and EUR in the European ancestry component of the HCHS/SOL. Type is the variant type: imputed (i) or genotyped (g). oevar is a measure of imputation accuracy.

Analysis	Type	rsID	Chr	position	DBP		SBP		MAP		PP	
					beta	p-value	beta	p-value	beta	p-value	beta	p-value
primary	index	rs2240736	17	59485393	0.16	2.46E-01	0.23	2.96E-01	0.18	2.43E-01	0.08	5.86E-01
primary	lead	rs117386367	17	53098512	0.5	5.79E-01	5.57	1.01E-04	2.18	3.12E-02	5.01	7.61E-08
conditional	lead	rs117386367	17	53098512	0.4	6.57E-01	5.4	1.66E-04	2.06	4.24E-02	4.95	1.12E-07
primary	index	rs11953630	5	157845402	-0.02	8.89E-01	-0.36	1.60E-01	-0.13	4.65E-01	-0.33	5.09E-02
primary	lead	rs143503553	5	159593663	-3.64	8.00E-05	-7.99	5.94E-08	-5.07	1.23E-06	-4.4	3.82E-06
conditional	lead	rs143503553	5	159593663	-3.72	5.73E-05	-7.98	6.57E-08	-5.11	1.01E-06	-4.31	6.14E-06
primary	index	rs1799945	6	26091179	-0.06	7.79E-01	-0.35	2.93E-01	-0.16	5.07E-01	-0.3	1.69E-01
primary	lead	rs190705571	6	25693887	-0.61	1.74E-05	-1.27	2.16E-08	-0.83	2.29E-07	-0.66	7.25E-06
conditional	lead	rs190705571	6	25693887	-0.62	1.50E-05	-1.26	3.97E-08	-0.83	2.58E-07	-0.64	1.72E-05

Table S4: Results from conditional analyses. For each genome-wide significant loci in the HCHS/SOL analysis in which there was a previously reported “index SNP” less than 1Mbp away, we report the association results for both the known index SNP and the detected HCHS/SOL “lead SNP” in the primary HCHS/SOL analysis, and the association testing results for the lead SNP in the conditional analysis that adjusted for the known index SNPs.

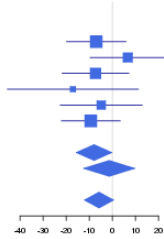
### 3 Regional association plots and forest plots

For each of the reported SNPs in Tables 2 and 3 of the main manuscript, we provide a forest plot comparing the SNP-trait association testing results across the genetic analysis groups, the Mainland group, the Caribbean group, and all groups combined. In addition, we provide the regional association (LocusZoom) with  $p$ -values and LDs calculated from the Mainland group, Caribbean group, and all groups combined. Each of the regional association figures is centered around a lead variant, and displays the LDs and  $p$ -values of variants in a 1Mbp region around it. Each symbol on the plot correspond to a specific variant. If this variant is imputed, the symbol is either an x, or a purple inverted triangle (if it is the lead variant). If the variant is genotyped, its symbol is a circle, or a purple diamond (if it is the lead variant). The colors of the non-lead variants correspond to their LD with the lead variant, where this LD was calculated as the squared Pearson correlation between the genotype counts/dosages of the lead variant and those of that variant, and based on the population represented in the figure. Thus, if the regional association plot corresponds to the combined analysis (“All”), we used the entire HCHS/SOL sample set to calculate LD. If it corresponds to the Caribbean group, we used only individuals classified as Caribbeans. The  $y$ -axis position of the symbols corresponds to the  $-\log(p\text{-value})$  of the variants in the analysis. Finally, the blue line represents recombination rates, taken from HapMap (Gibbs et al., 2003).

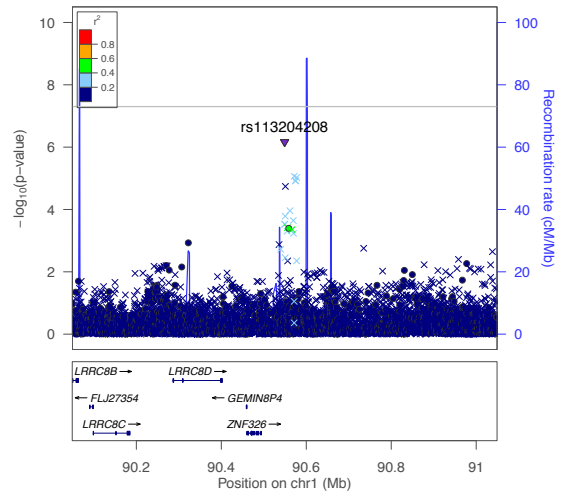
### 3.1 SBP

Strata	EAfreq	Effect size	1-(5e-08)% Confidence Interval
PuertoRican	98.7%	-6.98	(-19.89, 5.94)
CentralAmerican	98.7%	6.69	(-9.64, 23.03)
Cuban	99%	-7.29	(-21.79, 7.22)
SouthAmerican	99.4%	-17.08	(-45.52, 11.36)
Mexican	99.7%	-4.81	(-22.62, 13)
Dominican	97.4%	-9.33	(-22.12, 3.45)
<b>Meta analysis - Caribbean</b>		<b>-7.92</b>	<b>(-15.64, -0.2)</b>
<b>Meta analysis - Mainland</b>		<b>-1.36</b>	<b>(-12.46, 9.74)</b>
<b>Meta analysis - all</b>		<b>-5.78</b>	<b>(-12.12, 0.56)</b>

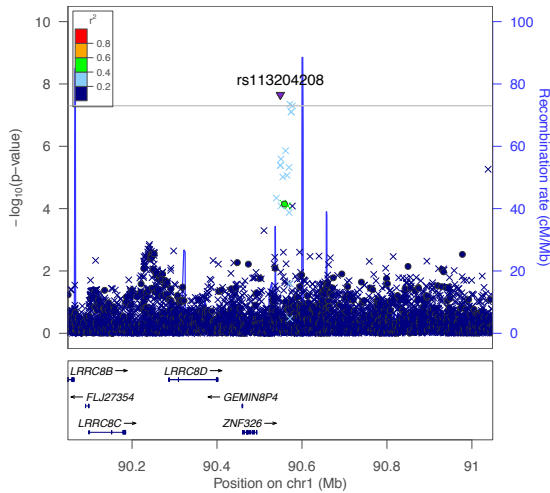
P-value of Cochran Q test for heterogeneity: 0.000134



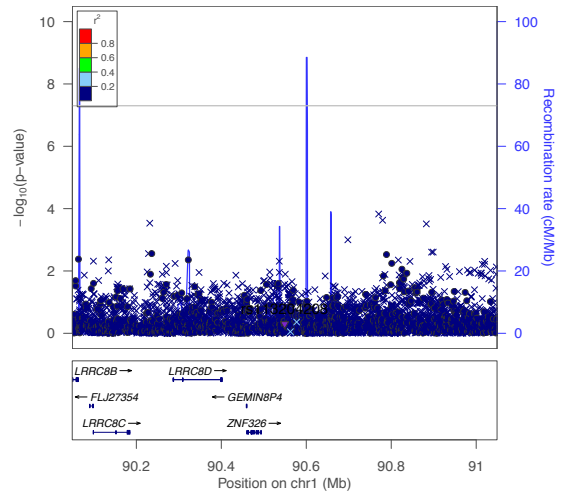
(a) Forest plot



(b) Regional association: All

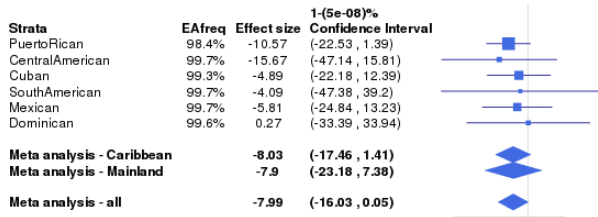


(c) Regional association: Caribbean



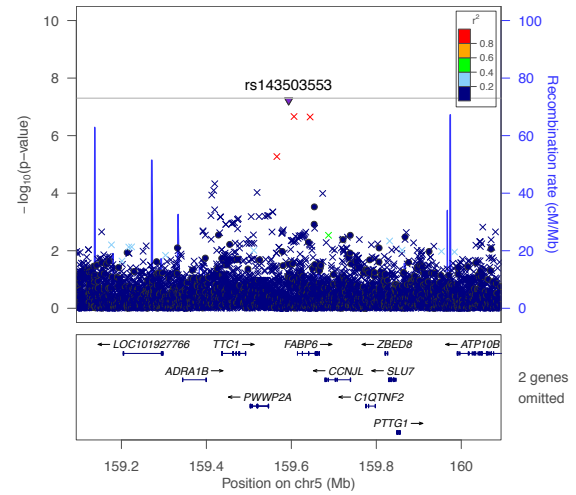
(d) Regional association: Mainland

Fig. S16: Forest plot and regional association plots for the SBP locus (lead SNP rs113204208) on chromosome 1.

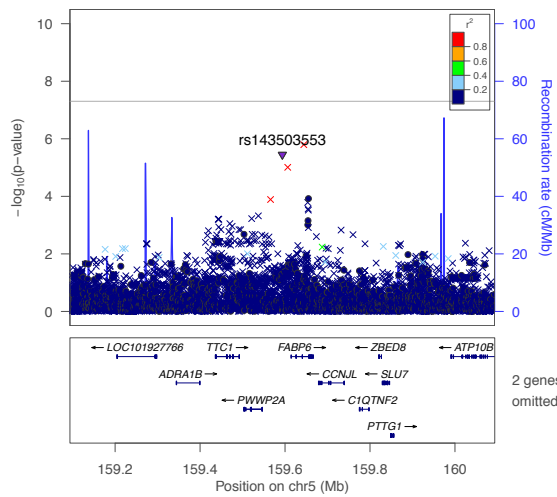


P-value of Cochran Q test for heterogeneity: 0.258

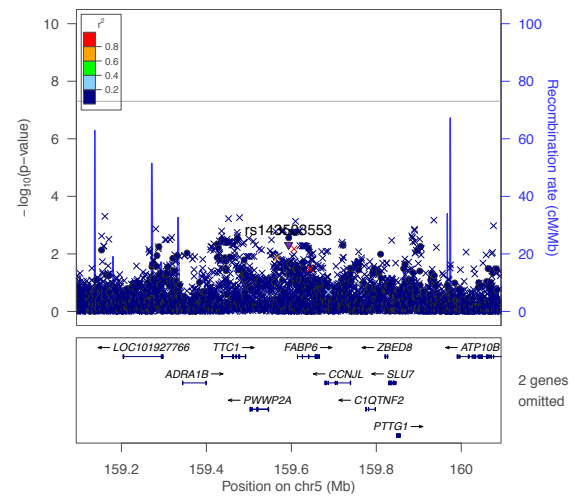
(a) Forest plot



(b) Regional association: All



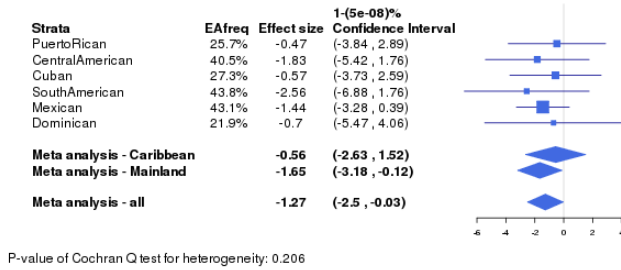
(c) Regional association: Caribbean



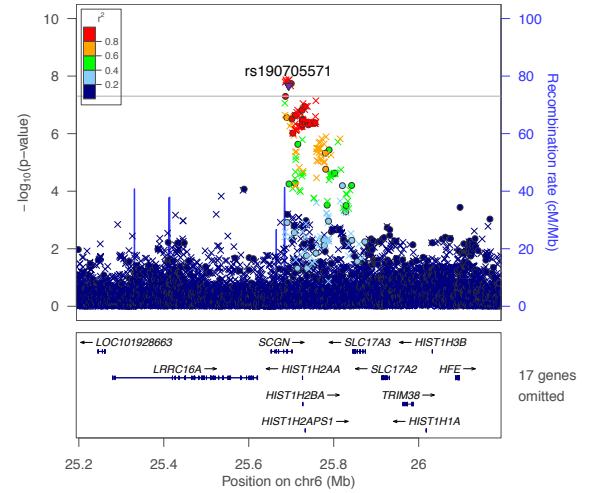
(d) Regional association: Mainland

Fig. S17: Forest plot and regional association plots for the SBP locus (lead SNP rs143503553) on chromosome 5.

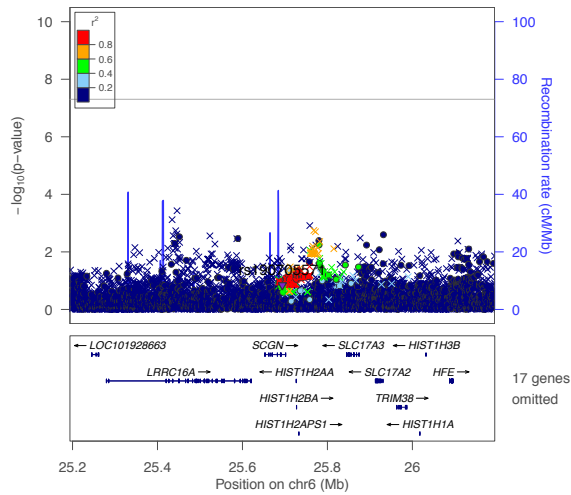




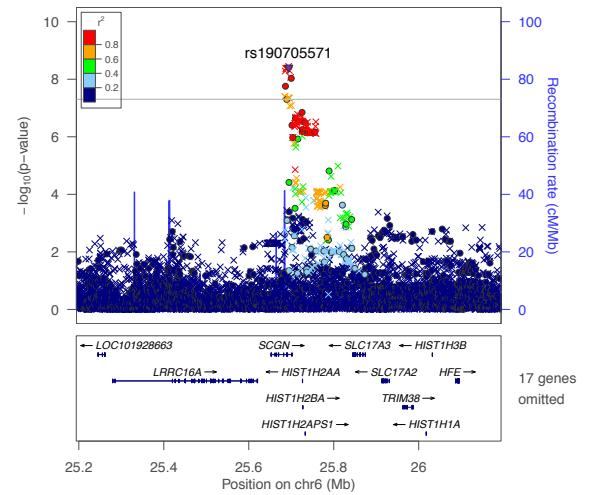
(a) Forest plot



(b) Regional association: All

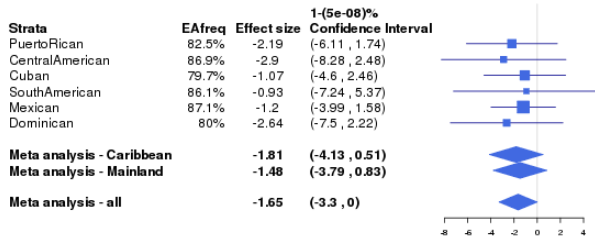


(c) Regional association: Caribbean



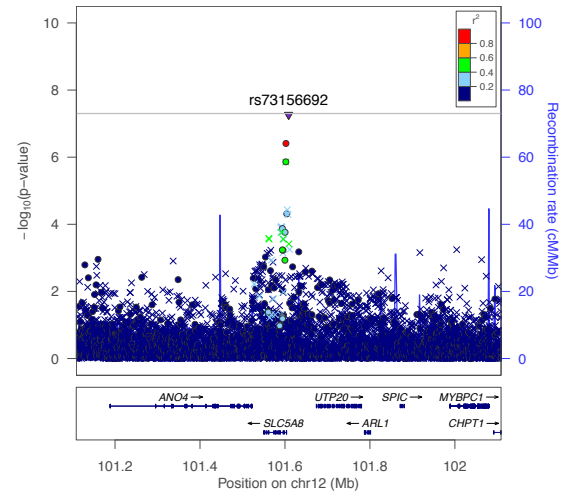
(d) Regional association: Mainland

Fig. S18: Forest plot and regional association plots for the SBP locus (lead SNP rs190705571) on chromosome 6.

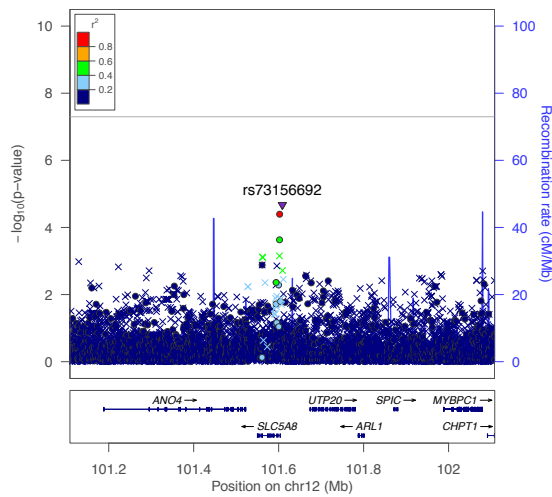


P-value of Cochran Q test for heterogeneity: 0.375

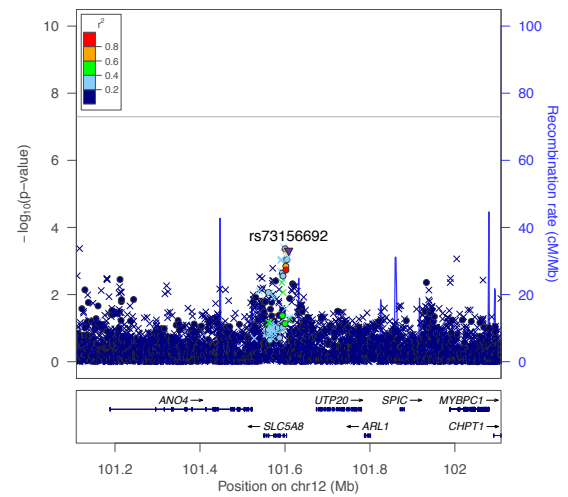
(a) Forest plot



(b) Regional association: All



(c) Regional association: Caribbean



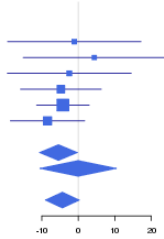
(d) Regional association: Mainland

Fig. S19: Forest plot and regional association plots for the SBP locus (lead SNP rs73156692) on chromosome 12.

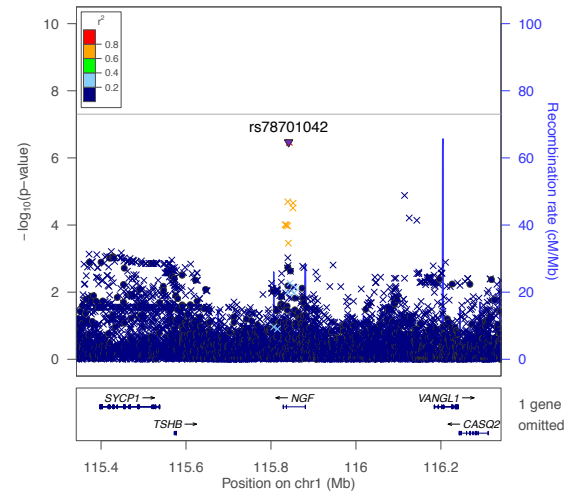
### 3.2 DBP

Strata	EAfreq	Effect size	1-(5e-08)% Confidence Interval
CentralAmerican	99.6%	-1.1	(-19.41, 17.2)
SouthAmerican	99.6%	4.39	(-15.12, 23.9)
Mexican	99.9%	-2.47	(-19.48, 14.54)
PuertoRican	99.3%	-4.77	(-15.86, 6.32)
Dominican	97.1%	-4.23	(-11.46, 3.01)
Cuban	99.3%	-8.44	(-18.66, 1.77)
<b>Meta analysis - Caribbean</b>		<b>-5.44</b>	<b>(-10.66, -0.22)</b>
<b>Meta analysis - Mainland</b>		<b>-0.04</b>	<b>(-10.54, 10.47)</b>
<b>Meta analysis - all</b>		<b>-4.38</b>	<b>(-9.05, 0.3)</b>

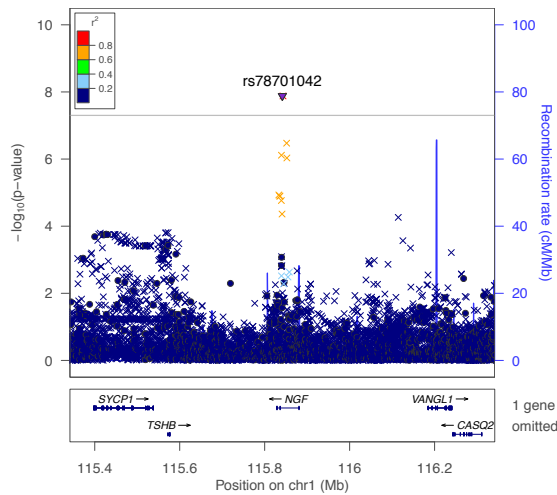
P-value of Cochran Q test for heterogeneity: 0.0336



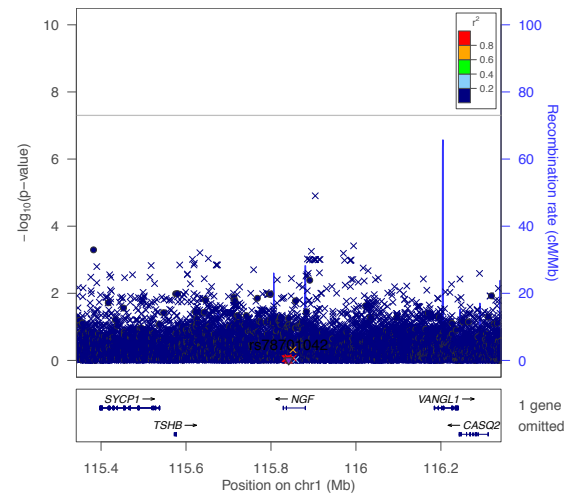
(a) Forest plot



(b) Regional association: All

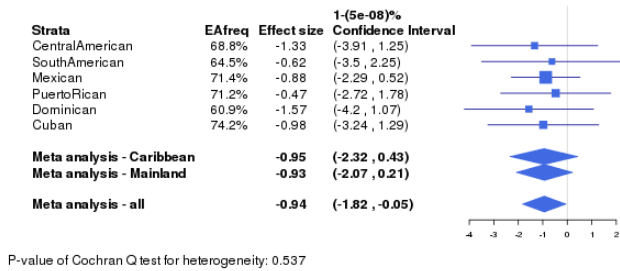


(c) Regional association: Caribbean

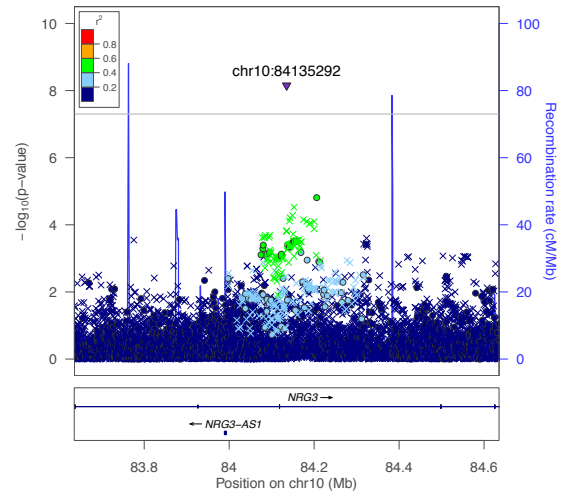


(d) Regional association: Mainland

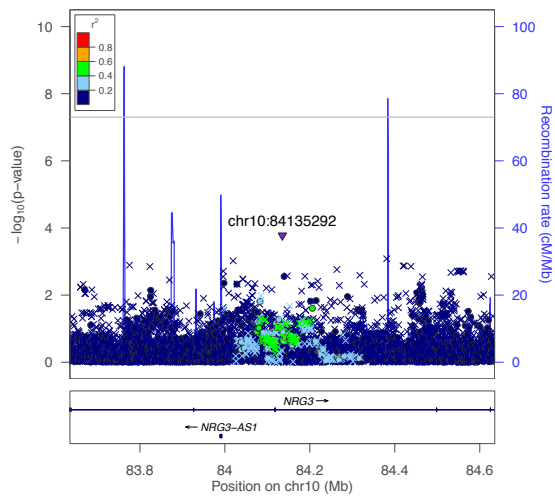
Fig. S20: Forest plot and regional association plots for the DBP locus (lead SNP rs78701042) on chromosome 1.



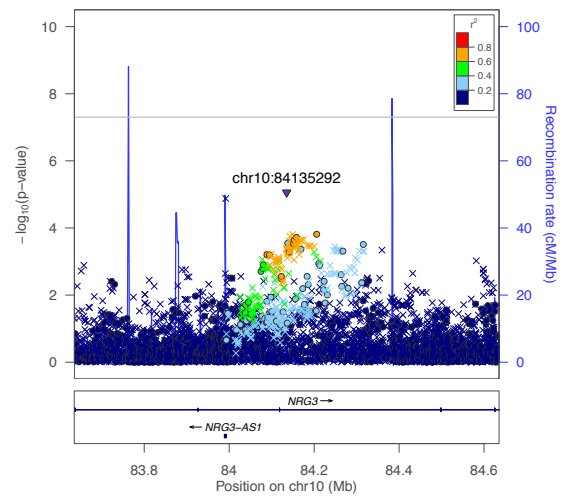
(a) Forest plot



(b) Regional association: All



(c) Regional association: Caribbean



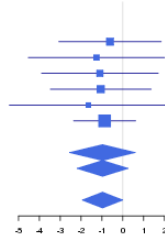
(d) Regional association: Mainland

Fig. S21: Forest plot and regional association plots for the DBP locus on chromosome 10, lead SNP position 84135292.

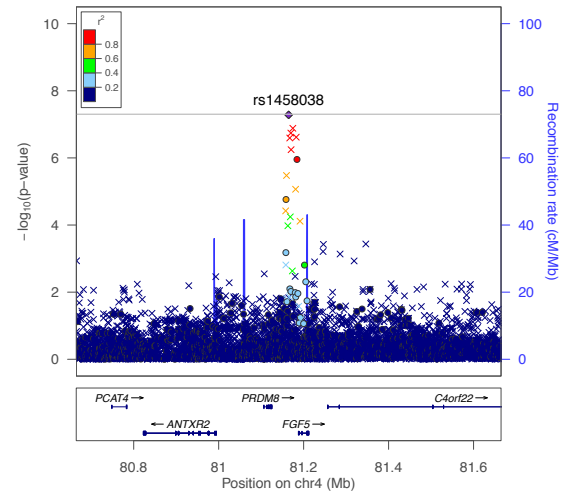
### 3.3 MAP

Strata	EAfreq	Effect size	1-(5e-08)% Confidence Interval
PuertoRican	75%	-0.61	(-3.07, 1.85)
SouthAmerican	74.6%	-1.26	(-4.53, 2.02)
CentralAmerican	73.4%	-1.1	(-3.9, 1.71)
Cuban	78.7%	-1.06	(-3.48, 1.37)
Dominican	83.4%	-1.65	(-5.44, 2.14)
Mexican	75.2%	-0.87	(-2.36, 0.62)
<b>Meta analysis - Caribbean</b>		<b>-0.98</b>	<b>(-2.55, 0.6)</b>
<b>Meta analysis - Mainland</b>		<b>-0.97</b>	<b>(-2.19, 0.26)</b>
<b>Meta analysis - all</b>		<b>-0.97</b>	<b>(-1.94, 0)</b>

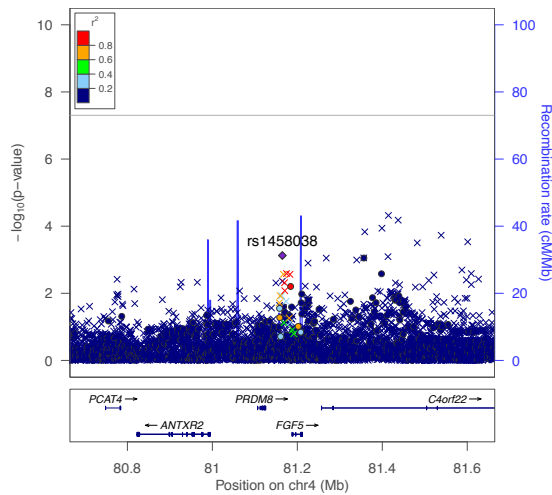
P-value of Cochran Q test for heterogeneity: 0.842



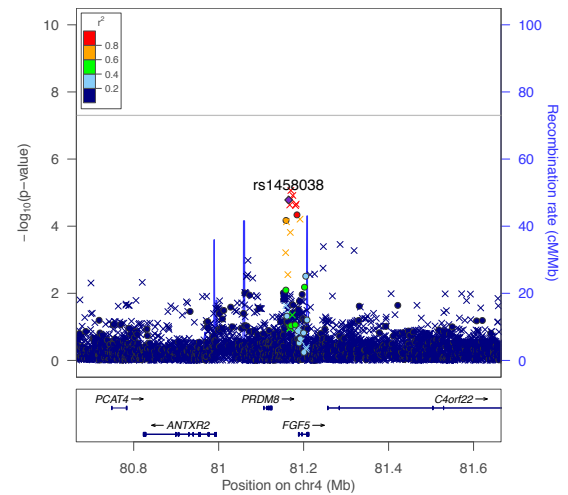
(a) Forest plot



(b) Regional association: All

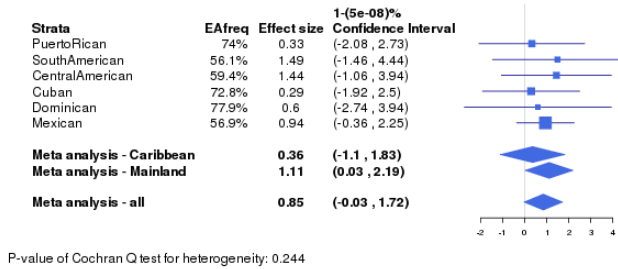


(c) Regional association: Caribbean

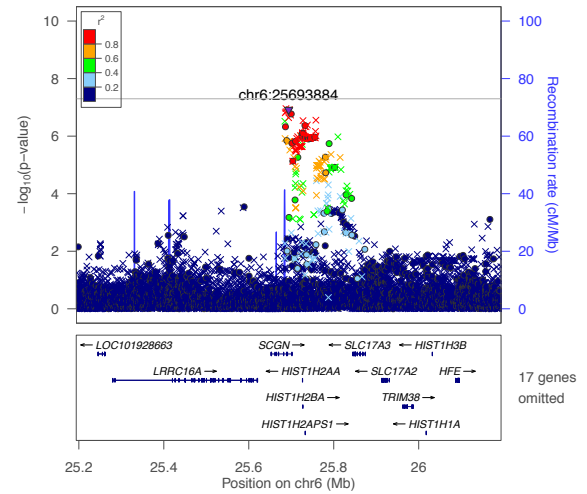


(d) Regional association: Mainland

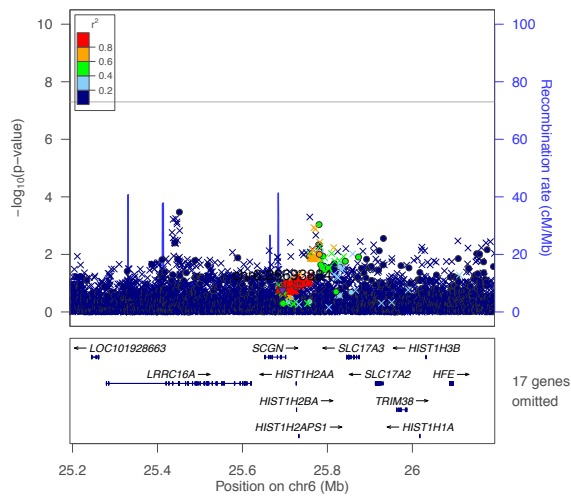
Fig. S22: Forest plot and regional association plots for the MAP locus (lead SNP rs1458038) on chromosome 4.



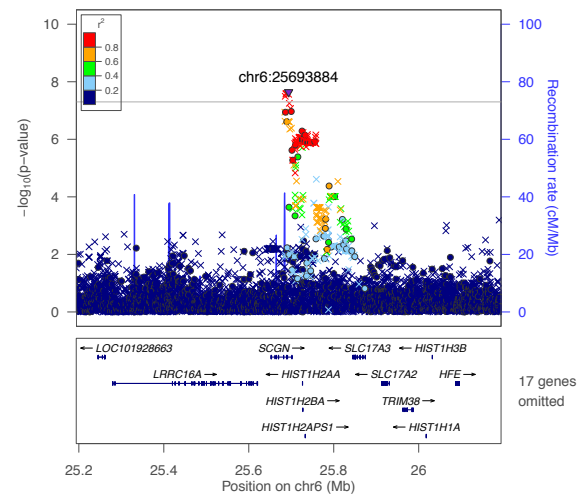
(a) Forest plot



(b) Regional association: All

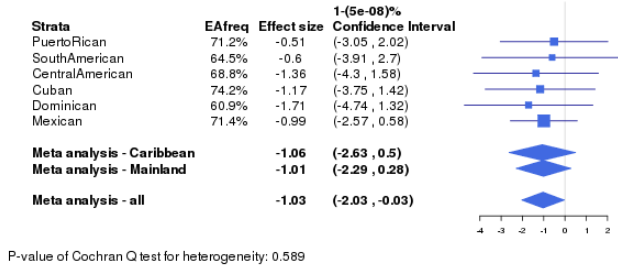


(c) Regional association: Caribbean

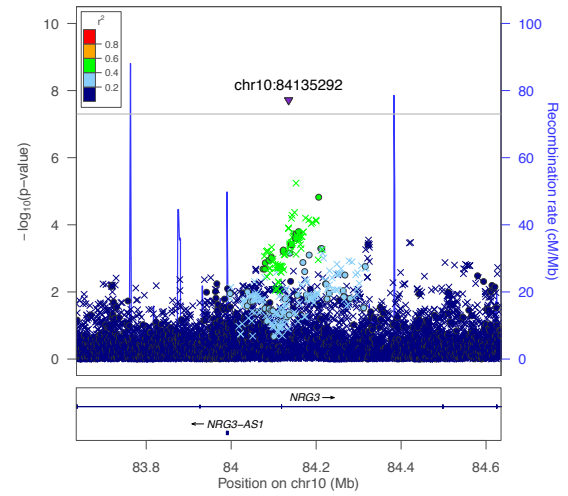


(d) Regional association: Mainland

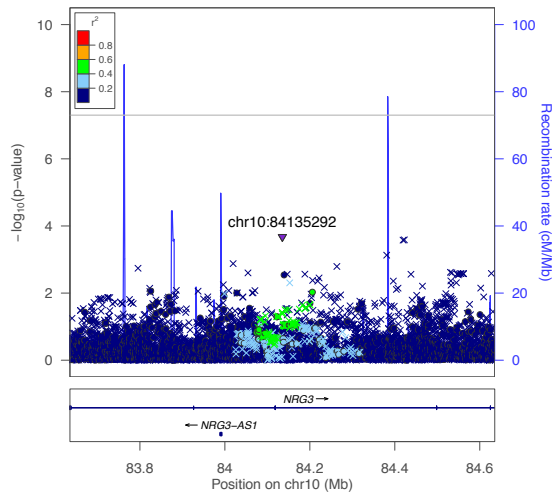
Fig. S23: Forest plot and regional association plots for the MAP locus on chromosome 6 (lead SNP position 19858891).



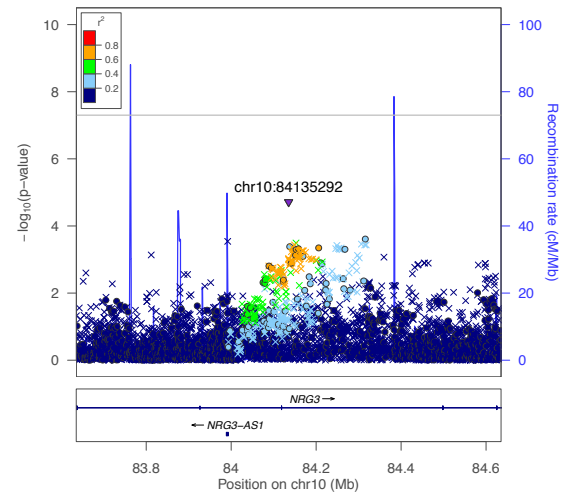
(a) Forest plot



(b) Regional association: All



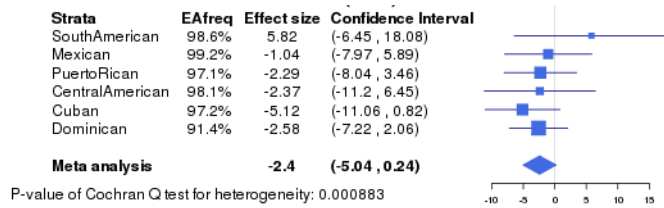
(c) Regional association: Caribbean



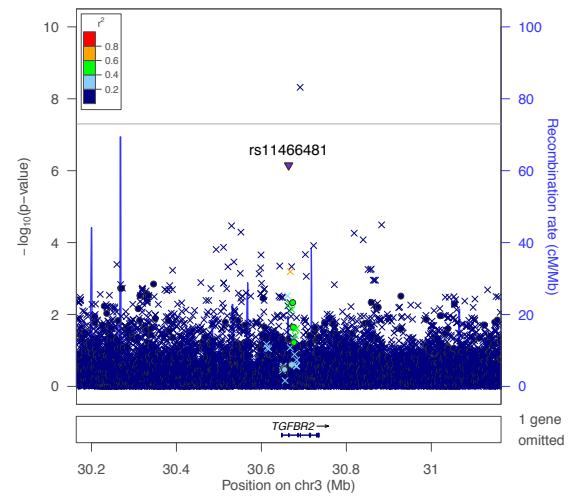
(d) Regional association: Mainland

Fig. S24: Forest plot and regional association plots for the MAP locus on chromosome 10 (lead SNP position 84135292).

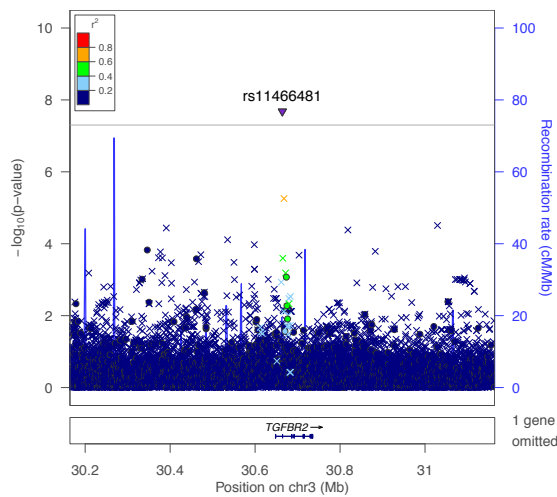
### 3.4 PP



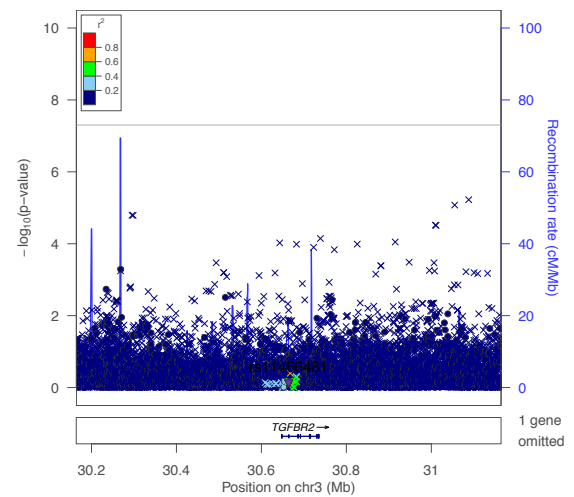
(a) Forest plot



(b) Regional association: All



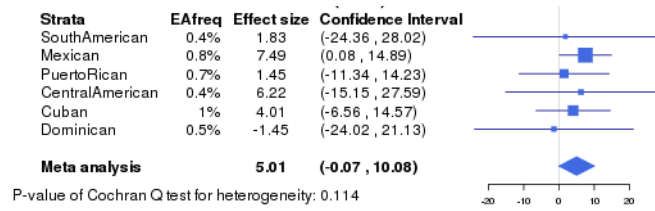
(c) Regional association: Caribbean



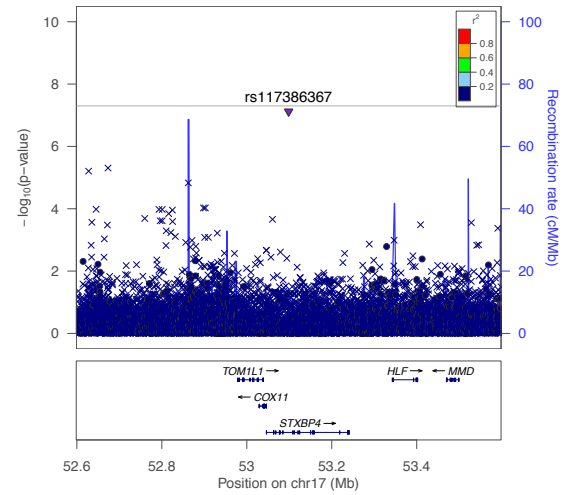
(d) Regional association: Mainland

Fig. S25: Forest plot and regional association plots for the PP locus on chromosome 3 (lead SNP rs11466481).

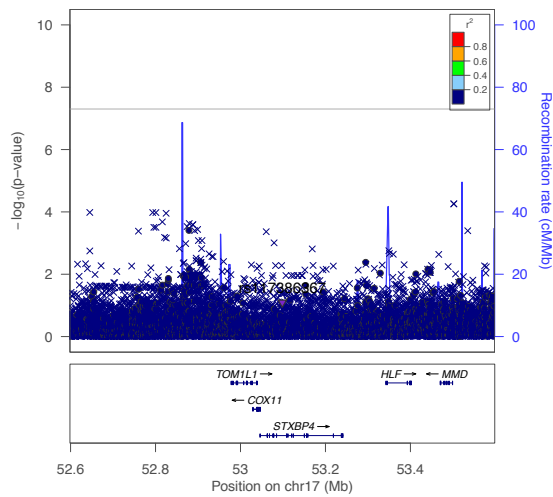




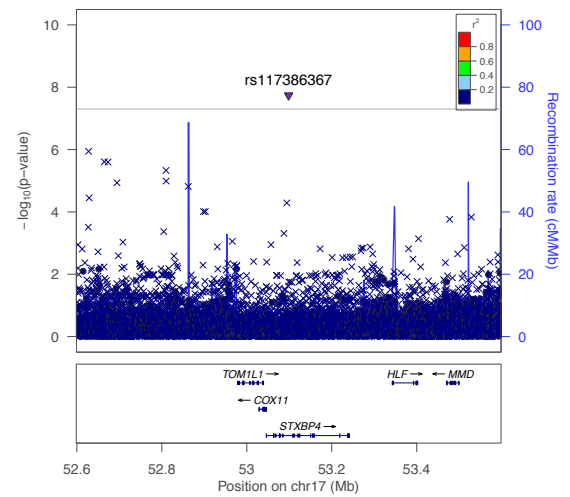
(a) Forest plot



(b) Regional association: All



(c) Regional association: Caribbean



(d) Regional association: Mainland

Fig. S26: Forest plot and regional association plots for the PP locus on chromosome 17 (lead SNP rs117386367).

## 4 Generalization of known SNP-trait associations

For each previously reported analysis (published in a given paper, or ‘discovery study’, with a specific trait) we provide a table of generalization analysis results. We compare the effect sizes provided in the discovery study (if available) and the effect sizes estimated in the Caribbean group, Mainland group, and all groups combined in the HCHS/SOL, as well as corresponding  $p$ -values and  $FDR_g$   $r$ -values. We also provide fixed-effects meta-analysis results for the discovery associations and the HCHS/SOL associations, from the analysis combining all genetic analysis groups.

rsID	chr	position	trait	A1	discovery p-value	HCBS/SOL beta		HCBS/SOL p-value		FDR <sub>g</sub> r-value				
						Mainland	Caribbean	All	Mainland	Caribbean	All	Mainland	Caribbean	All
rs11120313	1	214581206	DBP	A	4.53E-06	0.18	0.20	0.19	0.48	0.52	0.34	1.00	1	1.00
rs16848861	1	237144914	DBP	G	4.73E-06	0.83	-0.34	-0.00	0.26	0.46	0.99	1.00	1	1.00
rs16853574	3	169079763	DBP	C	5.10E-06	-0.22	-0.17	-0.20	0.51	0.70	0.45	1.00	1	1.00
rs9590141	13	95603622	DBP	A	8.76E-07	0.72	0.63	0.67	0.12	0.13	0.03	1.00	1	0.64
rs9301196	13	107847432	DBP	T	6.66E-06	0.55	-0.45	0.11	0.01	0.05	0.45	1.00	1	1.00
rs11846013	14	46932291	DBP	A	4.99E-06	0.47	0.04	0.29	0.01	0.86	0.04	1.00	1	1.00
rs10135446	14	80409478	DBP	A	4.47E-06	0.10	-0.29	-0.04	0.60	0.27	0.81	1.00	1	1.00
rs1867226	15	91523713	DBP	C	5.80E-07	-0.15	-0.11	-0.13	0.42	0.62	0.35	1.00	1	1.00
rs8039294	15	91743859	DBP	G	6.29E-06	-0.57	-0.09	-0.29	0.07	0.72	0.15	1.00	1	1.00
rs2823756	21	17742330	DBP	T	5.73E-06	-0.09	0.32	0.09	0.63	0.14	0.55	1.00	1	1.00
rs5743185	2	190737838	SBP	T	2.09E-11	-1.08	-0.16	-0.64	0.13	0.83	0.21	0.94	1	1.00
rs13201744	6	6126845	SBP	A	1.12E-06	0.31	-0.31	0.04	0.57	0.62	0.92	1.00	1	1.00
rs16877320	6	15923026	SBP	G	3.42E-09	-0.46	0.36	0.02	0.64	0.66	0.97	1.00	1	1.00
rs17365948	8	101956877	SBP	A	1.59E-08	1.44	-0.18	0.51	0.14	0.83	0.42	0.94	1	1.00
rs2183737	9	71241633	SBP	T	1.21E-06	-0.91	-0.65	-0.74	0.25	0.23	0.10	1.00	1	1.00
rs12279202	11	9432090	SBP	A	4.80E-08	0.06	-0.32	-0.14	0.95	0.72	0.83	1.00	1	1.00
rs11160059	14	92807330	SBP	A	1.54E-08	0.74	-0.83	-0.53	0.61	0.24	0.41	1.00	1	1.00
rs3751664	16	1254369	SBP	T	6.71E-08	-0.37	1.19	0.43	0.62	0.10	0.41	1.00	1	1.00
rs4613079	16	80643957	SBP	T	5.06E-07	0.25	-0.98	0.00	0.47	0.14	0.99	1.00	1	1.00
rs11659639	18	58167612	SBP	C	2.13E-07	-3.57	-0.15	-2.01	0.03	0.93	0.09	0.52	1	1.00

Table S5: Generalization analysis results for SNP associations reported in Adeyemo et al.

Table S6: Generalization of previously reported HT loci.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL OR			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value		all meta		
					OR	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	OR	$p$ -value
Adeyemo	rs2146204	1	168874099	HT C	2.49	2.97E-06	0.96	1.11	1.04	5.77E-01	1.40E-01	4.26E-01	1.00	0.70	1.00	1.11	4.62E-02
Adeyemo	rs12748299	1	198983324	HT C	1.99	1.66E-05	1.08	0.87	0.95	2.49E-01	1.22E-02	2.20E-01	1.00	1.00	1.00	1.00	9.01E-01
Adeyemo	rs11692045	2	41950953	HT C	0.64	1.54E-05	0.96	1.08	1.03	4.87E-01	1.29E-01	4.98E-01	1.00	1.00	1.00	0.97	3.62E-01
Adeyemo	rs11714139	3	131944637	HT T	2.45	1.14E-05	1.00	1.06	1.03	9.96E-01	4.51E-01	5.98E-01	1.00	1.00	1.00	1.09	1.00E-01
Adeyemo	rs991316	4	100322445	HT T	1.62	3.45E-06	0.90	1.09	0.99	2.76E-02	7.34E-02	8.34E-01	1.00	0.70	1.00	1.04	2.33E-01
Adeyemo	rs9791170	5	131569627	HT A	0.58	5.10E-07	1.01	1.02	1.02	7.64E-01	6.22E-01	6.15E-01	1.00	1.00	1.00	0.97	3.35E-01
Adeyemo	rs11988036	8	20140207	HT T	1.66	1.95E-05	1.01	0.97	0.99	8.57E-01	4.93E-01	7.73E-01	1.00	1.00	1.00	1.03	3.55E-01
Adeyemo	rs7902529	10	2298418	HT A	0.50	6.14E-06	0.97	0.99	0.98	6.62E-01	9.35E-01	6.36E-01	1.00	1.00	1.00	0.92	7.14E-02
Adeyemo	rs1550576	15	58213414	HT T	0.52	1.03E-05	1.00	1.00	1.00	9.43E-01	9.65E-01	9.49E-01	1.00	1.00	1.00	0.95	1.94E-01
Adeyemo	rs2665797	17	61922485	HT G	0.45	1.73E-05	1.05	0.91	0.98	3.24E-01	5.14E-02	5.01E-01	1.00	1.00	1.00	0.95	1.48E-01
HMG	rs880315	1	10796866	HT C	1.10	1.99E-09	1.06	1.02	1.04	1.90E-01	7.57E-01	2.47E-01	0.60	1.00	0.52	1.09	9.07E-09
Ehret	rs17367504	1	11862778	HT G	0.90	2.30E-10	0.85	0.87	0.86	6.01E-02	5.68E-02	6.93E-03	0.44	0.41	0.06	0.90	7.50E-12
HMG	rs10745332	1	113189053	HT A	1.12	2.70E-09	1.06	1.20	1.14	4.42E-01	1.56E-03	3.01E-03	1.00	0.03	0.03	1.12	1.41E-10
Ehret	rs2932538	1	113216543	HT G	1.05	2.90E-07	1.06	1.22	1.15	4.59E-01	8.83E-04	2.36E-03	1.00	0.20	0.06	1.05	1.66E-08
HMG	rs16849225	2	164906820	HT C	1.04	9.69E-03	1.00	1.07	1.03	9.54E-01	2.35E-01	4.48E-01	1.00	1.00	1.00	1.04	5.68E-03
Ehret	rs13082711	3	27537909	HT T	0.97	3.60E-04	0.93	0.91	0.92	2.46E-01	1.13E-01	5.50E-02	1.00	1.00	1.00	0.96	9.33E-05
HMG	rs820430	3	27548900	HT A	1.06	1.12E-06	1.01	1.08	1.04	8.96E-01	1.37E-01	2.41E-01	1.00	0.68	0.52	1.06	4.88E-07
Levy	rs7640747	3	37596805	HT G	1.13	4.80E-07	1.04	0.99	1.01	5.21E-01	7.94E-01	8.30E-01	0.87	1.00	0.89	1.10	8.01E-08
Levy	rs743395	3	37598382	HT T	1.13	7.50E-07	1.03	0.98	1.00	5.82E-01	7.24E-01	9.38E-01	0.87	1.00	0.94	1.10	1.22E-07

Table S6: Generalization of previously reported HT loci.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL OR			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					OR	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	OR	$p$ -value
Ehret	rs3774372	3	41877414	HT T	0.98	1.80E-01	0.89	0.95	0.92	1.01E-01	3.39E-01	7.41E-02	1.00	1.00	1.00	0.98	7.55E-02
HMG	rs9815354	3	41912651	HT A	1.01	7.94E-01	1.12	1.07	1.09	1.26E-01	2.71E-01	6.74E-02	1.00	1.00	1.00	1.02	2.94E-01
HMG	rs9810888	3	53635595	HT G	1.06	3.60E-06	0.99	1.04	1.02	8.08E-01	3.31E-01	6.26E-01	1.00	0.80	0.92	1.05	5.46E-06
HMG	rs1902859	4	81157703	HT C	1.14	7.61E-18	1.19	1.06	1.13	8.13E-04	2.50E-01	1.23E-03	0.02	0.79	0.02	1.14	2.34E-20
Ehret	rs1458038	4	81164723	HT T	1.07	1.90E-07	1.24	1.13	1.18	5.80E-05	3.27E-02	9.90E-06	0.06	0.32	0.06	1.09	1.52E-10
Ehret	rs13107325	4	103188709	HT T	0.90	4.90E-07	0.92	1.09	1.03	5.24E-01	3.77E-01	7.16E-01	1.00	1.00	1.00	0.91	1.96E-06
HMG	rs13143871	4	156619204	HT T	1.09	1.24E-06	1.08	1.07	1.08	1.66E-01	1.71E-01	4.82E-02	0.60	0.68	0.30	1.09	3.99E-07
Ehret	rs13139571	4	156645513	HT C	1.04	2.50E-05	1.08	1.09	1.09	1.42E-01	1.04E-01	2.64E-02	1.00	1.00	1.00	1.05	3.48E-06
Ehret	rs1173771	5	32815028	HT G	1.06	3.20E-10	1.15	1.04	1.09	4.13E-03	3.99E-01	8.54E-03	0.06	1.00	0.06	1.07	1.24E-11
Ehret	rs11953630	5	157845402	HT T	0.95	1.70E-07	0.87	0.98	0.93	1.85E-02	6.29E-01	6.55E-02	0.18	1.00	0.32	0.95	3.29E-08
Ehret	rs1799945	6	26091179	HT G	1.10	1.80E-10	1.06	1.05	1.05	4.22E-01	4.78E-01	2.92E-01	1.00	1.00	0.70	1.10	1.42E-10
HMG	rs1799945	6	26091179	HT G	1.18	3.98E-05	1.06	1.05	1.05	4.22E-01	4.78E-01	2.92E-01	1.00	1.00	0.92	1.13	8.55E-05
HMG	rs9266359	6	31332739	HT C	1.05	1.33E-05	0.98	1.00	0.99	7.72E-01	9.96E-01	7.80E-01	1.00	1.00	1.00	1.05	9.94E-05
Ehret	rs805303	6	31616366	HT G	1.06	1.10E-10	1.02	1.05	1.04	6.80E-01	2.58E-01	2.88E-01	1.00	0.93	0.70	1.05	7.27E-11
HMG	rs2021783	6	32044851	HT C	1.10	3.53E-11	1.27	0.95	1.15	5.90E-02	7.73E-01	1.68E-01	0.37	1.00	0.52	1.10	7.93E-12
Ehret	rs4373814	10	18419972	HT G	0.96	8.50E-08	0.99	1.01	1.00	8.68E-01	7.98E-01	9.44E-01	1.00	1.00	1.00	0.96	2.47E-07
Ehret	rs1813353	10	18707448	HT T	1.08	6.20E-10	1.01	1.02	1.01	9.14E-01	7.32E-01	8.19E-01	1.00	1.00	1.00	1.07	3.12E-09
Levy	rs11014166	10	18708798	HT T	0.90	7.80E-07	1.00	0.98	0.99	9.62E-01	6.45E-01	8.15E-01	1.00	0.75	0.89	0.92	6.44E-07
Ehret	rs4590817	10	63467553	HT G	1.10	9.80E-09	1.03	0.99	1.00	7.15E-01	8.54E-01	9.99E-01	1.00	1.00	1.00	1.09	5.58E-08

Table S6: Generalization of previously reported HT loci.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL OR			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					OR	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	OR	$p$ -value
Ehret	rs932764	10	95895940	HT G	1.06	9.40E-09	1.03	0.98	1.01	4.79E-01	7.03E-01	8.20E-01	1.00	1.00	1.00	1.05	2.37E-08
HMG	rs4409766	10	104616663	HT T	1.12	7.33E-13	1.16	0.97	1.07	1.26E-02	6.29E-01	1.38E-01	0.12	1.00	0.52	1.11	5.69E-12
Ehret	rs11191548	10	104846178	HT T	1.10	1.40E-05	1.17	0.97	1.09	8.75E-03	7.37E-01	6.07E-02	1.00	1.00	1.00	1.10	2.27E-06
Ehret	rs7129220	11	10350538	HT G	0.96	1.10E-03	1.01	0.79	0.86	9.08E-01	1.91E-03	1.32E-02	1.00	1.00	1.00	0.95	1.92E-04
HMG	rs4757391	11	16302939	HT C	1.08	3.33E-06	1.08	1.05	1.06	1.28E-01	3.39E-01	8.34E-02	0.60	0.80	0.40	1.07	2.94E-06
Ehret	rs381815	11	16902268	HT T	1.06	3.40E-06	1.13	0.98	1.05	1.88E-02	7.03E-01	1.52E-01	0.67	1.00	0.59	1.06	1.20E-06
Ehret	rs633185	11	100593538	HT G	0.93	5.40E-11	0.97	0.99	0.98	4.89E-01	8.16E-01	4.97E-01	1.00	1.00	1.00	0.94	9.88E-11
Levy	rs4842666	12	89941549	HT C	0.86	3.40E-07	0.92	0.91	0.91	1.53E-01	1.21E-01	3.23E-02	0.87	0.19	0.22	0.88	9.78E-08
Levy	rs11105328	12	89942390	HT G	0.86	7.10E-07	0.89	0.88	0.88	1.48E-01	5.27E-02	1.45E-02	0.87	0.19	0.22	0.87	2.86E-08
Levy	rs2681472	12	90008959	HT G	0.85	1.70E-08	0.97	0.89	0.92	6.58E-01	8.09E-02	1.08E-01	0.87	0.19	0.22	0.87	6.82E-08
Levy	rs2681492	12	90013089	HT C	0.87	8.40E-08	0.97	0.91	0.94	7.31E-01	1.42E-01	1.83E-01	0.87	0.20	0.26	0.89	2.96E-06
Levy	rs11105354	12	90026523	HT G	0.85	1.80E-08	0.97	0.89	0.92	6.49E-01	7.58E-02	9.99E-02	0.87	0.19	0.22	0.87	6.21E-08
Levy	rs12579302	12	90050503	HT G	0.85	2.20E-08	0.98	0.89	0.93	7.82E-01	7.99E-02	1.32E-01	0.87	0.19	0.22	0.87	9.31E-08
Ehret	rs17249754	12	90060586	HT G	1.13	1.10E-14	1.02	1.09	1.06	8.09E-01	1.78E-01	2.40E-01	1.00	0.86	0.70	1.13	1.37E-14
HMG	rs17249754	12	90060586	HT G	1.09	2.08E-08	1.02	1.09	1.06	8.09E-01	1.78E-01	2.40E-01	1.00	0.68	0.52	1.08	8.61E-08
Levy	rs17249754	12	90060586	HT A	0.85	2.20E-08	0.98	0.92	0.94	8.09E-01	1.78E-01	2.40E-01	0.87	0.23	0.31	0.88	2.53E-07
Levy	rs11105364	12	90069276	HT G	0.85	2.10E-08	0.98	0.90	0.93	7.38E-01	9.77E-02	1.40E-01	0.87	0.19	0.22	0.87	1.02E-07
Levy	rs11105368	12	90074441	HT C	0.85	2.20E-08	0.97	0.90	0.93	7.31E-01	9.64E-02	1.40E-01	0.87	0.19	0.22	0.87	1.04E-07
Levy	rs11105378	12	90090741	HT T	0.84	2.80E-08	0.96	0.90	0.93	5.76E-01	1.21E-01	1.23E-01	0.87	0.19	0.22	0.87	1.67E-08

Table S6: Generalization of previously reported HT loci.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL OR			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					OR	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	OR	$p$ -value
Levy	rs12230074	12	90090867	HT G	0.84	2.80E-08	0.96	0.90	0.92	5.44E-01	1.04E-01	1.04E-01	0.87	0.19	0.22	0.86	1.34E-08
Ehret	rs3184504	12	111884608	HT T	1.06	2.60E-06	1.01	1.08	1.05	7.96E-01	1.12E-01	1.63E-01	1.00	0.65	0.59	1.06	9.48E-07
HMG	rs11066280	12	112817783	HT T	1.11	5.78E-08	0.67	0.94	0.74	5.47E-01	9.44E-01	5.57E-01	1.00	1.00	1.00	1.11	7.71E-08
HMG	rs1991391	12	115352666	HT G	1.00	9.57E-01	1.07	1.04	1.05	2.29E-01	4.45E-01	1.70E-01	1.00	1.00	1.00	1.02	3.90E-01
Ehret	rs10850411	12	115387796	HT T	1.05	5.20E-06	1.08	1.07	1.07	1.13E-01	1.76E-01	3.75E-02	0.95	0.93	0.68	1.05	7.16E-07
HMG	rs35444	12	115552437	HT A	1.08	2.86E-05	1.06	1.02	1.04	2.16E-01	6.80E-01	2.45E-01	1.00	1.00	0.67	1.07	2.38E-05
HMG	rs11067763	12	116198341	HT A	1.06	1.37E-07	0.97	1.10	1.03	6.35E-01	9.69E-02	4.24E-01	1.00	0.68	0.73	1.06	3.40E-07
Ehret	rs1378942	15	75077367	HT C	1.08	1.00E-08	1.02	1.01	1.01	6.84E-01	9.16E-01	7.14E-01	1.00	1.00	1.00	1.07	3.59E-08
Ehret	rs2521501	15	91437388	HT T	1.06	7.00E-07	1.07	1.13	1.11	2.63E-01	1.55E-02	8.20E-03	0.95	0.27	0.08	1.06	3.55E-08
Ehret	rs17608766	17	45013271	HT T	0.98	8.00E-02	1.11	0.94	1.00	3.25E-01	4.42E-01	9.75E-01	1.00	1.00	1.00	0.98	8.90E-02
Ehret	rs12940887	17	47402807	HT T	1.05	1.20E-07	0.99	0.93	0.95	8.38E-01	1.46E-01	2.23E-01	1.00	1.00	1.00	1.04	9.52E-07
HMG	rs1887320	20	10965998	HT A	1.06	5.13E-05	1.14	1.11	1.12	1.86E-02	2.32E-02	1.69E-03	1.00	1.00	1.00	1.07	1.69E-06
Ehret	rs1327235	20	10969030	HT G	1.03	4.60E-04	1.14	1.11	1.12	1.80E-02	2.13E-02	1.52E-03	1.00	1.00	1.00	1.04	2.46E-05
Ehret	rs6015450	20	57751117	HT G	1.12	4.20E-14	1.16	0.89	0.97	1.39E-01	1.15E-01	6.22E-01	0.67	1.00	1.00	1.11	5.87E-13

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL score			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value		
					Z-score	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All
Liu 2016	rs11537751	11	47587452	HT T	5.40	6.90E-08	1.31E+00	-7.81E+00	-6.29E+00	8.50E-01	3.51E-01	5.63E-01	0.85	1.00	1.00

Table S7: Generalization testing of a HT locus reported by Liu et al. (2016).



Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					beta	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	$p$ -value
Hoffmann	rs7546498	1	1740255	SBP G	0.26	2.80E-11	0.64	-0.17	0.32	2.32E-02	6.33E-01	1.46E-01	3.46E-01	1.00	6.36E-01	0.32	1.46E-01
Hoffmann	rs7546498	1	1740255	DBP G	0.15	4.50E-10	0.27	-0.01	0.16	1.34E-01	9.78E-01	2.56E-01	6.21E-01	1.00	6.52E-01	0.16	2.56E-01
Liu	rs2493292	1	3328659	SBP T	0.37	1.40E-08	1.18	0.05	0.60	1.36E-02	9.13E-01	7.25E-02	1.09E-01	1.00	2.90E-01	0.38	3.00E-08
Hoffmann	rs9662255	1	9441949	SBP C	0.20	2.20E-06	0.67	-0.18	0.31	2.36E-02	6.10E-01	1.62E-01	3.46E-01	1.00	6.36E-01	0.31	1.62E-01
Hoffmann	rs9662255	1	9441949	PP C	0.18	3.50E-10	0.39	0.00	0.23	4.13E-02	9.87E-01	1.19E-01	5.44E-01	1.00	4.96E-01	0.23	1.19E-01
Levy	rs284277	1	10790797	SBP A	0.79	9.40E-07	-0.37	0.44	-0.04	1.91E-01	1.92E-01	8.70E-01	1.00E+00	0.37	1.00E+00	0.50	1.05E-04
HMG	rs880315	1	10796866	DBP C	0.46	7.94E-08	0.23	-0.02	0.13	1.97E-01	9.20E-01	3.44E-01	4.69E-01	1.00	5.45E-01	0.36	1.57E-06
HMG	rs880315	1	10796866	SBP C	0.97	5.52E-10	0.28	0.06	0.20	3.17E-01	8.69E-01	3.74E-01	6.68E-01	1.00	5.47E-01	0.71	5.31E-08
Levy	rs880315	1	10796866	SBP T	0.89	2.10E-07	-0.28	-0.06	-0.20	3.17E-01	8.69E-01	3.74E-01	1.00E+00	1.00	1.00E+00	0.49	2.94E-04
Ehret '11	rs17367504	1	11862778	DBP G	-0.55	3.50E-19	-0.45	-1.00	-0.71	1.46E-01	1.92E-03	1.48E-03	2.82E-01	0.01	5.37E-03	-0.56	2.72E-21
Ehret '11	rs17367504	1	11862778	SBP G	-0.90	8.70E-22	-0.69	-1.34	-1.00	1.56E-01	9.97E-03	5.33E-03	3.78E-01	0.10	2.21E-02	-0.91	1.78E-23
Hoffmann	rs3820068	1	15798197	SBP A	0.26	1.80E-07	0.05	0.44	0.26	9.12E-01	2.65E-01	3.78E-01	1.00E+00	0.89	7.88E-01	0.26	3.78E-01
Hoffmann	rs3820068	1	15798197	PP A	0.20	1.10E-09	0.05	0.54	0.31	8.60E-01	3.56E-02	9.85E-02	1.00E+00	0.44	4.65E-01	0.31	9.85E-02
Hoffmann	rs137993948	1	23369277	PP T	-0.20	1.00E-08	-0.30	0.15	-0.06	3.45E-01	6.07E-01	7.92E-01	1.00E+00	1.00	1.00E+00	-0.06	7.92E-01
Hoffmann	rs9729719	1	38298207	PP G	-0.19	2.00E-11	-0.09	-0.14	-0.11	6.91E-01	5.95E-01	5.18E-01	1.00E+00	1.00	9.48E-01	-0.11	5.18E-01
Liu	rs4660293	1	40028180	DBP G	0.18	9.60E-08	-0.25	-0.05	-0.16	3.61E-01	8.52E-01	4.33E-01	1.00E+00	1.00	1.00E+00	0.17	6.09E-09
Hoffmann	rs783621	1	42368035	SBP A	0.29	2.90E-14	0.19	0.35	0.26	4.87E-01	3.01E-01	2.34E-01	1.00E+00	0.93	6.58E-01	0.26	2.34E-01
Hoffmann	rs783621	1	42368035	PP A	0.21	3.10E-16	-0.02	0.35	0.13	8.94E-01	1.06E-01	3.54E-01	1.00E+00	0.66	8.20E-01	0.13	3.54E-01
Ehret '16	rs7515635	1	42408070	SBP T	0.31	4.81E-12	0.48	-0.01	0.27	1.01E-01	9.69E-01	2.28E-01	3.36E-01	1.00	5.86E-01	0.31	2.27E-12
Ehret '16	rs7515635	1	42408070	DBP T	0.14	2.05E-07	0.22	-0.05	0.10	2.28E-01	8.13E-01	4.56E-01	6.58E-01	1.00	8.62E-01	0.14	1.62E-07
Hoffmann	rs147696085	1	51021867	PP G	0.29	2.20E-11	0.56	0.98	0.76	1.90E-01	2.74E-02	1.35E-02	7.51E-01	0.44	2.67E-01	0.76	1.35E-02
Hoffmann	rs2404715	1	57008778	SBP C	0.40	1.70E-09	0.43	-0.04	0.18	5.02E-01	9.48E-01	6.83E-01	1.00E+00	1.00	1.00E+00	0.18	6.83E-01
Hoffmann	rs2404715	1	57008778	PP C	0.34	2.70E-14	0.09	0.07	0.08	8.23E-01	8.53E-01	7.75E-01	1.00E+00	1.00	1.00E+00	0.08	7.75E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs60199046	1	59663341	SBP A	0.24	2.60E-08	0.22	0.41	0.30	5.60E-01	3.50E-01	2.95E-01	1.00E+00	0.95	7.07E-01	0.30	2.95E-01
Hoffmann	rs60199046	1	59663341	PP A	0.31	1.30E-27	-0.06	0.63	0.24	8.05E-01	2.45E-02	1.93E-01	1.00E+00	0.44	5.81E-01	0.24	1.93E-01
Hoffmann	rs786919	1	89281529	SBP A	0.26	1.30E-11	-0.08	0.56	0.19	7.81E-01	9.21E-02	3.89E-01	1.00E+00	0.66	7.88E-01	0.19	3.89E-01
Hoffmann	rs786919	1	89281529	DBP A	0.11	4.20E-06	0.10	0.32	0.19	5.63E-01	1.21E-01	1.51E-01	1.00E+00	0.78	5.47E-01	0.19	1.51E-01
Hoffmann	rs786919	1	89281529	PP A	0.16	1.50E-09	-0.15	0.25	0.02	4.00E-01	2.50E-01	9.13E-01	1.00E+00	0.83	1.00E+00	0.02	9.13E-01
HMG	rs10745332	1	113189053	DBP A	0.53	7.70E-08	0.51	0.64	0.58	5.72E-02	1.24E-02	1.85E-03	1.55E-01	0.08	5.86E-03	0.54	8.15E-10
HMG	rs10745332	1	113189053	SBP A	0.96	2.52E-09	0.74	1.23	1.00	8.79E-02	2.97E-03	9.16E-04	2.88E-01	0.06	4.35E-03	0.97	3.41E-10
Ehret '11	rs2932538	1	113216543	DBP G	0.24	9.90E-10	0.51	0.72	0.62	5.93E-02	6.19E-03	1.07E-03	1.43E-01	0.03	4.62E-03	0.26	2.99E-11
Ehret '11	rs2932538	1	113216543	SBP G	0.39	1.20E-09	0.69	1.33	1.02	1.12E-01	1.68E-03	8.04E-04	3.36E-01	0.04	7.77E-03	0.41	3.20E-11
Hoffmann	rs11102916	1	115836746	SBP C	-0.73	1.10E-07	-0.05	-1.64	-0.71	9.39E-01	5.36E-02	1.93E-01	1.00E+00	0.56	6.58E-01	-0.71	1.93E-01
Hoffmann	rs11102916	1	115836746	DBP C	-0.57	9.50E-12	-0.74	-0.60	-0.68	9.88E-02	2.59E-01	4.68E-02	5.49E-01	0.87	3.11E-01	-0.68	4.68E-02
Liu	rs35479618	1	153662423	SBP A	1.11	5.70E-08	1.71	1.55	1.60	4.96E-01	3.58E-01	2.54E-01	7.14E-01	0.72	4.77E-01	1.12	1.55E-08
Hoffmann	rs7519279	1	169207361	SBP G	0.19	5.00E-06	0.81	0.60	0.70	3.68E-02	1.32E-01	1.18E-02	4.17E-01	0.68	2.51E-01	0.70	1.18E-02
Hoffmann	rs7519279	1	169207361	PP G	0.21	1.10E-13	0.64	0.42	0.53	1.18E-02	1.05E-01	3.74E-03	5.44E-01	0.66	1.91E-01	0.53	3.74E-03
Hoffmann	rs12405515	1	172357441	SBP G	0.19	1.20E-06	0.39	-0.11	0.18	1.89E-01	7.44E-01	4.36E-01	8.13E-01	1.00	8.20E-01	0.18	4.36E-01
Hoffmann	rs12405515	1	172357441	DBP G	0.17	9.70E-13	0.30	-0.11	0.12	1.05E-01	5.97E-01	3.82E-01	5.49E-01	1.00	8.02E-01	0.12	3.82E-01
Hoffmann	rs675058829	1	175111760	DBP C	0.20	3.50E-08	0.15	-0.38	-0.09	4.69E-01	8.80E-02	5.36E-01	1.00E+00	1.00	1.00E+00	-0.09	5.36E-01
Hoffmann	rs61823001	1	176664440	PP A	0.31	4.40E-08	0.78	-0.08	0.33	1.79E-01	8.83E-01	4.13E-01	7.37E-01	1.00	8.71E-01	0.33	4.13E-01
Hoffmann	rs12037669	1	201721930	PP T	0.22	1.40E-10	-0.19	0.31	-0.01	3.41E-01	2.43E-01	9.56E-01	1.00E+00	0.83	1.00E+00	-0.01	9.56E-01
Hoffmann	rs2761436	1	207919748	SBP C	-0.20	2.10E-07	0.11	-0.28	-0.05	6.85E-01	4.01E-01	8.27E-01	1.00E+00	1.00	1.00E+00	-0.05	8.27E-01
Hoffmann	rs2761436	1	207919748	PP C	-0.15	2.10E-09	0.12	-0.20	-0.01	5.16E-01	3.45E-01	9.17E-01	1.00E+00	0.94	1.00E+00	-0.01	9.17E-01
Hoffmann	rs17046596	1	217722449	DBP A	-0.15	1.50E-08	-0.66	-0.33	-0.55	1.66E-04	1.75E-01	1.31E-04	2.55E-02	0.83	2.00E-02	-0.55	1.31E-04
Hoffmann	rs4653889	1	228112121	SBP A	0.20	1.20E-07	0.22	-0.19	0.06	4.39E-01	5.88E-01	7.94E-01	1.00E+00	1.00	1.00E+00	0.06	7.94E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
Hoffmann	rs4653889	1	228112121	DBP A	0.15	1.20E-10	0.13	0.12	0.13	4.52E-01	5.60E-01	3.44E-01	1.00E+00	1.00	7.82E-01	0.13	3.44E-01
Hoffmann	rs6428947	1	236326005	SBP C	0.25	5.20E-07	0.35	0.75	0.49	2.29E-01	6.38E-02	4.08E-02	8.26E-01	0.58	3.67E-01	0.49	4.08E-02
Hoffmann	rs6428947	1	236326005	DBP C	0.20	3.20E-11	0.45	0.26	0.38	1.45E-02	3.12E-01	1.04E-02	3.26E-01	0.90	2.07E-01	0.38	1.04E-02
Hoffmann	rs6429422	1	243472801	DBP T	-0.25	1.50E-23	0.09	-0.10	0.00	6.60E-01	6.42E-01	9.95E-01	1.00E+00	1.00	1.00E+00	0.00	9.95E-01
Hoffmann	rs7586597	2	9300092	PP G	-0.15	7.00E-09	0.18	0.03	0.11	3.91E-01	8.88E-01	4.68E-01	1.00E+00	1.00	1.00E+00	0.11	4.68E-01
Kato	rs1344653	2	19730845	PP A	0.27	7.80E-12	-0.05	-0.20	-0.12	7.85E-01	3.54E-01	4.18E-01	1.00E+00	1.00	1.00E+00	0.24	3.21E-10
Hoffmann	rs7255	2	20878820	PP T	-0.20	2.10E-15	-0.14	-0.75	-0.39	4.38E-01	4.82E-04	4.67E-03	1.00E+00	0.05	1.91E-01	-0.39	4.67E-03
Hoffmann	rs10198275	2	25130542	SBP A	0.17	7.50E-06	0.36	-0.27	0.07	2.59E-01	4.27E-01	7.71E-01	8.47E-01	1.00	1.00E+00	0.07	7.71E-01
Hoffmann	rs10198275	2	25130542	DBP A	0.14	5.90E-09	0.16	0.00	0.09	4.12E-01	9.87E-01	5.47E-01	1.00E+00	1.00	1.00E+00	0.09	5.47E-01
Kato	rs1275988	2	26914364	MAPT	0.37	5.00E-21	-0.51	-0.47	-0.49	1.91E-02	5.41E-02	2.75E-03	1.00E+00	1.00	1.00E+00	0.32	1.25E-16
Hoffmann	rs13420463	2	37517566	SBP A	0.28	1.40E-10	0.91	0.56	0.77	1.63E-03	1.11E-01	6.75E-04	2.78E-01	0.66	5.74E-02	0.77	6.75E-04
Hoffmann	rs13420463	2	37517566	DBP A	0.13	1.20E-06	0.53	0.29	0.43	3.57E-03	1.78E-01	2.23E-03	1.82E-01	0.83	8.51E-02	0.43	2.23E-03
Hoffmann	rs13420463	2	37517566	PP A	0.16	4.90E-08	0.38	0.26	0.33	4.40E-02	2.50E-01	2.37E-02	5.44E-01	0.83	3.10E-01	0.33	2.37E-02
Hoffmann	rs13403122	2	43078758	PP C	0.19	7.20E-11	0.10	0.72	0.39	6.76E-01	6.99E-03	3.32E-02	1.00E+00	0.28	3.10E-01	0.19	1.28E-11
Hoffmann	rs13403122	2	43078758	SBP C	0.25	8.90E-09	0.15	1.30	0.68	6.90E-01	1.57E-03	1.55E-02	1.00E+00	0.27	2.51E-01	0.68	1.55E-02
Hoffmann	rs13403122	2	43078758	DBP C	0.20	1.90E-13	0.05	0.59	0.30	8.18E-01	2.13E-02	8.46E-02	1.00E+00	0.61	4.15E-01	0.30	8.46E-02
Hoffmann	rs2115859	2	43386092	PP T	0.16	4.10E-09	0.04	0.42	0.19	8.26E-01	6.99E-02	1.94E-01	1.00E+00	0.53	5.81E-01	0.16	1.76E-09
Hoffmann	rs11690961	2	46363336	PP A	0.31	1.20E-14	0.01	-0.32	-0.15	9.82E-01	4.69E-01	6.28E-01	1.00E+00	1.00	1.00E+00	-0.15	6.28E-01
Hoffmann	rs10199082	2	56040099	PP T	0.26	1.70E-11	-0.31	0.47	0.06	4.12E-01	2.37E-01	8.32E-01	1.00E+00	0.83	1.00E+00	0.06	8.32E-01
Hoffmann	rs7575523	2	59335104	PP T	0.14	4.80E-08	-0.16	0.12	-0.04	4.19E-01	5.95E-01	7.90E-01	1.00E+00	1.00	1.00E+00	-0.04	7.90E-01
Hoffmann	rs2540950	2	65279223	SBP C	0.19	8.90E-07	0.51	0.13	0.35	8.24E-02	7.10E-01	1.20E-01	5.63E-01	1.00	6.36E-01	0.35	1.20E-01
Hoffmann	rs2540950	2	65279223	PP C	0.17	6.30E-11	0.12	0.41	0.24	5.35E-01	6.43E-02	9.58E-02	1.00E+00	0.53	4.65E-01	0.24	9.58E-02
Hoffmann	rs7605066	2	71529331	PP C	0.15	6.30E-09	-0.16	0.37	0.06	4.02E-01	9.94E-02	6.81E-01	1.00E+00	0.66	1.00E+00	0.06	6.81E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
Hoffmann	rs1876487	2	73114352	SBP A	-0.20	3.60E-06	-0.35	-0.41	-0.37	2.33E-01	2.62E-01	1.05E-01	8.26E-01	0.89	6.36E-01	-0.37	1.05E-01
Hoffmann	rs1876487	2	73114352	DBP A	-0.16	1.50E-09	-0.20	-0.30	-0.24	2.80E-01	1.78E-01	9.42E-02	9.30E-01	0.83	4.34E-01	-0.24	9.42E-02
Hoffmann	rs62162674	2	85502236	PP G	0.18	1.50E-12	0.13	0.06	0.10	5.09E-01	8.03E-01	5.09E-01	1.00E+00	1.00	9.48E-01	0.10	5.09E-01
Hoffmann	rs3731818	2	86368804	SBP G	0.24	4.10E-09	-0.08	0.46	0.10	7.68E-01	2.31E-01	6.47E-01	1.00E+00	0.87	1.00E+00	0.10	6.47E-01
Hoffmann	rs3731818	2	86368804	DBP G	0.12	2.80E-06	-0.02	0.41	0.13	9.27E-01	8.87E-02	3.56E-01	1.00E+00	0.68	7.88E-01	0.13	3.56E-01
Hoffmann	rs3731818	2	86368804	PP G	0.13	3.50E-06	-0.09	0.06	-0.04	6.43E-01	8.23E-01	8.08E-01	1.00E+00	1.00	1.00E+00	-0.04	8.08E-01
Hoffmann	rs6747874	2	101578489	PP G	-0.17	1.20E-08	-0.34	-0.30	-0.32	7.43E-02	2.26E-01	3.27E-02	5.60E-01	0.83	3.10E-01	-0.32	3.27E-02
Liu	rs6722745	2	108875244	SBP C	0.27	1.10E-07	0.06	0.10	0.08	8.26E-01	7.66E-01	7.25E-01	9.44E-01	1.00	7.25E-01	0.26	8.97E-08
Hoffmann	rs3923097	2	124020790	DBP T	0.27	1.40E-08	-0.01	0.38	0.09	9.79E-01	3.77E-01	6.81E-01	1.00E+00	0.95	1.00E+00	0.09	6.81E-01
Hoffmann	rs58117425	2	145681570	DBP G	-0.19	8.30E-12	-0.38	-0.86	-0.54	9.03E-02	7.86E-03	3.79E-03	5.49E-01	0.58	1.16E-01	-0.54	3.79E-03
HMG	rs16849225	2	164906820	DBP C	0.10	2.07E-01	0.05	0.07	0.06	8.16E-01	8.02E-01	7.36E-01	1.00E+00	1.00	1.00E+00	0.09	2.02E-01
HMG	rs16849225	2	164906820	SBP C	0.45	1.03E-03	0.81	0.05	0.51	2.02E-02	9.05E-01	6.22E-02	1.00E+00	1.00	1.00E+00	0.46	2.06E-04
Hoffmann	rs13024657	2	175472839	SBP C	-0.30	3.60E-08	0.47	-0.10	0.20	3.24E-01	8.39E-01	5.69E-01	1.00E+00	1.00	1.00E+00	0.20	5.69E-01
Hoffmann	rs13024657	2	175472839	PP C	-0.22	1.90E-09	0.04	-0.26	-0.10	8.99E-01	4.21E-01	6.44E-01	1.00E+00	1.00	1.00E+00	-0.10	6.44E-01
Hoffmann	rs4972805	2	177012570	SBP C	0.18	8.90E-06	-0.09	-0.21	-0.13	7.72E-01	5.76E-01	5.74E-01	1.00E+00	1.00	1.00E+00	-0.13	5.74E-01
Hoffmann	rs4972805	2	177012570	DBP C	0.14	1.80E-08	-0.00	-0.19	-0.08	9.93E-01	4.03E-01	6.01E-01	1.00E+00	1.00	1.00E+00	-0.08	6.01E-01
Hoffmann	rs2706110	2	178092162	PP T	0.18	9.30E-09	-0.04	-0.01	-0.03	8.57E-01	9.74E-01	8.82E-01	1.00E+00	1.00	1.00E+00	-0.03	8.82E-01
Hoffmann	rs7591091	2	179754194	DBP T	0.13	2.10E-07	0.15	0.21	0.18	4.17E-01	3.18E-01	2.01E-01	1.00E+00	0.90	6.02E-01	0.18	2.01E-01
Levy	rs11895934	2	190802253	SBP C	0.96	7.30E-07	-0.17	0.30	0.09	7.04E-01	4.66E-01	7.80E-01	1.00E+00	0.54	9.10E-01	0.72	9.00E-06
Levy	rs7571613	2	190805662	SBP G	0.96	7.20E-07	-0.19	0.42	0.14	6.79E-01	3.15E-01	6.47E-01	1.00E+00	0.41	7.99E-01	0.73	5.62E-06
Levy	rs7564968	2	190811972	SBP C	0.96	8.00E-07	-0.30	0.24	-0.02	5.11E-01	5.81E-01	9.60E-01	1.00E+00	0.64	1.00E+00	0.70	1.70E-05
Levy	rs13401889	2	190910559	DBP C	0.54	9.70E-07	0.42	-0.04	0.21	4.16E-02	8.43E-01	1.73E-01	1.31E-01	1.00	2.09E-01	0.43	1.70E-06
Hoffmann	rs6434404	2	191494411	SBP A	0.31	4.90E-13	0.57	0.38	0.48	1.47E-01	3.69E-01	9.70E-02	7.15E-01	0.97	6.36E-01	0.48	9.70E-02

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs6434404	2	191494411	DBP A	0.12	1.80E-06	0.32	0.17	0.25	2.03E-01	5.09E-01	1.72E-01	7.98E-01	1.00	5.89E-01	0.25	1.72E-01
Hoffmann	rs6434404	2	191494411	PP A	0.18	1.30E-10	0.28	0.23	0.25	2.87E-01	4.03E-01	1.79E-01	9.46E-01	1.00	5.78E-01	0.25	1.79E-01
Hoffmann	rs114407963	2	204154677	DBP A	0.16	7.30E-06	0.14	0.10	0.12	6.69E-01	7.67E-01	6.08E-01	1.00E+00	1.00	1.00E+00	0.12	6.08E-01
Hoffmann	rs114407963	2	204154677	PP A	-0.23	2.50E-09	-0.55	-0.01	-0.29	1.09E-01	9.80E-01	2.47E-01	5.84E-01	1.00	6.88E-01	-0.29	2.47E-01
Hoffmann	rs2360970	2	208409339	SBP G	-0.21	1.80E-08	-0.07	-0.28	-0.15	8.08E-01	4.26E-01	5.04E-01	1.00E+00	1.00	8.65E-01	-0.15	5.04E-01
Hoffmann	rs2360970	2	208409339	DBP G	-0.12	1.20E-07	0.19	-0.12	0.07	2.85E-01	5.82E-01	6.22E-01	1.00E+00	1.00	1.00E+00	0.07	6.22E-01
Hoffmann	rs1250247	2	216299629	SBP C	0.31	1.10E-12	0.45	0.01	0.28	1.74E-01	9.85E-01	2.82E-01	8.13E-01	1.00	6.95E-01	0.28	2.82E-01
Hoffmann	rs1250247	2	216299629	PP C	0.28	1.10E-21	0.43	-0.13	0.21	4.84E-02	6.29E-01	2.13E-01	5.44E-01	1.00	6.11E-01	0.21	2.13E-01
Hoffmann	rs72958213	2	217646523	PP C	0.18	4.50E-08	0.09	-0.27	-0.05	6.95E-01	3.36E-01	7.78E-01	1.00E+00	1.00	1.00E+00	-0.05	7.78E-01
Hoffmann	rs1063281	2	218668732	SBP C	0.25	2.30E-10	-0.11	-0.23	-0.16	6.92E-01	4.92E-01	4.57E-01	1.00E+00	1.00	1.00E+00	-0.16	4.57E-01
Hoffmann	rs1063281	2	218668732	DBP C	0.17	9.50E-13	-0.00	-0.23	-0.10	9.97E-01	2.84E-01	4.87E-01	1.00E+00	1.00	1.00E+00	-0.10	4.87E-01
Hoffmann	rs7590201	2	227192443	SBP G	-0.22	3.00E-08	0.84	-0.19	0.42	3.83E-03	5.89E-01	6.01E-02	1.00E+00	1.00	1.00E+00	0.42	6.01E-02
Hoffmann	rs7590201	2	227192443	DBP G	-0.14	7.60E-09	0.51	-0.20	0.22	5.03E-03	3.58E-01	1.19E-01	1.00E+00	0.95	1.00E+00	0.22	1.19E-01
Hoffmann	rs11677932	2	238223955	PP G	0.15	4.50E-08	-0.04	0.00	-0.02	8.50E-01	9.89E-01	8.94E-01	1.00E+00	1.00	1.00E+00	-0.02	8.94E-01
Hoffmann	rs74621754	3	8496371	PP G	0.36	2.70E-08	-0.70	-1.09	-0.91	3.81E-01	1.38E-01	9.22E-02	1.00E+00	1.00	1.00E+00	-0.91	9.22E-02
Hoffmann	rs6793656	3	13823342	PP A	-0.22	5.70E-10	-0.09	-0.04	-0.06	7.81E-01	9.10E-01	7.85E-01	1.00E+00	1.00	1.00E+00	-0.06	7.85E-01
Hoffmann	rs12630213	3	14954411	SBP C	0.28	6.30E-12	0.76	0.12	0.50	8.45E-03	7.24E-01	2.45E-02	3.46E-01	1.00	3.02E-01	0.50	2.45E-02
Hoffmann	rs12630213	3	14954411	DBP C	0.15	4.80E-10	0.44	0.12	0.31	1.49E-02	5.78E-01	2.63E-02	3.26E-01	1.00	2.88E-01	0.31	2.63E-02
Ehret '16	rs11128722	3	14958126	SBP A	-0.31	3.61E-11	-0.47	0.04	-0.27	8.68E-02	9.15E-01	2.09E-01	3.36E-01	1.00	5.86E-01	-0.31	1.68E-11
Ehret '16	rs11128722	3	14958126	DBP A	-0.17	5.16E-10	-0.34	-0.07	-0.23	4.93E-02	7.46E-01	8.66E-02	6.41E-01	1.00	4.71E-01	-0.18	1.30E-10
Ehret '11	rs13082711	3	27537909	DBP T	-0.24	3.80E-09	-0.33	-0.29	-0.31	1.44E-01	3.14E-01	7.64E-02	2.82E-01	0.51	1.48E-01	-0.24	8.25E-10
Ehret '11	rs13082711	3	27537909	SBP T	-0.32	1.50E-06	-0.44	-0.25	-0.37	2.17E-01	5.83E-01	1.89E-01	3.94E-01	0.99	3.43E-01	-0.32	6.24E-07
HMC	rs820430	3	27548900	DBP A	0.27	7.57E-06	0.09	0.27	0.16	6.15E-01	2.43E-01	2.66E-01	9.74E-01	0.42	4.59E-01	0.25	4.65E-06

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
HMG	rs820430	3	27548900	SBP A	0.76	1.36E-12	0.48	0.80	0.60	9.72E-02	3.32E-02	9.24E-03	2.88E-01	0.16	2.93E-02	0.73	1.90E-13
Levy	rs6768438	3	41865355	DBP A	0.59	9.70E-07	0.70	0.42	0.55	4.05E-03	7.38E-02	1.16E-03	9.13E-02	0.13	2.69E-02	0.58	3.87E-09
Hoffmann	rs149240564	3	41867621	PP A	0.60	3.90E-35	0.20	0.31	0.26	4.66E-01	2.23E-01	1.67E-01	1.00E+00	0.83	5.71E-01	0.58	7.24E-35
Hoffmann	rs9816560	3	41872527	PP G	0.43	9.80E-20	-0.27	0.41	0.18	5.77E-01	2.34E-01	5.26E-01	1.00E+00	0.83	9.48E-01	0.42	1.16E-19
Levy	rs9816772	3	41872877	DBP T	0.59	9.70E-07	0.49	0.34	0.41	4.91E-02	1.54E-01	1.74E-02	1.31E-01	0.23	3.04E-02	0.53	6.73E-08
Levy	rs9852991	3	41875455	DBP A	0.59	9.70E-07	0.33	0.27	0.30	2.23E-01	3.11E-01	1.16E-01	3.00E-01	0.39	1.50E-01	0.51	5.91E-07
Ehret '11	rs3774372	3	41877414	DBP T	-0.37	9.00E-14	-0.34	-0.29	-0.31	2.13E-01	2.72E-01	9.87E-02	3.25E-01	0.46	1.79E-01	-0.36	2.34E-14
Ehret '11	rs3774372	3	41877414	SBP T	-0.07	3.90E-01	-0.02	0.07	0.03	9.66E-01	8.65E-01	9.30E-01	1.00E+00	1.00	1.00E+00	-0.06	4.17E-01
HMG	rs9815354	3	41912651	DBP A	0.43	1.34E-05	0.25	0.28	0.27	3.54E-01	2.92E-01	1.62E-01	6.73E-01	0.46	3.86E-01	0.39	8.30E-06
HMG	rs9815354	3	41912651	SBP A	0.10	5.47E-01	-0.11	-0.02	-0.06	8.07E-01	9.65E-01	8.42E-01	1.00E+00	1.00	1.00E+00	0.06	7.05E-01
Levy	rs9815354	3	41912651	DBP A	0.60	7.80E-07	0.25	0.28	0.27	3.54E-01	2.92E-01	1.62E-01	4.59E-01	0.38	2.03E-01	0.51	6.46E-07
Franceschini	rs1717027	3	41987920	SBP T	0.18	3.00E-01	0.34	0.02	0.18	3.79E-01	9.58E-01	5.16E-01	1.00E+00	1.00	1.00E+00	0.18	2.21E-01
Franceschini	rs1717027	3	41987920	DBP T	0.49	4.60E-13	0.65	0.40	0.52	7.19E-03	8.42E-02	2.12E-03	5.03E-02	0.59	1.48E-02	0.49	3.82E-15
Hoffmann	rs76398786	3	48731450	DBP C	-0.38	1.50E-08	-1.06	-1.21	-1.13	1.02E-01	6.61E-02	1.41E-02	5.49E-01	0.61	2.16E-01	-1.13	1.41E-02
Hoffmann	rs3749237	3	49770032	SBP G	-0.21	4.00E-07	0.36	-0.41	-0.00	3.24E-01	2.85E-01	9.91E-01	1.00E+00	0.89	1.00E+00	-0.00	9.91E-01
Hoffmann	rs3749237	3	49770032	DBP G	-0.17	3.50E-11	0.23	-0.31	-0.02	3.11E-01	2.01E-01	8.89E-01	1.00E+00	0.85	1.00E+00	-0.02	8.89E-01
Hoffmann	rs2236973	3	50474284	SBP T	-0.26	3.10E-06	0.11	-0.46	-0.10	7.11E-01	2.24E-01	6.57E-01	1.00E+00	0.87	1.00E+00	-0.10	6.57E-01
Hoffmann	rs2236973	3	50474284	DBP T	-0.18	4.90E-08	0.09	-0.19	-0.02	6.21E-01	4.11E-01	9.15E-01	1.00E+00	0.99	1.00E+00	-0.02	9.15E-01
Hoffmann	rs528266117	3	52729780	SBP C	-24.45	7.40E-09	-0.46	1.95	1.05	9.40E-01	6.79E-01	7.78E-01	1.00E+00	1.00	1.00E+00	1.05	7.78E-01
Hoffmann	rs528266117	3	52729780	PP C	-15.80	1.40E-08	-0.30	2.23	1.30	9.40E-01	4.61E-01	5.90E-01	1.00E+00	1.00	1.00E+00	1.30	5.90E-01
HMG	rs9810888	3	53635595	DBP G	0.39	4.00E-12	0.09	0.27	0.17	5.99E-01	1.90E-01	2.13E-01	9.74E-01	0.42	4.38E-01	0.35	1.16E-10
HMG	rs9810888	3	53635595	SBP G	0.53	5.46E-08	0.22	0.57	0.37	4.39E-01	8.62E-02	9.14E-02	7.57E-01	0.27	2.17E-01	0.50	3.41E-08
Hoffmann	rs9845655	3	56701328	SBP T	0.21	3.30E-07	0.54	0.28	0.44	5.89E-02	4.32E-01	5.20E-02	5.44E-01	1.00	4.02E-01	0.44	5.20E-02

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
Hoffmann	rs9845655	3	56701328	DBP T	0.16	5.00E-10	0.18	0.23	0.20	3.02E-01	2.97E-01	1.47E-01	9.30E-01	0.90	5.47E-01	0.20	1.47E-01
Hoffmann	rs1053711	3	57743246	DBP G	0.15	2.20E-09	-0.28	0.12	-0.08	2.70E-01	6.44E-01	6.57E-01	1.00E+00	1.00	1.00E+00	-0.08	6.57E-01
Hoffmann	rs6795735	3	64705365	DBP C	0.16	1.30E-11	0.09	-0.07	0.01	6.78E-01	7.40E-01	9.34E-01	1.00E+00	1.00	1.00E+00	0.01	9.34E-01
Hoffmann	rs17831815	3	66437086	SBP T	0.20	3.90E-07	-0.12	-0.18	-0.14	6.78E-01	6.27E-01	5.31E-01	1.00E+00	1.00	1.00E+00	-0.14	5.31E-01
Hoffmann	rs17831815	3	66437086	PP T	0.18	4.70E-11	-0.07	0.22	0.05	7.27E-01	3.53E-01	7.45E-01	1.00E+00	0.94	1.00E+00	0.05	7.45E-01
Hoffmann	rs12636552	3	70972466	SBP A	0.24	4.80E-09	0.09	0.41	0.24	7.72E-01	2.25E-01	3.01E-01	1.00E+00	0.87	7.10E-01	0.24	3.01E-01
Hoffmann	rs12636552	3	70972466	PP A	0.14	1.30E-07	0.03	0.11	0.07	8.75E-01	6.04E-01	6.40E-01	1.00E+00	1.00	1.00E+00	0.07	6.40E-01
Hoffmann	rs6803322	3	84986088	SBP C	0.23	4.60E-08	0.42	0.22	0.33	2.69E-01	5.82E-01	2.41E-01	8.47E-01	1.00	6.59E-01	0.33	2.41E-01
Hoffmann	rs6803322	3	84986088	PP C	0.13	3.20E-06	0.20	0.02	0.12	4.09E-01	9.43E-01	5.19E-01	1.00E+00	1.00	9.48E-01	0.12	5.19E-01
Hoffmann	rs76217164	3	88738041	SBP T	2.21	3.90E-06	0.09	-1.38	-1.07	9.71E-01	2.62E-01	3.27E-01	1.00E+00	1.00	1.00E+00	-1.07	3.27E-01
Hoffmann	rs76217164	3	88738041	DBP T	1.63	1.30E-07	0.67	-1.21	-0.82	6.53E-01	1.12E-01	2.29E-01	1.00E+00	1.00	1.00E+00	-0.82	2.29E-01
Hoffmann	rs9882772	3	122110149	DBP T	-0.13	1.50E-08	-0.32	0.00	-0.18	1.11E-01	9.90E-01	2.41E-01	5.49E-01	1.00	6.36E-01	-0.18	2.41E-01
Hoffmann	rs4141663	3	124551967	SBP C	0.26	1.70E-11	-0.59	0.62	-0.08	3.93E-02	6.55E-02	7.06E-01	1.00E+00	0.58	1.00E+00	-0.08	7.06E-01
Hoffmann	rs4141663	3	124551967	DBP C	0.13	7.30E-08	-0.07	0.32	0.10	7.10E-01	1.22E-01	4.72E-01	1.00E+00	0.78	9.03E-01	0.10	4.72E-01
Hoffmann	rs4141663	3	124551967	PP C	0.12	1.10E-06	-0.54	0.31	-0.18	4.30E-03	1.56E-01	2.20E-01	1.00E+00	0.75	1.00E+00	-0.18	2.20E-01
Hoffmann	rs62270945	3	128201889	SBP C	-0.61	1.10E-06	-0.73	0.29	-0.20	6.55E-01	8.55E-01	8.59E-01	1.00E+00	1.00	1.00E+00	-0.20	8.59E-01
Hoffmann	rs62270945	3	128201889	PP C	-0.53	1.70E-10	-0.01	0.21	0.10	9.90E-01	8.38E-01	8.91E-01	1.00E+00	1.00	1.00E+00	0.10	8.91E-01
Hoffmann	rs75305034	3	133886705	SBP T	0.33	3.40E-10	0.26	0.03	0.16	4.55E-01	9.46E-01	5.45E-01	1.00E+00	1.00	8.99E-01	0.16	5.45E-01
Hoffmann	rs75305034	3	133886705	DBP T	0.26	7.00E-14	0.30	0.14	0.23	1.61E-01	5.60E-01	1.54E-01	6.65E-01	1.00	5.47E-01	0.23	1.54E-01
Hoffmann	rs9864898	3	138111751	SBP C	-0.27	3.50E-07	-0.51	0.52	-0.04	3.40E-01	3.78E-01	9.20E-01	9.49E-01	1.00	1.00E+00	-0.04	9.20E-01
Hoffmann	rs9864898	3	138111751	DBP C	-0.19	4.60E-09	-0.50	-0.01	-0.27	1.38E-01	9.83E-01	2.72E-01	6.21E-01	1.00	6.72E-01	-0.27	2.72E-01
Hoffmann	rs6782694	3	141627860	PP C	-0.19	2.10E-08	-0.06	0.63	0.22	7.92E-01	3.03E-02	2.39E-01	1.00E+00	1.00	1.00E+00	0.22	2.39E-01
Hoffmann	rs11708647	3	142617353	PP G	0.18	4.40E-11	0.28	0.14	0.22	2.10E-01	5.66E-01	1.90E-01	8.01E-01	1.00	5.81E-01	0.22	1.90E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs9844972	3	150097635	SBP G	-0.44	8.90E-09	0.28	-1.27	-0.49	7.24E-01	1.13E-01	3.86E-01	1.00E+00	0.66	7.88E-01	-0.49	3.86E-01
Hoffmann	rs9844972	3	150097635	PP G	-0.30	7.40E-09	-0.05	-1.04	-0.55	9.26E-01	4.42E-02	1.36E-01	1.00E+00	0.44	5.06E-01	-0.55	1.36E-01
Hoffmann	rs113161639	3	154615819	SBP G	0.45	3.90E-12	0.47	1.65	0.97	4.34E-01	1.69E-02	3.18E-02	1.00E+00	0.47	3.60E-01	0.97	3.18E-02
Hoffmann	rs113161639	3	154615819	DBP G	0.29	3.20E-13	0.98	0.34	0.70	8.54E-03	4.33E-01	1.27E-02	3.26E-01	1.00	2.16E-01	0.70	1.27E-02
Hoffmann	rs2178452	3	160370160	SBP G	0.26	1.10E-10	0.23	0.09	0.17	4.30E-01	8.11E-01	4.48E-01	1.00E+00	1.00	8.28E-01	0.17	4.48E-01
Hoffmann	rs2178452	3	160370160	DBP G	0.13	5.70E-08	-0.03	-0.01	-0.02	8.84E-01	9.66E-01	8.92E-01	1.00E+00	1.00	1.00E+00	-0.02	8.92E-01
Hoffmann	rs2178452	3	160370160	PP G	0.14	2.90E-07	0.25	0.10	0.19	1.94E-01	6.49E-01	1.98E-01	7.53E-01	1.00	5.86E-01	0.19	1.98E-01
Ehret '11	rs419076	3	169100886	DBP T	0.24	2.10E-12	0.39	0.25	0.33	4.24E-02	2.35E-01	2.26E-02	1.23E-01	0.45	5.57E-02	0.25	1.76E-13
Ehret '11	rs419076	3	169100886	SBP T	0.41	1.80E-13	0.63	0.19	0.43	4.22E-02	5.71E-01	6.24E-02	1.75E-01	0.99	1.51E-01	0.41	3.09E-14
Hoffmann	rs4686683	3	185307363	SBP T	-0.18	2.50E-06	0.44	-0.52	0.05	1.12E-01	1.21E-01	8.06E-01	1.00E+00	0.68	1.00E+00	0.05	8.06E-01
Hoffmann	rs4686683	3	185307363	DBP T	-0.17	3.80E-13	0.02	-0.43	-0.16	9.00E-01	4.01E-02	2.27E-01	1.00E+00	0.61	6.23E-01	-0.16	2.27E-01
Hoffmann	rs2498323	4	3451109	PP G	-0.29	1.10E-09	-0.44	-0.85	-0.67	2.28E-01	1.22E-02	8.07E-03	8.10E-01	0.34	2.28E-01	-0.67	8.07E-03
Ehret '16	rs2291435	4	38387395	SBP T	-0.34	1.90E-14	-0.08	-0.62	-0.30	7.68E-01	6.66E-02	1.63E-01	9.98E-01	0.43	5.86E-01	-0.34	6.86E-15
Ehret '16	rs2291435	4	38387395	DBP T	-0.16	4.26E-09	0.09	-0.29	-0.06	5.95E-01	1.68E-01	6.31E-01	1.00E+00	0.45	1.00E+00	-0.15	5.00E-09
Hoffmann	rs13104866	4	38402183	SBP G	0.28	3.80E-13	-0.02	0.67	0.26	9.38E-01	4.48E-02	2.22E-01	1.00E+00	0.56	6.58E-01	0.26	2.22E-01
Hoffmann	rs13104866	4	38402183	DBP G	0.12	1.60E-07	0.03	0.37	0.17	8.47E-01	7.70E-02	1.99E-01	1.00E+00	0.62	6.02E-01	0.17	1.99E-01
Hoffmann	rs13104866	4	38402183	PP G	0.15	3.20E-09	-0.07	0.31	0.09	7.00E-01	1.47E-01	5.21E-01	1.00E+00	0.74	9.48E-01	0.09	5.21E-01
Hoffmann	rs17471509	4	48301691	SBP A	0.19	9.20E-07	-0.33	0.71	0.09	2.36E-01	3.57E-02	6.77E-01	1.00E+00	0.56	1.00E+00	0.09	6.77E-01
Hoffmann	rs17471509	4	48301691	PP A	0.14	3.50E-08	-0.24	0.29	-0.02	1.98E-01	1.83E-01	8.87E-01	1.00E+00	0.82	1.00E+00	-0.02	8.87E-01
Hoffmann	rs12504699	4	48934298	SBP G	0.22	2.10E-08	-0.22	0.33	0.00	4.43E-01	3.50E-01	9.92E-01	1.00E+00	0.95	1.00E+00	0.00	9.92E-01
Hoffmann	rs12504699	4	48934298	DBP G	0.11	5.70E-06	-0.04	0.31	0.11	8.24E-01	1.53E-01	4.56E-01	1.00E+00	0.83	8.83E-01	0.11	4.56E-01
Hoffmann	rs55940751	4	77365891	SBP C	0.22	3.60E-08	0.26	0.40	0.31	3.70E-01	2.71E-01	1.68E-01	9.55E-01	0.89	6.36E-01	0.31	1.68E-01
Hoffmann	rs55940751	4	77365891	PP C	0.13	7.50E-07	0.15	0.42	0.26	4.16E-01	7.28E-02	8.00E-02	1.00E+00	0.53	4.40E-01	0.26	8.00E-02



Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
HMG	rs1902859	4	81157703	DBP C	0.71	3.75E-20	0.61	0.59	0.60	1.42E-03	1.71E-02	7.52E-05	1.35E-02	0.08	1.11E-03	0.69	3.11E-22
HMG	rs1902859	4	81157703	SBP C	1.34	1.76E-22	0.99	0.77	0.91	1.15E-03	5.33E-02	1.87E-04	1.09E-02	0.20	1.78E-03	1.23	3.02E-24
Ehret '11	rs1458038	4	81164723	DBP T	0.46	8.50E-25	0.78	0.83	0.80	9.81E-05	1.07E-03	4.20E-07	1.52E-03	0.01	1.22E-05	0.48	1.86E-29
Ehret '11	rs1458038	4	81164723	SBP T	0.71	1.50E-23	1.34	1.24	1.30	2.37E-05	2.57E-03	2.44E-07	6.88E-04	0.04	7.08E-06	0.75	3.01E-28
Kato	rs2014912	4	86715670	SBP T	0.62	5.40E-17	-0.21	0.34	-0.00	5.38E-01	4.36E-01	9.93E-01	1.00E+00	0.65	1.00E+00	0.57	1.11E-13
Hoffmann	rs57400569	4	89752276	SBP G	0.24	7.10E-08	0.77	0.02	0.47	2.41E-02	9.67E-01	7.63E-02	3.46E-01	1.00	5.64E-01	0.47	7.63E-02
Hoffmann	rs57400569	4	89752276	PP G	0.20	1.30E-11	0.50	0.05	0.32	2.69E-02	8.42E-01	6.70E-02	5.44E-01	1.00	4.02E-01	0.32	6.70E-02
Ehret '11	rs13107325	4	103188709	DBP T	-0.68	2.30E-17	-0.54	-0.14	-0.33	2.42E-01	7.62E-01	3.05E-01	3.51E-01	1.00	4.11E-01	-0.66	2.38E-17
Ehret '11	rs13107325	4	103188709	SBP T	-0.98	3.30E-14	-0.75	0.27	-0.22	3.15E-01	7.05E-01	6.67E-01	5.07E-01	1.00	8.54E-01	-0.94	8.33E-14
Hoffmann	rs13112725	4	106911742	SBP G	-0.30	2.10E-11	-0.00	-0.73	-0.28	1.00E+00	4.17E-02	2.09E-01	1.00E+00	0.56	6.58E-01	-0.28	2.09E-01
Hoffmann	rs13112725	4	106911742	DBP G	-0.15	3.20E-08	-0.15	-0.25	-0.19	4.03E-01	2.50E-01	1.73E-01	1.00E+00	0.87	5.89E-01	-0.19	1.73E-01
Hoffmann	rs13112725	4	106911742	PP G	-0.14	4.00E-06	0.15	-0.47	-0.09	4.09E-01	4.14E-02	5.26E-01	1.00E+00	0.44	9.48E-01	-0.09	5.26E-01
Hoffmann	rs7665304	4	109025379	SBP A	0.22	1.20E-08	-0.33	-0.11	-0.24	2.41E-01	7.33E-01	2.66E-01	1.00E+00	1.00	1.00E+00	-0.24	2.66E-01
Hoffmann	rs7665304	4	109025379	DBP A	0.13	6.10E-08	-0.14	0.11	-0.04	4.27E-01	6.12E-01	7.87E-01	1.00E+00	1.00	1.00E+00	-0.04	7.87E-01
Hoffmann	rs66887589	4	120509279	SBP T	-0.21	1.80E-08	-0.24	-0.72	-0.43	3.96E-01	3.34E-02	4.51E-02	9.83E-01	0.56	3.83E-01	-0.43	4.51E-02
Hoffmann	rs66887589	4	120509279	DBP T	-0.21	9.20E-19	-0.18	-0.42	-0.28	3.06E-01	4.48E-02	3.88E-02	9.30E-01	0.61	3.09E-01	-0.28	3.88E-02
Hoffmann	rs893929	4	144187380	SBP G	0.23	1.50E-09	-0.49	0.34	-0.15	8.02E-02	3.08E-01	4.85E-01	1.00E+00	0.93	1.00E+00	-0.15	4.85E-01
Hoffmann	rs893929	4	144187380	DBP G	0.12	1.20E-07	-0.13	0.25	0.03	4.53E-01	2.22E-01	8.38E-01	1.00E+00	0.86	1.00E+00	0.03	8.38E-01
Hoffmann	rs4292285	4	145271954	SBP T	0.23	3.00E-09	-0.02	0.59	0.22	9.47E-01	8.43E-02	3.12E-01	1.00E+00	0.66	7.16E-01	0.22	3.12E-01
Hoffmann	rs4292285	4	145271954	DBP T	0.15	6.90E-11	0.13	0.21	0.16	4.40E-01	3.35E-01	2.32E-01	1.00E+00	0.92	6.23E-01	0.16	2.32E-01
Hoffmann	rs7666150	4	146814640	SBP T	0.21	9.50E-08	0.69	0.91	0.79	2.44E-02	6.31E-03	4.91E-04	3.46E-01	0.43	5.74E-02	0.79	4.91E-04
Hoffmann	rs7666150	4	146814640	PP T	0.15	5.60E-09	0.29	0.31	0.30	1.54E-01	1.56E-01	4.54E-02	7.07E-01	0.75	3.10E-01	0.30	4.54E-02
HMG	rs13143871	4	156619204	DBP T	0.49	5.52E-07	0.41	0.80	0.57	3.74E-02	6.64E-04	1.62E-04	1.18E-01	0.03	8.01E-03	0.51	6.93E-10

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
HMG	rs13143871	4	156619204	SBP T	0.96	5.16E-08	0.69	1.04	0.83	3.00E-02	6.06E-03	6.33E-04	1.43E-01	0.06	4.01E-03	0.91	2.62E-10
Ehret '11	rs13139571	4	156645513	DBP C	0.26	2.20E-10	0.42	0.81	0.58	3.65E-02	8.11E-04	1.87E-04	1.18E-01	0.01	1.36E-03	0.28	1.34E-12
Ehret '11	rs13139571	4	156645513	SBP C	0.32	1.20E-06	0.75	0.90	0.81	1.95E-02	2.17E-02	1.13E-03	1.25E-01	0.16	7.69E-02	0.35	3.23E-08
Hoffmann	rs184145372	4	159150358	PP T	-5.78	1.80E-08	-7.70	-4.42	-5.08	5.58E-02	2.81E-02	4.83E-03	5.44E-01	0.44	1.91E-01	-5.08	4.83E-03
Hoffmann	rs869396	4	169688000	PP C	0.22	5.90E-18	0.38	0.41	0.39	6.05E-02	5.32E-02	7.73E-03	5.44E-01	0.46	2.28E-01	0.39	7.73E-03
Hoffmann	rs185695143	5	10860486	SBP C	-20.23	2.50E-08	5.60	-9.17	-3.53	8.46E-01	6.89E-01	8.44E-01	1.00E+00	1.00	1.00E+00	-3.53	8.44E-01
Hoffmann	rs185695143	5	10860486	PP C	-13.54	1.20E-07	-9.09	-1.15	-4.03	6.35E-01	9.35E-01	7.24E-01	1.00E+00	1.00	1.00E+00	-4.03	7.24E-01
Hoffmann	rs114053299	5	12780703	PP A	-6.49	4.80E-08	1.69	-0.14	0.29	7.36E-01	9.60E-01	9.04E-01	1.00E+00	1.00	1.00E+00	0.29	9.04E-01
Hoffmann	rs303343	5	15312553	SBP C	-0.23	3.50E-09	-0.55	0.47	-0.05	9.94E-02	1.67E-01	8.36E-01	5.97E-01	1.00	1.00E+00	-0.05	8.36E-01
Hoffmann	rs303343	5	15312553	PP C	-0.12	2.40E-06	-0.18	0.11	-0.03	4.23E-01	6.03E-01	8.46E-01	1.00E+00	1.00	1.00E+00	-0.03	8.46E-01
Ehret '11	rs1173771	5	32815028	DBP G	0.26	9.10E-12	0.50	0.01	0.31	3.90E-03	9.81E-01	2.31E-02	2.83E-02	1.00	5.57E-02	0.26	7.00E-13
Ehret '11	rs1173771	5	32815028	SBP G	0.50	1.80E-16	0.94	0.09	0.62	7.62E-04	7.97E-01	5.24E-03	7.37E-03	1.00	2.21E-02	0.51	3.91E-18
Hoffmann	rs168643	5	50935900	SBP T	0.20	9.20E-07	-0.27	-0.50	-0.36	3.39E-01	1.60E-01	1.07E-01	1.00E+00	1.00	1.00E+00	-0.36	1.07E-01
Hoffmann	rs168643	5	50935900	DBP T	0.14	1.50E-08	-0.02	-0.07	-0.04	9.11E-01	7.42E-01	7.69E-01	1.00E+00	1.00	1.00E+00	-0.04	7.69E-01
Hoffmann	rs1694068	5	53283630	SBP T	-0.24	7.00E-10	0.31	0.18	0.25	3.07E-01	6.12E-01	2.72E-01	1.00E+00	1.00	1.00E+00	0.25	2.72E-01
Hoffmann	rs1694068	5	53283630	PP T	-0.16	6.40E-10	0.19	0.07	0.14	3.45E-01	7.64E-01	3.64E-01	1.00E+00	1.00	1.00E+00	0.14	3.64E-01
Hoffmann	rs111304266	5	56589542	DBP C	-0.37	3.30E-08	-0.34	0.42	0.06	6.00E-01	4.97E-01	8.90E-01	1.00E+00	1.00	1.00E+00	0.06	8.90E-01
Hoffmann	rs7714219	5	71654855	PP G	-0.16	3.80E-09	-0.00	0.21	0.08	9.92E-01	3.68E-01	5.81E-01	1.00E+00	1.00	1.00E+00	0.08	5.81E-01
Hoffmann	rs258494	5	75038718	DBP C	0.22	4.50E-19	0.05	0.06	0.05	7.79E-01	7.91E-01	7.01E-01	1.00E+00	1.00	1.00E+00	0.05	7.01E-01
Hoffmann	rs10057188	5	77837789	SBP G	0.18	2.30E-06	0.87	-0.33	0.30	1.20E-02	3.70E-01	2.33E-01	3.46E-01	1.00	6.58E-01	0.30	2.33E-01
Hoffmann	rs10057188	5	77837789	PP G	0.15	3.40E-09	0.39	-0.06	0.17	8.76E-02	7.84E-01	3.06E-01	5.60E-01	1.00	7.96E-01	0.17	3.06E-01
Hoffmann	rs17286052	5	87430302	SBP A	0.36	6.50E-11	0.08	0.20	0.14	8.65E-01	6.85E-01	6.90E-01	1.00E+00	1.00	1.00E+00	0.14	6.90E-01
Hoffmann	rs17286052	5	87430302	DBP A	0.19	2.60E-08	-0.04	0.28	0.12	9.06E-01	3.80E-01	5.99E-01	1.00E+00	0.95	1.00E+00	0.12	5.99E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					beta	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	$p$ -value
Hoffmann	rs17286052	5	87430302	PP A	0.17	5.50E-06	0.10	-0.09	0.01	7.50E-01	7.87E-01	9.65E-01	1.00E+00	1.00	1.00E+00	0.01	9.65E-01
Hoffmann	rs17082391	5	91900785	SBP C	0.54	4.60E-07	-1.16	1.47	0.42	2.19E-01	5.61E-02	4.83E-01	1.00E+00	0.56	8.65E-01	0.42	4.83E-01
Hoffmann	rs17082391	5	91900785	DBP C	0.38	1.30E-08	-0.64	0.53	0.06	2.81E-01	2.70E-01	8.62E-01	1.00E+00	0.88	1.00E+00	0.06	8.62E-01
Hoffmann	rs62361303	5	108102727	SBP C	0.26	6.40E-07	0.90	0.09	0.46	6.43E-02	8.37E-01	1.61E-01	5.44E-01	1.00	6.36E-01	0.46	1.61E-01
Hoffmann	rs62361303	5	108102727	PP C	0.23	1.90E-11	0.53	0.33	0.42	9.68E-02	2.55E-01	5.03E-02	5.60E-01	0.83	3.22E-01	0.42	5.03E-02
Hoffmann	rs4475250	5	114375552	SBP G	0.24	2.20E-10	0.25	-0.13	0.09	3.71E-01	6.95E-01	6.63E-01	9.55E-01	1.00	1.00E+00	0.09	6.63E-01
Hoffmann	rs4475250	5	114375552	DBP G	0.14	7.10E-09	0.12	0.15	0.13	4.86E-01	4.71E-01	3.22E-01	1.00E+00	1.00	7.79E-01	0.13	3.22E-01
Ehret '16	rs10077885	5	114390121	SBP A	-0.28	1.64E-10	-0.30	-0.16	-0.24	2.98E-01	6.47E-01	2.77E-01	5.53E-01	1.00	5.86E-01	-0.28	8.86E-11
Ehret '16	rs10077885	5	114390121	DBP A	-0.17	3.99E-11	-0.09	-0.34	-0.20	6.01E-01	1.09E-01	1.55E-01	1.00E+00	0.45	4.71E-01	-0.17	1.51E-11
Hoffmann	rs2914609	5	121287061	SBP T	0.23	1.80E-06	0.31	-0.12	0.10	3.99E-01	7.43E-01	7.13E-01	9.83E-01	1.00	1.00E+00	0.10	7.13E-01
Hoffmann	rs2914609	5	121287061	PP T	0.19	9.40E-09	0.36	0.05	0.21	1.31E-01	8.27E-01	2.24E-01	6.50E-01	1.00	6.35E-01	0.21	2.24E-01
Kato	rs13359291	5	122476457	SBP A	0.53	8.90E-16	0.82	0.19	0.62	9.50E-03	6.80E-01	1.78E-02	2.85E-02	0.68	5.33E-02	0.54	2.26E-15
Liu	rs4530754	5	122855416	PP G	0.17	9.90E-08	-0.06	-0.36	-0.18	7.31E-01	1.24E-01	2.22E-01	1.00E+00	1.00	1.00E+00	0.16	1.14E-07
Hoffmann	rs6595838	5	127868199	SBP G	-0.27	1.80E-10	-0.63	-0.57	-0.60	4.92E-02	1.14E-01	1.23E-02	5.23E-01	0.66	2.51E-01	-0.60	1.23E-02
Hoffmann	rs6595838	5	127868199	DBP G	-0.13	1.90E-07	-0.17	-0.54	-0.34	4.00E-01	1.51E-02	2.52E-02	1.00E+00	0.58	2.88E-01	-0.34	2.52E-02
Hoffmann	rs6595838	5	127868199	PP G	-0.14	1.00E-06	-0.43	-0.00	-0.24	3.96E-02	9.87E-01	1.29E-01	5.44E-01	1.00	4.96E-01	-0.24	1.29E-01
Liu	rs2188962	5	131770805	DBP T	-0.20	3.00E-11	-0.07	-0.23	-0.14	7.47E-01	3.24E-01	3.76E-01	1.00E+00	0.76	7.52E-01	-0.20	1.87E-11
Hoffmann	rs7734334	5	131815004	DBP C	-0.15	8.70E-10	-0.34	-0.28	-0.31	6.33E-02	1.97E-01	2.53E-02	5.49E-01	0.85	2.88E-01	-0.31	2.53E-02
Hoffmann	rs114534	5	142533657	PP G	0.15	2.40E-09	0.05	0.01	0.03	8.03E-01	9.78E-01	8.34E-01	1.00E+00	1.00	1.00E+00	0.03	8.34E-01
Kato	rs9687065	5	148391140	DBP A	0.26	7.40E-11	0.05	0.29	0.15	8.19E-01	3.19E-01	4.24E-01	1.00E+00	0.64	8.47E-01	0.25	6.95E-11
Ehret '11	rs11953630	5	157845402	DBP T	-0.28	3.80E-13	0.10	-0.15	-0.02	6.46E-01	5.04E-01	8.89E-01	1.00E+00	0.77	9.55E-01	-0.27	1.32E-12
Ehret '11	rs11953630	5	157845402	SBP T	-0.41	3.00E-11	-0.47	-0.24	-0.36	1.86E-01	5.09E-01	1.60E-01	3.82E-01	0.98	3.32E-01	-0.41	1.12E-11
Hoffmann	rs148871069	5	159404471	SBP A	2.37	3.90E-11	-3.82	-0.79	-2.03	4.93E-01	8.65E-01	5.69E-01	1.00E+00	1.00	1.00E+00	-2.03	5.69E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs148871069	5	159404471	DBP A	1.12	7.50E-08	-1.65	-0.12	-0.75	6.31E-01	9.68E-01	7.35E-01	1.00E+00	1.00	1.00E+00	-0.75	7.35E-01
Hoffmann	rs148871069	5	159404471	PP A	1.26	4.20E-07	-2.87	-0.49	-1.45	4.30E-01	8.70E-01	5.30E-01	1.00E+00	1.00	1.00E+00	-1.45	5.30E-01
Hoffmann	rs72812846	5	173377636	SBP T	0.20	9.10E-06	0.02	-0.68	-0.29	9.54E-01	1.28E-01	3.32E-01	1.00E+00	1.00	1.00E+00	-0.29	3.32E-01
Hoffmann	rs72812846	5	173377636	DBP T	0.20	1.00E-13	0.16	-0.09	0.05	5.23E-01	7.46E-01	7.98E-01	1.00E+00	1.00	1.00E+00	0.05	7.98E-01
Hoffmann	rs1923409	6	7728212	PP G	-0.16	1.50E-10	0.19	0.53	0.34	3.27E-01	1.69E-02	2.12E-02	1.00E+00	1.00	1.00E+00	0.34	2.12E-02
Hoffmann	rs9349379	6	12903957	SBP A	0.19	3.80E-06	0.29	0.47	0.36	3.22E-01	2.05E-01	1.20E-01	9.42E-01	0.87	6.36E-01	0.36	1.20E-01
Hoffmann	rs9349379	6	12903957	PP A	0.20	6.30E-13	0.32	0.07	0.23	8.68E-02	7.78E-01	1.30E-01	5.60E-01	1.00	4.96E-01	0.23	1.30E-01
Hoffmann	rs4712656	6	22136262	SBP G	-0.23	2.90E-09	-0.29	-0.38	-0.33	3.33E-01	2.74E-01	1.51E-01	9.43E-01	0.89	6.36E-01	-0.33	1.51E-01
Hoffmann	rs4712656	6	22136262	DBP G	-0.12	9.60E-08	-0.09	-0.13	-0.11	6.14E-01	5.39E-01	4.37E-01	1.00E+00	1.00	8.69E-01	-0.11	4.37E-01
Ehret '11	rs1799945	6	26091179	DBP G	0.46	1.50E-15	-0.22	0.42	0.06	4.27E-01	1.80E-01	7.79E-01	1.00E+00	0.43	8.69E-01	0.43	8.25E-15
Ehret '11	rs1799945	6	26091179	SBP G	0.63	7.70E-12	0.06	0.74	0.35	8.85E-01	1.49E-01	2.93E-01	9.77E-01	0.48	4.69E-01	0.61	6.09E-12
HMG	rs1799945	6	26091179	DBP G	0.88	2.20E-05	-0.22	0.42	0.06	4.27E-01	1.80E-01	7.79E-01	1.00E+00	0.42	9.86E-01	0.48	7.75E-04
HMG	rs1799945	6	26091179	SBP G	0.95	4.51E-03	0.06	0.74	0.35	8.85E-01	1.49E-01	2.93E-01	1.00E+00	1.00	1.00E+00	0.63	1.04E-02
Hoffmann	rs169287	6	27854760	DBP C	0.21	5.10E-12	0.15	-0.21	0.00	5.59E-01	4.95E-01	9.93E-01	1.00E+00	1.00	1.00E+00	0.00	9.93E-01
Hoffmann	rs169287	6	27854760	PP C	-0.19	3.20E-08	-0.42	0.46	-0.05	1.13E-01	1.42E-01	7.92E-01	5.87E-01	1.00	1.00E+00	-0.05	7.92E-01
Liu	rs926552	6	29548089	DBP T	-0.26	7.20E-08	0.21	0.31	0.26	5.91E-01	4.25E-01	3.45E-01	1.00E+00	1.00	1.00E+00	-0.24	7.59E-07
HMG	rs9266359	6	31332739	DBP C	0.29	1.76E-07	0.02	0.29	0.13	9.33E-01	2.27E-01	4.03E-01	1.00E+00	0.42	5.89E-01	0.27	1.51E-06
HMG	rs9266359	6	31332739	SBP C	0.44	7.07E-06	0.20	0.36	0.27	5.27E-01	3.56E-01	2.82E-01	7.70E-01	0.61	4.77E-01	0.42	7.33E-06
Ehret '11	rs805303	6	31616366	DBP G	0.23	3.00E-11	0.07	0.29	0.16	6.79E-01	1.60E-01	2.23E-01	7.88E-01	0.42	3.40E-01	0.22	1.57E-11
Ehret '11	rs805303	6	31616366	SBP G	0.38	1.50E-11	0.28	0.34	0.31	3.11E-01	3.14E-01	1.54E-01	5.07E-01	0.66	3.32E-01	0.37	5.60E-12
Liu	rs409558	6	31708147	PP G	-0.26	2.70E-09	-0.39	-0.29	-0.35	4.82E-02	2.57E-01	2.41E-02	1.47E-01	0.34	6.42E-02	-0.27	7.06E-12
Hoffmann	rs147384090	6	32013850	PP C	-0.29	7.70E-17	2.80	2.45	2.58	5.11E-01	4.59E-01	3.24E-01	1.00E+00	1.00	1.00E+00	-0.29	8.66E-17
HMG	rs2021783	6	32044851	DBP C	0.49	2.18E-12	0.46	0.36	0.44	2.61E-01	6.64E-01	2.31E-01	5.51E-01	0.88	4.38E-01	0.49	1.24E-12

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
HMG	rs2021783	6	32044851	SBP C	0.68	3.19E-09	0.47	1.58	0.68	4.78E-01	2.38E-01	2.49E-01	7.57E-01	0.49	4.73E-01	0.68	7.35E-09
Hoffmann	rs3129927	6	32333827	PP C	0.29	2.60E-09	1.31	-0.15	0.60	3.33E-02	8.11E-01	1.75E-01	5.44E-01	1.00	5.77E-01	0.29	1.29E-09
Hoffmann	rs210156	6	33517362	DBP A	-0.15	2.00E-09	0.08	-0.05	0.03	6.53E-01	8.05E-01	8.55E-01	1.00E+00	1.00	1.00E+00	0.03	8.55E-01
Hoffmann	rs1544935	6	39124448	DBP T	0.18	8.90E-10	0.47	0.33	0.41	3.44E-02	2.10E-01	1.56E-02	4.78E-01	0.85	2.18E-01	0.41	1.56E-02
Hoffmann	rs649472	6	42673015	PP T	0.16	1.20E-08	-0.39	0.39	-0.03	1.10E-01	1.42E-01	8.50E-01	1.00E+00	0.74	1.00E+00	-0.03	8.50E-01
Liu	rs2270860	6	43270151	SBP T	0.32	2.90E-11	0.50	0.42	0.47	7.35E-02	2.33E-01	3.31E-02	2.94E-01	0.72	2.65E-01	0.33	1.91E-11
Kato	rs1563788	6	43308363	SBP T	0.51	2.20E-16	0.41	0.36	0.39	1.48E-01	3.07E-01	7.91E-02	2.23E-01	0.65	1.19E-01	0.50	4.59E-18
Hoffmann	rs13205180	6	51832494	DBP C	-0.14	1.40E-09	-0.01	-0.42	-0.18	9.39E-01	5.18E-02	1.98E-01	1.00E+00	0.61	6.02E-01	-0.18	1.98E-01
Hoffmann	rs670463	6	53977495	SBP A	-0.19	2.30E-06	-0.36	-0.27	-0.33	2.01E-01	4.17E-01	1.34E-01	8.13E-01	1.00	6.36E-01	-0.33	1.34E-01
Hoffmann	rs670463	6	53977495	PP A	-0.16	2.10E-09	-0.32	-0.24	-0.28	8.26E-02	2.78E-01	4.33E-02	5.60E-01	0.86	3.10E-01	-0.28	4.33E-02
Hoffmann	rs4140574	6	56099424	PP T	0.23	4.30E-19	0.39	0.13	0.28	3.15E-02	5.66E-01	4.50E-02	5.44E-01	1.00	3.10E-01	0.28	4.50E-02
Liu	rs1925153d	6	56102780	PP T	-0.19	4.90E-08	-0.40	-0.17	-0.29	4.82E-02	4.36E-01	5.11E-02	1.47E-01	0.50	1.02E-01	-0.20	3.55E-07
Liu	rs10943605	6	79655477	DBP A	0.16	3.30E-09	0.03	-0.11	-0.03	8.66E-01	5.96E-01	8.36E-01	1.00E+00	1.00	1.00E+00	0.15	2.45E-07
Hoffmann	rs2050663	6	79753394	SBP T	-0.23	3.60E-09	-0.19	-0.08	-0.14	4.98E-01	8.23E-01	5.10E-01	1.00E+00	1.00	8.67E-01	-0.14	5.10E-01
Hoffmann	rs2050663	6	79753394	DBP T	-0.17	1.60E-13	-0.03	0.10	0.03	8.74E-01	6.26E-01	8.51E-01	1.00E+00	1.00	1.00E+00	0.03	8.51E-01
Franceschini	rs6924906	6	82220552	SBP T	0.41	6.20E-05	0.58	0.14	0.32	3.90E-01	8.10E-01	4.65E-01	1.00E+00	1.00	1.00E+00	0.41	4.77E-05
Franceschini	rs6924906	6	82220552	DBP T	0.51	5.50E-07	0.32	-0.00	0.13	4.54E-01	9.94E-01	6.38E-01	6.35E-01	1.00	8.94E-01	0.46	1.18E-06
Hoffmann	rs35410524	6	96885405	SBP C	-0.30	4.70E-10	-0.71	0.13	-0.35	5.70E-02	7.67E-01	2.13E-01	5.44E-01	1.00	6.58E-01	-0.35	2.13E-01
Hoffmann	rs35410524	6	96885405	PP C	-0.17	3.70E-07	-0.36	-0.13	-0.26	1.45E-01	6.40E-01	1.61E-01	6.83E-01	1.00	5.58E-01	-0.26	1.61E-01
Hoffmann	rs36061333	6	116311763	DBP C	0.16	2.10E-08	0.15	-0.01	0.07	5.58E-01	9.75E-01	6.95E-01	1.00E+00	1.00	1.00E+00	0.07	6.95E-01
Hoffmann	rs1761870	6	117264985	DBP G	0.17	3.50E-09	0.13	-0.03	0.07	5.24E-01	8.93E-01	6.82E-01	1.00E+00	1.00	1.00E+00	0.07	6.82E-01
Hoffmann	rs35189230	6	117816351	DBP G	0.24	1.00E-08	0.45	0.12	0.30	4.96E-02	6.24E-01	7.66E-02	5.12E-01	1.00	4.02E-01	0.30	7.66E-02
Hoffmann	rs1630266	6	118612943	SBP G	-0.33	1.50E-06	-0.03	0.31	0.10	9.44E-01	5.94E-01	7.80E-01	1.00E+00	1.00	1.00E+00	0.10	7.80E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs1630266	6	118612943	DBP G	-0.25	2.80E-09	-0.11	-0.14	-0.12	7.03E-01	6.97E-01	5.90E-01	1.00E+00	1.00	1.00E+00	-0.12	5.90E-01
Hoffmann	rs12206253	6	122192592	PP C	0.29	1.10E-12	0.18	0.46	0.33	5.78E-01	1.07E-01	1.20E-01	1.00E+00	0.66	4.96E-01	0.33	1.20E-01
Franceschini	rs13209747	6	127115454	SBP T	0.85	2.60E-10	0.12	0.40	0.24	6.99E-01	2.58E-01	3.09E-01	1.00E+00	1.00	8.10E-01	0.69	2.30E-09
Franceschini	rs13209747	6	127115454	DBP T	0.56	2.40E-11	0.19	0.27	0.23	3.14E-01	2.12E-01	1.17E-01	6.35E-01	0.74	4.10E-01	0.48	5.38E-11
Hoffmann	rs1570350	6	143592386	PP A	0.20	7.40E-15	0.10	-0.06	0.03	5.85E-01	7.77E-01	8.12E-01	1.00E+00	1.00	1.00E+00	0.03	8.12E-01
Franceschini	rs17080102	6	151004770	SBP C	1.02	4.80E-08	-0.83	-0.82	-0.83	2.38E-02	1.38E-01	7.25E-03	1.00E+00	1.00	1.00E+00	0.52	1.06E-03
Franceschini	rs17080102	6	151004770	DBP C	0.74	1.90E-11	-0.29	-0.51	-0.36	2.01E-01	1.37E-01	6.05E-02	1.00E+00	1.00	1.00E+00	0.47	1.01E-06
Hoffmann	rs13192976	6	152312415	SBP A	-0.29	7.50E-07	-0.35	-0.10	-0.20	5.51E-01	8.29E-01	5.84E-01	1.00E+00	1.00	9.44E-01	-0.20	5.84E-01
Hoffmann	rs13192976	6	152312415	PP A	-0.43	8.20E-28	-0.45	-0.29	-0.35	2.46E-01	3.53E-01	1.48E-01	8.25E-01	0.94	5.31E-01	-0.35	1.48E-01
Hoffmann	rs12208834	6	157287299	PP A	-0.15	4.20E-08	0.04	-0.12	-0.03	8.60E-01	6.15E-01	8.49E-01	1.00E+00	1.00	1.00E+00	-0.03	8.49E-01
Hoffmann	rs516143	6	159696185	PP G	0.31	1.40E-16	-1.61	-0.60	-1.09	1.73E-01	5.98E-01	1.85E-01	1.00E+00	1.00	1.00E+00	-1.09	1.85E-01
Hoffmann	rs4709746	6	164133001	DBP C	0.19	4.10E-08	0.30	0.42	0.33	1.10E-01	1.76E-01	4.03E-02	5.49E-01	0.83	3.09E-01	0.33	4.03E-02
Hoffmann	rs903432	6	166175471	SBP A	0.39	1.70E-07	0.71	1.32	1.07	2.24E-01	7.59E-03	4.86E-03	8.26E-01	0.43	2.51E-01	1.07	4.86E-03
Hoffmann	rs903432	6	166175471	DBP A	0.31	5.10E-12	0.53	0.87	0.73	1.46E-01	4.51E-03	1.94E-03	6.21E-01	0.58	8.51E-02	0.73	1.94E-03
Hoffmann	rs1322639	6	169587103	PP G	-0.30	1.20E-23	-0.33	-0.24	-0.29	7.89E-02	3.18E-01	4.66E-02	5.60E-01	0.92	3.10E-01	-0.29	4.66E-02
Hoffmann	rs12670854	7	1731866	SBP A	0.36	1.20E-08	-0.71	-0.79	-0.75	1.69E-01	1.15E-01	3.78E-02	1.00E+00	1.00	1.00E+00	-0.75	3.78E-02
Hoffmann	rs12670854	7	1731866	DBP A	0.17	8.70E-06	-0.15	-0.52	-0.34	6.35E-01	9.70E-02	1.30E-01	1.00E+00	1.00	1.00E+00	-0.34	1.30E-01
Hoffmann	rs11486794	7	2491918	SBP C	0.30	2.80E-07	-0.26	0.05	-0.10	6.09E-01	9.23E-01	7.79E-01	1.00E+00	1.00	1.00E+00	-0.10	7.79E-01
Hoffmann	rs11486794	7	2491918	DBP C	0.22	7.70E-10	0.13	0.03	0.08	6.82E-01	9.27E-01	7.28E-01	1.00E+00	1.00	1.00E+00	0.08	7.28E-01
Ehret '16	rs2969070	7	2512545	SBP A	-0.30	1.44E-10	-0.16	0.61	0.13	5.79E-01	1.03E-01	5.81E-01	8.36E-01	1.00	1.00E+00	-0.28	6.57E-10
Ehret '16	rs2969070	7	2512545	DBP A	-0.18	2.92E-11	0.21	0.22	0.21	2.57E-01	3.55E-01	1.45E-01	1.00E+00	1.00	1.00E+00	-0.17	3.98E-10
Kato	rs2107595	7	19049388	PP A	0.31	3.90E-11	0.25	0.07	0.19	2.33E-01	7.96E-01	2.69E-01	4.67E-01	1.00	5.38E-01	0.30	3.92E-10
Liu	rs6969780	7	27159136	DBP C	0.26	1.10E-08	0.41	-0.17	0.21	4.15E-02	5.30E-01	2.05E-01	2.90E-01	1.00	6.79E-01	0.26	9.11E-08

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Franceschini	rs17428471	7	27337867	SBP T	1.20	2.10E-12	0.37	0.42	0.40	5.59E-01	4.52E-01	3.44E-01	1.00E+00	1.00	8.10E-01	1.09	6.64E-12
Franceschini	rs17428471	7	27337867	DBP T	0.61	1.60E-09	0.31	0.30	0.31	4.31E-01	3.84E-01	2.42E-01	6.35E-01	0.90	5.65E-01	0.57	1.45E-09
Hoffmann	rs917275	7	28658522	PP A	-0.18	7.50E-12	-0.06	0.31	0.12	8.16E-01	2.17E-01	4.92E-01	1.00E+00	1.00	1.00E+00	0.12	4.92E-01
Hoffmann	rs12538229	7	40460129	SBP C	0.30	1.50E-06	0.69	-0.01	0.44	1.14E-01	9.83E-01	2.12E-01	6.45E-01	1.00	6.58E-01	0.44	2.12E-01
Hoffmann	rs12538229	7	40460129	PP C	0.29	2.40E-12	0.59	0.01	0.38	3.98E-02	9.71E-01	9.77E-02	5.44E-01	1.00	4.65E-01	0.38	9.77E-02
Hoffmann	rs2971669	7	44231778	PP C	-0.17	3.40E-08	-0.22	0.05	-0.10	2.94E-01	8.26E-01	5.27E-01	9.55E-01	1.00	9.48E-01	-0.10	5.27E-01
Liu	rs11977526	7	46008110	PP A	-0.36	2.90E-29	-0.40	-0.40	-0.40	5.51E-02	7.70E-02	9.70E-03	1.47E-01	0.21	3.88E-02	-0.36	1.27E-34
Kato	rs10260816	7	46010100	PP C	0.32	1.50E-14	0.45	0.39	0.42	3.02E-02	7.60E-02	5.55E-03	1.21E-01	0.30	2.22E-02	0.33	3.10E-17
Hoffmann	rs34594435	7	72977249	DBP C	0.18	1.30E-09	-0.26	0.18	-0.07	3.72E-01	5.79E-01	7.64E-01	1.00E+00	1.00	1.00E+00	-0.07	7.64E-01
Hoffmann	rs76627715	7	80387316	DBP T	0.22	1.10E-09	-0.12	0.08	-0.05	5.83E-01	7.93E-01	7.66E-01	1.00E+00	1.00	1.00E+00	-0.05	7.66E-01
Hoffmann	rs560276033	7	91268940	SBP GTA	-0.47	3.50E-06	-0.13	0.62	0.18	7.26E-01	1.60E-01	5.23E-01	1.00E+00	1.00	1.00E+00	0.18	5.23E-01
Hoffmann	rs560276033	7	91268940	PP GTA	-0.43	1.60E-09	-0.02	0.06	0.01	9.31E-01	8.30E-01	9.46E-01	1.00E+00	1.00	1.00E+00	0.01	9.46E-01
Hoffmann	rs1015538	7	99626035	DBP A	0.14	3.40E-08	0.13	0.38	0.24	5.10E-01	1.03E-01	1.18E-01	1.00E+00	0.72	4.89E-01	0.24	1.18E-01
Hoffmann	rs34489224	7	100525559	PP C	0.18	3.80E-10	-0.38	-0.41	-0.39	6.93E-02	1.05E-01	1.53E-02	1.00E+00	1.00	1.00E+00	-0.39	1.53E-02
Hoffmann	rs17423264	7	108090255	SBP C	0.37	4.90E-08	0.88	-0.01	0.40	2.20E-01	9.89E-01	4.15E-01	8.26E-01	1.00	8.11E-01	0.40	4.15E-01
Hoffmann	rs17423264	7	108090255	DBP C	0.18	5.10E-06	0.25	0.10	0.17	5.71E-01	8.06E-01	5.75E-01	1.00E+00	1.00	1.00E+00	0.17	5.75E-01
Hoffmann	rs1966323	7	116571847	PP T	0.17	1.60E-09	-0.26	-0.04	-0.16	1.96E-01	8.66E-01	2.82E-01	1.00E+00	1.00	1.00E+00	-0.16	2.82E-01
Ehret '16	rs11556924a	7	129663496	SBP T	-0.27	7.64E-09	0.25	0.26	0.25	5.02E-01	5.12E-01	3.53E-01	1.00E+00	1.00	1.00E+00	-0.26	3.08E-08
Ehret '16	rs11556924a	7	129663496	DBP T	-0.21	8.15E-15	0.04	-0.51	-0.23	8.79E-01	3.40E-02	1.81E-01	1.00E+00	0.34	4.71E-01	-0.21	3.51E-15
Hoffmann	rs11556924	7	129663496	SBP C	0.19	3.80E-06	-0.25	-0.26	-0.25	5.02E-01	5.12E-01	3.53E-01	1.00E+00	1.00	1.00E+00	-0.25	3.53E-01
Hoffmann	rs11556924	7	129663496	DBP C	0.18	7.50E-13	-0.04	0.51	0.23	8.79E-01	3.40E-02	1.81E-01	1.00E+00	0.61	6.02E-01	0.23	1.81E-01
Hoffmann	rs6957161	7	131361319	SBP A	0.26	2.10E-09	0.30	0.00	0.18	2.95E-01	9.91E-01	4.13E-01	8.97E-01	1.00	8.11E-01	0.18	4.13E-01
Hoffmann	rs6957161	7	131361319	DBP A	0.16	1.70E-09	0.29	0.22	0.26	1.08E-01	3.13E-01	6.17E-02	5.49E-01	0.90	3.63E-01	0.26	6.17E-02

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
Hoffmann	rs273957	7	137600690	PP C	-0.15	2.80E-08	0.07	-0.08	0.00	7.62E-01	7.54E-01	9.86E-01	1.00E+00	1.00	1.00E+00	0.00	9.86E-01
Liu	rs891511	7	150704843	DBP A	-0.26	2.00E-16	-0.40	-0.37	-0.39	3.48E-02	8.68E-02	7.01E-03	2.90E-01	0.51	9.81E-02	-0.27	1.63E-19
Hoffmann	rs111630016	7	158048396	DBP C	0.32	3.20E-08	0.20	-0.41	-0.10	7.39E-01	5.08E-01	8.22E-01	1.00E+00	1.00	1.00E+00	-0.10	8.22E-01
Hoffmann	rs80073370	8	19833156	SBP A	0.40	8.40E-09	-0.43	0.78	0.09	4.83E-01	2.72E-01	8.53E-01	1.00E+00	0.89	1.00E+00	0.09	8.53E-01
Hoffmann	rs80073370	8	19833156	PP A	0.22	2.50E-06	-0.47	0.70	0.04	2.43E-01	1.29E-01	9.05E-01	1.00E+00	0.73	1.00E+00	0.04	9.05E-01
Hoffmann	rs2280861	8	23404785	DBP A	-0.17	6.70E-11	-0.12	-0.48	-0.26	5.08E-01	2.94E-02	6.12E-02	1.00E+00	0.61	3.63E-01	-0.26	6.12E-02
Hoffmann	rs7008914	8	25880400	SBP T	0.24	4.50E-08	-0.21	-0.47	-0.31	4.58E-01	2.06E-01	1.78E-01	1.00E+00	1.00	1.00E+00	-0.31	1.78E-01
Hoffmann	rs28594215	8	32395518	PP G	-0.14	2.10E-08	-0.07	-0.46	-0.23	6.98E-01	3.35E-02	9.67E-02	1.00E+00	0.44	4.65E-01	-0.23	9.67E-02
Hoffmann	rs10958717	8	42351585	PP G	-0.17	1.00E-10	-0.18	-0.02	-0.12	3.33E-01	9.39E-01	4.20E-01	1.00E+00	1.00	8.76E-01	-0.12	4.20E-01
Hoffmann	rs11993898	8	51936632	SBP T	-0.33	3.50E-11	-0.04	-0.77	-0.32	9.06E-01	4.74E-02	1.85E-01	1.00E+00	0.56	6.58E-01	-0.32	1.85E-01
Hoffmann	rs11993898	8	51936632	DBP T	-0.16	1.30E-07	-0.20	-0.47	-0.30	3.16E-01	5.29E-02	4.68E-02	9.30E-01	0.61	3.11E-01	-0.30	4.68E-02
Hoffmann	rs11993898	8	51936632	PP T	-0.16	7.30E-07	0.13	-0.32	-0.05	5.31E-01	1.95E-01	7.40E-01	1.00E+00	0.83	1.00E+00	-0.05	7.40E-01
Hoffmann	rs1350100	8	76054904	PP A	0.15	4.20E-09	-0.04	0.14	0.03	8.23E-01	5.62E-01	8.58E-01	1.00E+00	1.00	1.00E+00	0.03	8.58E-01
Hoffmann	rs1449544	8	76591880	SBP A	0.17	6.60E-06	0.45	0.11	0.31	1.02E-01	7.41E-01	1.42E-01	5.97E-01	1.00	6.36E-01	0.31	1.42E-01
Hoffmann	rs1449544	8	76591880	PP A	0.20	2.70E-15	0.18	0.05	0.13	3.24E-01	8.03E-01	3.60E-01	1.00E+00	1.00	8.20E-01	0.13	3.60E-01
Hoffmann	rs7838781	8	77588716	SBP A	0.23	3.70E-06	0.21	0.90	0.53	5.39E-01	1.58E-02	3.82E-02	1.00E+00	0.47	3.67E-01	0.53	3.82E-02
Hoffmann	rs7838781	8	77588716	PP A	0.18	1.90E-08	0.30	0.40	0.34	1.87E-01	9.35E-02	3.69E-02	7.51E-01	0.66	3.10E-01	0.34	3.69E-02
Hoffmann	rs10103353	8	82849452	SBP C	0.18	3.30E-06	0.20	-0.25	0.03	4.78E-01	4.86E-01	8.94E-01	1.00E+00	1.00	1.00E+00	0.03	8.94E-01
Hoffmann	rs10103353	8	82849452	DBP C	0.15	4.30E-10	-0.08	0.10	-0.01	6.46E-01	6.56E-01	9.35E-01	1.00E+00	1.00	1.00E+00	-0.01	9.35E-01
Hoffmann	rs112875651	8	126506694	SBP G	0.23	2.30E-08	0.67	-0.09	0.35	3.50E-02	8.06E-01	1.52E-01	4.17E-01	1.00	6.36E-01	0.35	1.52E-01
Hoffmann	rs112875651	8	126506694	DBP G	0.11	8.20E-06	0.47	-0.10	0.23	1.82E-02	6.72E-01	1.33E-01	3.47E-01	1.00	5.36E-01	0.23	1.33E-01
Hoffmann	rs4631439	8	141059650	SBP C	0.22	8.70E-06	0.10	0.41	0.23	7.30E-01	2.33E-01	3.06E-01	1.00E+00	0.87	7.14E-01	0.23	3.06E-01
Hoffmann	rs4631439	8	141059650	PP C	0.20	2.20E-10	0.26	0.32	0.29	1.61E-01	1.42E-01	4.47E-02	7.10E-01	0.74	3.10E-01	0.29	4.47E-02



Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs76735299	8	142396481	SBP G	-0.43	3.60E-08	0.23	-0.18	-0.00	7.26E-01	7.53E-01	9.98E-01	1.00E+00	1.00	1.00E+00	-0.00	9.98E-01
Hoffmann	rs76735299	8	142396481	DBP G	-0.25	1.30E-07	0.27	-0.05	0.09	5.12E-01	8.93E-01	7.38E-01	1.00E+00	1.00	1.00E+00	0.09	7.38E-01
Hoffmann	rs62524579	8	144060955	SBP G	0.24	2.70E-10	0.41	0.19	0.32	1.35E-01	5.75E-01	1.33E-01	6.77E-01	1.00	6.36E-01	0.32	1.33E-01
Hoffmann	rs62524579	8	144060955	DBP G	0.15	5.60E-10	0.15	0.30	0.21	3.84E-01	1.49E-01	1.13E-01	1.00E+00	0.83	4.79E-01	0.21	1.13E-01
Hoffmann	rs7041664	9	8010674	SBP C	-0.25	7.10E-09	-0.35	-0.41	-0.37	2.58E-01	3.29E-01	1.38E-01	8.47E-01	0.94	6.36E-01	-0.37	1.38E-01
Hoffmann	rs7041664	9	8010674	PP C	-0.17	5.60E-09	-0.17	-0.12	-0.15	4.08E-01	6.68E-01	3.58E-01	1.00E+00	1.00	8.20E-01	-0.15	3.58E-01
Hoffmann	rs1333047	9	22124504	PP A	-0.16	2.00E-10	0.21	-0.54	-0.08	2.45E-01	1.85E-02	6.00E-01	1.00E+00	0.44	1.00E+00	-0.08	6.00E-01
Liu	rs76452347	9	35906471	DBP T	-0.23	6.80E-10	0.11	0.24	0.17	6.81E-01	3.82E-01	3.67E-01	1.00E+00	1.00	1.00E+00	-0.21	5.05E-08
Hoffmann	rs7019055	9	38088244	SBP A	0.18	3.30E-06	0.03	0.20	0.10	9.28E-01	5.55E-01	6.56E-01	1.00E+00	1.00	1.00E+00	0.10	6.56E-01
Hoffmann	rs7019055	9	38088244	PP A	0.15	7.10E-09	-0.04	0.09	0.01	8.09E-01	6.69E-01	9.24E-01	1.00E+00	1.00	1.00E+00	0.01	9.24E-01
Liu	rs111245230	9	113169775	SBP C	0.70	1.20E-07	-0.47	1.22	0.35	6.38E-01	2.40E-01	6.32E-01	1.00E+00	0.72	7.23E-01	0.69	7.28E-08
Hoffmann	rs28663144	9	113198891	SBP A	-0.69	3.50E-11	0.69	-1.28	-0.45	4.42E-01	9.41E-02	4.36E-01	1.00E+00	0.66	8.20E-01	-0.45	4.36E-01
Hoffmann	rs28663144	9	113198891	DBP A	-0.32	4.70E-07	0.62	-1.19	-0.43	2.72E-01	1.24E-02	2.31E-01	1.00E+00	0.58	6.23E-01	-0.43	2.31E-01
Hoffmann	rs28663144	9	113198891	PP A	-0.37	2.00E-07	0.12	-0.08	-0.00	8.44E-01	8.67E-01	9.97E-01	1.00E+00	1.00	1.00E+00	-0.00	9.97E-01
Ehret '16	rs10760117	9	123586737	SBP T	0.28	6.10E-10	0.46	0.14	0.32	1.38E-01	6.78E-01	1.69E-01	3.59E-01	1.00	5.86E-01	0.28	2.27E-10
Ehret '16	rs10760117	9	123586737	DBP T	0.10	2.08E-04	0.05	0.22	0.13	7.90E-01	3.15E-01	3.84E-01	1.00E+00	1.00	1.00E+00	0.10	1.39E-04
Liu	rs1953126	9	123640500	PP T	0.17	1.80E-07	0.02	0.53	0.22	9.28E-01	3.01E-02	1.54E-01	1.00E+00	0.12	2.47E-01	0.17	5.38E-09
Hoffmann	rs7856420	9	123839157	PP G	0.16	5.50E-09	0.40	0.06	0.22	9.77E-02	7.92E-01	1.87E-01	5.60E-01	1.00	5.81E-01	0.22	1.87E-01
Hoffmann	rs10818775	9	125755571	SBP C	0.33	3.70E-09	0.50	0.26	0.42	8.59E-02	5.32E-01	8.06E-02	5.63E-01	1.00	5.71E-01	0.42	8.06E-02
Hoffmann	rs10818775	9	125755571	PP C	0.26	1.90E-12	0.36	0.27	0.33	6.01E-02	3.11E-01	3.59E-02	5.44E-01	0.91	3.10E-01	0.33	3.59E-02
Hoffmann	rs139703184	9	127937746	SBP T	-0.28	4.80E-07	-0.53	-0.30	-0.42	2.76E-01	5.50E-01	2.34E-01	8.53E-01	1.00	6.58E-01	-0.42	2.34E-01
Hoffmann	rs139703184	9	127937746	PP T	-0.27	1.10E-13	-0.49	-0.28	-0.39	1.21E-01	3.82E-01	8.76E-02	6.15E-01	0.99	4.56E-01	-0.39	8.76E-02
Hoffmann	rs507666	9	136149399	DBP G	0.17	1.70E-08	-0.35	0.55	0.05	1.67E-01	5.29E-02	7.90E-01	1.00E+00	0.61	1.00E+00	0.05	7.90E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
Hoffmann	rs507666	9	136149399	PP G	-0.14	8.30E-06	-0.31	0.19	-0.09	2.39E-01	5.20E-01	6.58E-01	8.15E-01	1.00	1.00E+00	-0.09	6.58E-01
Ehret '16	rs6271a	9	136522274	SBP T	-0.59	4.89E-11	1.07	-0.23	0.42	1.38E-01	7.54E-01	4.10E-01	1.00E+00	1.00	1.00E+00	-0.56	2.40E-10
Ehret '16	rs6271a	9	136522274	DBP T	-0.46	2.42E-18	0.51	-0.61	-0.06	2.62E-01	1.71E-01	8.54E-01	1.00E+00	0.45	1.00E+00	-0.45	5.43E-18
Hoffmann	rs10751962	10	4172711	DBP C	-0.22	4.60E-08	0.28	-0.03	0.13	3.49E-01	9.26E-01	5.43E-01	1.00E+00	1.00	1.00E+00	0.13	5.43E-01
Hoffmann	rs12248718	10	12242326	SBP A	-0.21	6.50E-07	0.18	-0.13	0.06	5.41E-01	7.28E-01	7.95E-01	1.00E+00	1.00	1.00E+00	0.06	7.95E-01
Hoffmann	rs12248718	10	12242326	PP A	-0.15	4.60E-08	0.07	-0.23	-0.05	7.13E-01	3.49E-01	7.62E-01	1.00E+00	0.94	1.00E+00	-0.05	7.62E-01
Ehret '11	rs4373814	10	18419972	DBP G	-0.22	4.40E-10	-0.13	-0.01	-0.08	4.47E-01	9.53E-01	5.38E-01	5.89E-01	1.00	6.46E-01	-0.21	5.87E-10
Ehret '11	rs4373814	10	18419972	SBP G	-0.37	4.80E-11	0.00	0.05	0.02	9.90E-01	8.83E-01	9.19E-01	1.00E+00	1.00	1.00E+00	-0.35	2.36E-10
Ehret '11	rs1813353	10	18707448	DBP T	0.41	2.30E-15	0.29	0.14	0.22	1.67E-01	5.35E-01	1.52E-01	2.98E-01	0.78	2.46E-01	0.39	1.68E-15
Ehret '11	rs1813353	10	18707448	SBP T	0.57	2.60E-12	0.43	0.11	0.29	1.97E-01	7.69E-01	2.49E-01	3.82E-01	1.00	4.25E-01	0.54	2.42E-12
Levy	rs11014166	10	18708798	DBP T	-0.46	8.70E-07	-0.15	-0.22	-0.19	4.92E-01	3.39E-01	2.51E-01	5.90E-01	0.41	2.83E-01	-0.39	5.07E-07
Hoffmann	rs73605614	10	20529470	PP A	-0.18	1.20E-08	-0.26	0.10	-0.12	2.16E-01	7.01E-01	4.77E-01	8.07E-01	1.00	9.48E-01	-0.12	4.77E-01
Hoffmann	rs1966203	10	21057545	PP C	-0.14	1.80E-08	-0.05	0.24	0.07	7.84E-01	2.70E-01	6.20E-01	1.00E+00	1.00	1.00E+00	0.07	6.20E-01
Hoffmann	rs9337951	10	30317073	PP G	-0.27	1.00E-19	0.25	-0.02	0.13	2.90E-01	9.33E-01	4.70E-01	1.00E+00	1.00	1.00E+00	0.13	4.70E-01
Hoffmann	rs11008355	10	31412561	PP G	0.17	9.90E-09	-0.11	-0.06	-0.08	6.20E-01	8.10E-01	6.08E-01	1.00E+00	1.00	1.00E+00	-0.08	6.08E-01
Hoffmann	rs813412	10	32284825	SBP C	0.20	6.50E-06	0.11	-0.15	0.01	7.28E-01	7.10E-01	9.81E-01	1.00E+00	1.00	1.00E+00	0.01	9.81E-01
Hoffmann	rs813412	10	32284825	PP C	0.18	2.50E-09	0.26	-0.12	0.11	2.20E-01	6.50E-01	5.23E-01	8.07E-01	1.00	9.48E-01	0.11	5.23E-01
Hoffmann	rs2246438	10	45273079	DBP G	0.16	1.40E-09	-0.28	0.28	0.02	2.47E-01	2.09E-01	9.09E-01	1.00E+00	0.85	1.00E+00	0.02	9.09E-01
Hoffmann	rs2393455	10	60374898	PP C	-0.15	4.90E-09	-0.39	-0.27	-0.34	5.73E-02	2.09E-01	2.60E-02	5.44E-01	0.83	3.10E-01	-0.34	2.60E-02
Hoffmann	rs2440907	10	61638804	SBP G	-0.20	2.30E-07	-0.21	0.29	-0.01	4.44E-01	3.94E-01	9.64E-01	1.00E+00	1.00	1.00E+00	-0.01	9.64E-01
Hoffmann	rs2440907	10	61638804	PP G	-0.14	4.40E-08	-0.22	0.27	-0.02	2.29E-01	2.16E-01	8.98E-01	8.10E-01	1.00	1.00E+00	-0.02	8.98E-01
Ehret '11	rs4590817	10	63467553	DBP G	0.42	1.30E-12	0.38	-0.04	0.16	2.09E-01	8.96E-01	4.40E-01	3.25E-01	1.00	5.54E-01	0.40	1.94E-12
Ehret '11	rs4590817	10	63467553	SBP G	0.65	4.00E-12	0.46	-0.34	0.05	3.38E-01	4.73E-01	8.75E-01	5.15E-01	1.00	9.76E-01	0.60	1.70E-11

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					beta	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	$p$ -value
Newton-Chen	rs1530440	10	63524591	DBP T	-0.39	1.00E-09	-0.06	0.26	0.04	7.64E-01	3.77E-01	8.09E-01	7.64E-01	1.00	1.00E+00	-0.34	1.62E-09
	rs1848797	10	64552934	SBP A	0.27	1.40E-11	0.17	-0.12	0.04	6.19E-01	7.54E-01	8.62E-01	1.00E+00	1.00	1.00E+00	0.04	8.62E-01
Hoffmann	rs1848797	10	64552934	DBP A	0.19	1.40E-15	0.23	0.04	0.15	2.81E-01	8.78E-01	3.64E-01	9.30E-01	1.00	7.96E-01	0.15	3.64E-01
Liu	rs10995311	10	64564934	DBP G	-0.20	2.10E-11	-0.10	-0.06	-0.08	6.39E-01	7.90E-01	5.99E-01	1.00E+00	1.00	1.00E+00	-0.20	3.02E-11
Hoffmann	rs6479908	10	65333648	DBP C	-0.14	1.40E-09	-0.18	-0.39	-0.27	3.15E-01	6.55E-02	5.02E-02	9.30E-01	0.61	3.20E-01	-0.27	5.02E-02
Hoffmann	rs7914287	10	69350563	SBP T	-0.20	8.20E-06	0.19	-0.80	-0.20	5.26E-01	3.04E-02	3.94E-01	1.00E+00	0.56	7.89E-01	-0.20	3.94E-01
Hoffmann	rs7914287	10	69350563	PP T	-0.19	5.70E-10	0.02	-0.61	-0.23	9.27E-01	9.98E-03	1.25E-01	1.00E+00	0.33	4.96E-01	-0.23	1.25E-01
Hoffmann	rs2049814	10	89787275	PP A	-0.15	1.80E-09	0.05	-0.04	0.01	7.77E-01	8.40E-01	9.31E-01	1.00E+00	1.00	1.00E+00	0.01	9.31E-01
Ehret '11	rs932764	10	95895940	DBP G	0.18	8.10E-07	0.24	0.02	0.15	1.75E-01	9.38E-01	2.79E-01	2.98E-01	1.00	4.05E-01	0.18	4.54E-07
Ehret '11	rs932764	10	95895940	SBP G	0.48	7.10E-16	0.15	0.01	0.09	6.01E-01	9.75E-01	6.77E-01	7.92E-01	1.00	8.54E-01	0.46	2.76E-15
Liu	rs4494250	10	96563757	DBP A	0.15	3.40E-07	0.05	0.35	0.16	7.62E-01	1.32E-01	2.52E-01	1.00E+00	0.51	6.79E-01	0.15	2.92E-07
Hoffmann	rs4110517	10	96650328	SBP A	-0.28	1.10E-09	-0.81	-0.51	-0.68	1.34E-02	1.83E-01	6.19E-03	3.46E-01	0.83	2.51E-01	-0.68	6.19E-03
Hoffmann	rs4110517	10	96650328	DBP A	-0.14	1.90E-06	-0.62	-0.43	-0.54	2.32E-03	6.79E-02	4.81E-04	1.81E-01	0.61	8.51E-02	-0.54	4.81E-04
Hoffmann	rs4110517	10	96650328	PP A	-0.15	1.70E-06	-0.19	-0.08	-0.14	3.88E-01	7.33E-01	3.79E-01	1.00E+00	1.00	8.53E-01	-0.14	3.79E-01
Hoffmann	rs4551692	10	102556453	SBP G	-0.42	1.60E-11	-0.81	0.02	-0.44	1.19E-01	9.68E-01	2.57E-01	6.45E-01	1.00	6.61E-01	-0.44	2.57E-01
Hoffmann	rs4551692	10	102556453	DBP G	-0.26	1.30E-11	-0.59	-0.06	-0.35	6.94E-02	8.72E-01	1.46E-01	5.49E-01	1.00	5.47E-01	-0.35	1.46E-01
HMG	rs4409766	10	104616663	DBP T	0.59	5.69E-13	0.81	0.36	0.65	1.64E-04	2.13E-01	1.75E-04	3.11E-03	0.42	1.11E-03	0.60	4.41E-14
HMG	rs4409766	10	104616663	SBP T	1.24	6.08E-17	1.03	0.39	0.80	2.63E-03	4.03E-01	3.70E-03	1.66E-02	0.64	1.41E-02	1.14	5.22E-18
Ehret '11	rs11191548	10	104846178	DBP T	0.46	9.40E-13	0.84	0.46	0.73	1.05E-04	1.91E-01	7.09E-05	1.52E-03	0.43	6.85E-04	0.49	8.07E-16
Ehret '11	rs11191548	10	104846178	SBP T	1.09	6.90E-26	1.09	0.57	0.95	1.64E-03	3.08E-01	1.35E-03	1.19E-02	0.66	9.79E-03	1.08	4.34E-28
Newton-Chen	rs11191548	10	104846178	SBP T	1.16	7.00E-24	1.09	0.57	0.95	1.64E-03	3.08E-01	1.35E-03	3.28E-03	0.31	2.70E-03	1.13	2.92E-24

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann		10	104957628	PP AT	0.62	4.50E-18	2.91	0.63	1.09	4.60E-01	7.52E-01	5.38E-01	1.00E+00	1.00	9.50E-01	0.62	3.85E-18
Hoffmann	rs34872471	10	114754071	SBP T	-0.25	3.70E-09	0.04	-0.35	-0.14	8.97E-01	3.28E-01	5.64E-01	1.00E+00	0.94	9.23E-01	-0.14	5.64E-01
Hoffmann	rs34872471	10	114754071	PP T	-0.20	5.40E-13	-0.07	-0.26	-0.16	7.43E-01	2.57E-01	3.09E-01	1.00E+00	0.83	7.96E-01	-0.16	3.09E-01
Hoffmann	rs17617337	10	121426884	DBP C	0.17	3.10E-09	-0.16	0.08	-0.05	5.75E-01	8.07E-01	8.06E-01	1.00E+00	1.00	1.00E+00	-0.05	8.06E-01
Franceschini	rs11041530	11	7701503	SBP C	1.35	5.60E-06	-0.12	0.43	0.06	8.10E-01	5.48E-01	8.88E-01	1.00E+00	1.00	1.00E+00	0.90	1.73E-04
Franceschini	rs11041530	11	7701503	DBP C	0.54	7.60E-04	0.01	0.33	0.11	9.79E-01	4.58E-01	6.59E-01	1.00E+00	1.00	1.00E+00	0.42	2.02E-03
Hoffmann	rs360158	11	9753601	SBP G	-0.30	1.40E-14	-0.27	-0.43	-0.34	3.64E-01	2.19E-01	1.40E-01	9.55E-01	0.87	6.36E-01	-0.34	1.40E-01
Hoffmann	rs360158	11	9753601	DBP G	-0.17	4.70E-12	-0.11	-0.27	-0.17	5.53E-01	2.25E-01	2.19E-01	1.00E+00	0.86	6.23E-01	-0.17	2.19E-01
Hoffmann	rs360158	11	9753601	PP G	-0.13	6.80E-07	-0.12	-0.18	-0.15	5.21E-01	4.31E-01	3.19E-01	1.00E+00	1.00	8.04E-01	-0.15	3.19E-01
Ehret '11	rs7129220	11	10350538	DBP G	-0.30	6.40E-08	0.21	-0.67	-0.26	5.73E-01	5.38E-02	3.12E-01	1.00E+00	0.19	4.11E-01	-0.30	3.83E-08
Ehret '11	rs7129220	11	10350538	SBP G	-0.62	3.00E-12	-0.07	-0.97	-0.55	9.09E-01	8.16E-02	1.81E-01	9.77E-01	0.34	3.43E-01	-0.62	1.23E-12
Liu	rs900145	11	13293905	DBP G	-0.20	1.80E-08	0.03	-0.39	-0.15	8.86E-01	7.02E-02	2.91E-01	1.00E+00	0.51	6.79E-01	-0.20	1.59E-11
Hoffmann	rs7928655	11	13300252	DBP C	-0.14	1.60E-08	0.01	-0.41	-0.17	9.57E-01	5.49E-02	2.32E-01	1.00E+00	0.61	6.23E-01	-0.17	2.32E-01
Hoffmann	rs12787709	11	14639257	SBP G	-0.22	1.20E-07	-2.68	-2.81	-2.73	3.23E-01	4.45E-01	2.12E-01	9.42E-01	1.00	6.58E-01	-2.73	2.12E-01
Hoffmann	rs12787709	11	14639257	DBP G	-0.14	3.40E-08	-0.20	-0.99	-0.49	9.04E-01	6.62E-01	7.20E-01	1.00E+00	1.00	1.00E+00	-0.49	7.20E-01
Franceschini	rs1401454	11	16250183	SBP T	0.55	9.50E-07	0.34	-0.00	0.20	2.19E-01	9.94E-01	3.47E-01	1.00E+00	1.00	8.10E-01	0.48	1.76E-06
Franceschini	rs1401454	11	16250183	DBP T	0.45	5.10E-10	0.13	0.03	0.09	4.43E-01	8.96E-01	5.03E-01	6.35E-01	1.00	8.80E-01	0.37	7.24E-09
HMG	rs4757391	11	16302939	DBP C	0.49	4.95E-09	0.02	0.20	0.08	9.28E-01	4.14E-01	5.81E-01	1.00E+00	0.61	7.89E-01	0.38	8.25E-07
HMG	rs4757391	11	16302939	SBP C	0.88	5.20E-09	0.14	0.45	0.24	6.40E-01	2.60E-01	3.01E-01	8.68E-01	0.49	4.77E-01	0.70	3.73E-08
Ehret '11	rs381815	11	16902268	DBP T	0.35	5.30E-10	0.35	0.27	0.32	7.45E-02	2.63E-01	3.74E-02	1.66E-01	0.46	7.75E-02	0.34	5.89E-11
Ehret '11	rs381815	11	16902268	SBP T	0.57	5.30E-11	0.52	0.38	0.47	9.64E-02	3.21E-01	5.63E-02	3.36E-01	0.66	1.50E-01	0.56	9.02E-12
Levy	rs381815	11	16902268	DBP T	0.51	4.30E-07	0.35	0.27	0.32	7.45E-02	2.63E-01	3.74E-02	1.37E-01	0.36	5.46E-02	0.45	6.45E-08
Levy	rs381815	11	16902268	SBP T	0.84	5.80E-07	0.52	0.38	0.47	9.64E-02	3.21E-01	5.63E-02	2.16E-01	0.41	9.19E-02	0.72	2.66E-07

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					beta	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	$p$ -value
Levy	rs11024074	11	16917219	DBP C	0.50	2.80E-07	0.35	0.26	0.31	6.93E-02	2.64E-01	3.56E-02	1.35E-01	0.36	5.42E-02	0.44	1.05E-07
Levy	rs7926335	11	16917869	DBP T	0.51	4.80E-07	0.37	0.27	0.33	5.97E-02	2.51E-01	2.98E-02	1.31E-01	0.36	4.73E-02	0.45	5.01E-08
Levy	rs7926335	11	16917869	SBP T	0.85	5.80E-07	0.54	0.36	0.47	8.25E-02	3.34E-01	5.16E-02	2.16E-01	0.41	9.19E-02	0.72	1.90E-07
Liu	rs5219	11	17409572	SBP T	0.32	4.90E-12	0.44	-0.18	0.23	1.19E-01	6.36E-01	3.32E-01	3.18E-01	1.00	4.77E-01	0.32	1.04E-10
Hoffmann	rs11030119	11	27728102	SBP G	0.20	3.20E-06	0.81	0.17	0.52	1.75E-02	6.56E-01	4.08E-02	3.46E-01	1.00	3.67E-01	0.52	4.08E-02
Hoffmann	rs11030119	11	27728102	DBP G	0.18	2.30E-12	0.48	0.16	0.33	2.33E-02	4.88E-01	3.34E-02	3.57E-01	1.00	3.09E-01	0.33	3.34E-02
Hoffmann	rs2585810	11	28483787	SBP G	-0.22	2.70E-08	-0.20	-0.25	-0.23	5.58E-01	4.66E-01	3.55E-01	1.00E+00	1.00	7.72E-01	-0.23	3.55E-01
Hoffmann	rs2585810	11	28483787	DBP G	-0.12	1.40E-06	-0.26	-0.28	-0.27	2.30E-01	1.84E-01	7.34E-02	8.39E-01	0.83	4.01E-01	-0.27	7.34E-02
Hoffmann	rs61879810	11	31821467	SBP A	0.28	7.40E-08	0.02	1.06	0.33	9.45E-01	4.37E-02	2.51E-01	1.00E+00	0.56	6.61E-01	0.33	2.51E-01
Hoffmann	rs61879810	11	31821467	DBP A	0.20	1.20E-09	-0.09	0.23	0.00	6.69E-01	4.93E-01	9.88E-01	1.00E+00	1.00	1.00E+00	0.00	9.88E-01
Hoffmann	rs74482535	11	44030783	PP C	0.27	1.00E-09	0.51	0.40	0.46	1.36E-01	2.87E-01	6.97E-02	6.56E-01	0.86	4.06E-01	0.46	6.97E-02
Hoffmann	rs10838433	11	45233473	PP G	-0.20	5.30E-12	0.13	-0.45	-0.11	4.85E-01	4.10E-02	4.43E-01	1.00E+00	0.44	9.04E-01	-0.11	4.43E-01
Ehret '16	rs7103648	11	47461783	SBP A	-0.33	4.43E-13	-0.23	-0.02	-0.14	4.81E-01	9.47E-01	5.71E-01	7.81E-01	1.00	8.25E-01	-0.33	4.90E-13
Ehret '16	rs7103648	11	47461783	DBP A	-0.24	9.03E-19	-0.12	-0.10	-0.11	5.49E-01	6.67E-01	4.64E-01	1.00E+00	1.00	8.62E-01	-0.24	8.97E-19
Hoffmann	rs7107356	11	47676170	SBP A	-0.31	4.00E-16	-0.27	-0.32	-0.29	3.82E-01	3.42E-01	2.01E-01	9.70E-01	0.95	6.58E-01	-0.29	2.01E-01
Hoffmann	rs7107356	11	47676170	DBP A	-0.15	1.70E-10	-0.03	-0.25	-0.13	8.95E-01	2.35E-01	3.72E-01	1.00E+00	0.87	8.01E-01	-0.13	3.72E-01
Hoffmann	rs7107356	11	47676170	PP A	-0.16	3.30E-10	-0.24	-0.03	-0.14	2.36E-01	8.77E-01	3.31E-01	8.15E-01	1.00	8.09E-01	-0.14	3.31E-01
Hoffmann	rs61448762	11	48923756	SBP G	0.36	3.50E-09	0.57	0.20	0.45	1.96E-01	7.52E-01	2.18E-01	8.13E-01	1.00	6.58E-01	0.45	2.18E-01
Hoffmann	rs61448762	11	48923756	DBP G	0.17	3.20E-06	0.04	0.24	0.11	8.80E-01	5.28E-01	6.22E-01	1.00E+00	1.00	1.00E+00	0.11	6.22E-01
Hoffmann	rs74237369	11	55355182	SBP G	0.32	4.50E-08	0.48	0.53	0.50	2.67E-01	3.95E-01	1.65E-01	8.47E-01	1.00	6.36E-01	0.50	1.65E-01
Hoffmann	rs74237369	11	55355182	DBP G	0.16	4.30E-06	0.21	0.45	0.29	4.40E-01	2.43E-01	1.95E-01	1.00E+00	0.87	6.02E-01	0.29	1.95E-01
Hoffmann	rs685149	11	57657413	SBP A	-0.31	1.50E-13	-0.26	-0.53	-0.39	4.95E-01	1.76E-01	1.57E-01	1.00E+00	0.82	6.36E-01	-0.39	1.57E-01
Hoffmann	rs685149	11	57657413	PP A	-0.19	9.70E-12	-0.23	-0.54	-0.38	3.62E-01	3.14E-02	3.27E-02	1.00E+00	0.44	3.10E-01	-0.38	3.27E-02

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
Hoffmann	rs1938598	11	58413910	SBP T	0.33	1.10E-13	0.18	0.26	0.21	6.27E-01	5.30E-01	4.39E-01	1.00E+00	1.00	8.20E-01	0.21	4.39E-01
Hoffmann	rs1938598	11	58413910	DBP T	0.13	3.20E-06	0.23	0.08	0.17	3.06E-01	7.50E-01	3.29E-01	9.30E-01	1.00	7.79E-01	0.17	3.29E-01
Hoffmann	rs1938598	11	58413910	PP T	0.21	1.20E-12	-0.06	0.18	0.04	8.13E-01	5.12E-01	8.01E-01	1.00E+00	1.00	1.00E+00	0.04	8.01E-01
Kato	rs751984	11	61278246	MAPT	0.33	7.70E-12	0.31	0.67	0.42	1.45E-01	3.63E-02	1.87E-02	4.35E-01	0.11	5.60E-02	0.34	2.78E-12
Ehret '16	rs751984	11	61278246	SBP T	0.41	3.80E-09	0.50	0.91	0.62	1.03E-01	4.47E-02	1.45E-02	3.36E-01	0.43	1.89E-01	0.42	2.47E-10
Ehret '16	rs751984	11	61278246	DBP T	0.38	4.20E-20	0.22	0.54	0.32	2.42E-01	5.30E-02	4.21E-02	6.58E-01	0.34	4.71E-01	0.37	5.55E-21
Hoffmann	rs72930293	11	69073420	DBP C	0.23	1.70E-09	-0.08	-0.62	-0.33	8.21E-01	8.83E-02	1.84E-01	1.00E+00	1.00	1.00E+00	-0.33	1.84E-01
Hoffmann	rs7927515	11	76125330	SBP C	-0.23	4.40E-09	0.04	-0.37	-0.17	9.08E-01	2.80E-01	4.98E-01	1.00E+00	0.89	8.65E-01	-0.17	4.98E-01
Hoffmann	rs7927515	11	76125330	PP C	-0.15	2.60E-08	0.20	-0.16	0.02	3.84E-01	4.69E-01	9.23E-01	1.00E+00	1.00	1.00E+00	0.02	9.23E-01
Hoffmann	rs2289125	11	89224453	SBP A	-0.27	1.60E-09	-0.00	-0.54	-0.21	9.90E-01	1.40E-01	3.53E-01	1.00E+00	0.70	7.72E-01	-0.21	3.53E-01
Hoffmann	rs2289125	11	89224453	PP A	-0.35	1.50E-30	-0.20	-0.27	-0.23	3.02E-01	2.50E-01	1.29E-01	9.66E-01	0.83	4.96E-01	-0.23	1.29E-01
Hoffmann	rs11021221	11	95308854	DBP T	0.21	2.70E-11	0.05	0.15	0.09	8.70E-01	6.87E-01	7.02E-01	1.00E+00	1.00	1.00E+00	0.09	7.02E-01
Ehret '11	rs633185	11	100593538	DBP G	-0.33	2.00E-15	-0.14	-0.38	-0.23	4.41E-01	1.02E-01	1.10E-01	5.89E-01	0.33	1.87E-01	-0.32	6.87E-16
Ehret '11	rs633185	11	100593538	SBP G	-0.56	1.20E-17	-0.17	-0.02	-0.11	5.61E-01	9.49E-01	6.15E-01	7.75E-01	1.00	8.49E-01	-0.53	6.49E-17
Hoffmann	rs7951348	11	107081841	SBP C	-0.25	3.60E-11	-0.25	-0.23	-0.24	3.70E-01	5.01E-01	2.69E-01	9.55E-01	1.00	6.83E-01	-0.24	2.69E-01
Hoffmann	rs7951348	11	107081841	DBP C	-0.12	2.10E-07	-0.16	0.18	-0.02	3.76E-01	3.99E-01	8.85E-01	1.00E+00	1.00	1.00E+00	-0.02	8.85E-01
Hoffmann	rs7951348	11	107081841	PP C	-0.12	1.40E-06	-0.10	-0.44	-0.24	6.00E-01	5.00E-02	1.02E-01	1.00E+00	0.46	4.70E-01	-0.24	1.02E-01
Hoffmann	rs115381894	11	109019018	SBP G	-5.21	3.70E-08	-1.61	1.25	0.42	6.74E-01	6.10E-01	8.40E-01	1.00E+00	1.00	1.00E+00	0.42	8.40E-01
Hoffmann	rs5794844	11	112960099	SBP GT	-0.35	3.50E-08	-0.31	-0.26	-0.29	2.63E-01	4.42E-01	1.78E-01	8.47E-01	1.00	6.58E-01	-0.29	1.78E-01
Hoffmann	rs5794844	11	112960099	PP GT	-0.27	3.10E-09	0.01	-0.31	-0.12	9.48E-01	1.59E-01	4.00E-01	1.00E+00	0.75	8.71E-01	-0.12	4.00E-01
Hoffmann	rs7116797	11	116707338	SBP A	0.31	6.20E-08	-0.14	0.66	0.17	6.65E-01	1.06E-01	4.99E-01	1.00E+00	0.66	8.65E-01	0.17	4.99E-01
Hoffmann	rs7116797	11	116707338	DBP A	0.21	1.60E-09	-0.13	0.46	0.11	5.27E-01	6.48E-02	5.00E-01	1.00E+00	0.61	9.44E-01	0.11	5.00E-01
Hoffmann	rs1261744	11	117218460	PP T	-0.26	7.30E-17	0.07	-0.04	0.03	7.16E-01	8.84E-01	8.46E-01	1.00E+00	1.00	1.00E+00	0.03	8.46E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs117204111	11	118199425	PP G	0.49	3.00E-08	3.22	0.70	2.10	3.53E-03	5.73E-01	1.07E-02	3.49E-01	1.00	2.36E-01	2.10	1.07E-02
Hoffmann	rs11222386	11	130779068	PP G	-0.18	4.40E-08	-0.55	0.26	-0.14	7.23E-02	3.90E-01	5.05E-01	5.60E-01	1.00	9.48E-01	-0.14	5.05E-01
Hoffmann	rs4980877	12	418916	PP C	-0.16	2.70E-08	0.11	-0.12	0.02	5.50E-01	6.23E-01	8.74E-01	1.00E+00	1.00	1.00E+00	0.02	8.74E-01
Hoffmann	rs143750586	12	4358078	PP A	1.04	1.40E-08	-2.30	-3.87	-3.24	2.82E-01	2.61E-02	1.62E-02	1.00E+00	1.00	1.00E+00	-3.24	1.62E-02
Kato	rs12579720	12	20173764	DBP C	0.32	2.20E-16	-0.38	-0.34	-0.36	4.69E-02	1.21E-01	1.22E-02	1.00E+00	1.00	1.00E+00	0.27	1.91E-12
Hoffmann	rs11168244	12	48202941	SBP C	0.32	2.10E-10	0.25	-0.14	0.06	5.80E-01	7.63E-01	8.54E-01	1.00E+00	1.00	1.00E+00	0.06	8.54E-01
Hoffmann	rs11168244	12	48202941	DBP C	0.17	4.70E-08	0.18	-0.18	-0.00	5.41E-01	5.26E-01	9.88E-01	1.00E+00	1.00	1.00E+00	-0.00	9.88E-01
Hoffmann	rs7977389	12	49981722	SBP T	0.38	3.30E-10	0.67	0.31	0.50	1.21E-01	4.82E-01	1.10E-01	6.45E-01	1.00	6.36E-01	0.50	1.10E-01
Hoffmann	rs7977389	12	49981722	PP T	0.27	1.10E-11	0.49	0.05	0.27	8.70E-02	8.57E-01	1.81E-01	5.60E-01	1.00	5.78E-01	0.27	1.81E-01
Hoffmann	rs10747570	12	50509937	SBP A	0.26	1.40E-10	0.13	0.00	0.08	6.70E-01	9.89E-01	7.45E-01	1.00E+00	1.00	1.00E+00	0.08	7.45E-01
Hoffmann	rs10747570	12	50509937	DBP A	0.18	4.30E-14	0.13	0.23	0.17	4.94E-01	3.07E-01	2.46E-01	1.00E+00	0.90	6.39E-01	0.17	2.46E-01
Liu	rs7302981	12	50537815	DBP A	0.25	9.40E-19	0.22	0.27	0.24	2.72E-01	2.36E-01	1.14E-01	9.51E-01	0.66	5.30E-01	0.25	2.21E-17
Hoffmann	rs17210898	12	51056511	SBP G	0.56	3.50E-08	-0.15	0.28	0.09	9.02E-01	7.95E-01	9.10E-01	1.00E+00	1.00	1.00E+00	0.09	9.10E-01
Hoffmann	rs17210898	12	51056511	DBP G	0.35	1.10E-08	-0.05	-0.10	-0.08	9.44E-01	8.86E-01	8.77E-01	1.00E+00	1.00	1.00E+00	-0.08	8.77E-01
Hoffmann	rs10784502	12	66343810	SBP C	-0.23	7.40E-10	-0.13	-0.25	-0.18	6.70E-01	4.69E-01	4.26E-01	1.00E+00	1.00	8.20E-01	-0.18	4.26E-01
Hoffmann	rs10784502	12	66343810	PP C	-0.19	1.30E-13	-0.15	-0.07	-0.12	4.20E-01	7.47E-01	4.13E-01	1.00E+00	1.00	8.71E-01	-0.12	4.13E-01
Hoffmann	rs1152958	12	70325669	DBP G	0.14	4.00E-08	-0.03	0.01	-0.01	8.99E-01	9.52E-01	9.57E-01	1.00E+00	1.00	1.00E+00	-0.01	9.57E-01
Levy	rs4842666	12	89941549	DBP C	-0.62	4.50E-07	-0.16	-0.80	-0.41	4.78E-01	4.49E-03	2.01E-02	5.90E-01	0.02	3.35E-02	-0.56	2.37E-08
Levy	rs4842666	12	89941549	SBP C	-1.20	6.50E-09	-0.67	-0.80	-0.72	6.55E-02	7.99E-02	1.17E-02	2.16E-01	0.30	7.11E-02	-1.03	1.08E-09
Levy	rs11105328	12	89942390	DBP G	-0.61	5.10E-07	-0.48	-0.87	-0.67	1.13E-01	3.64E-03	1.58E-03	1.73E-01	0.02	1.46E-02	-0.63	2.24E-09
Levy	rs11105328	12	89942390	SBP G	-1.11	4.20E-08	-0.82	-0.91	-0.86	8.86E-02	6.02E-02	1.19E-02	2.16E-01	0.30	7.11E-02	-1.05	1.34E-09
Levy	rs2681472	12	90008959	DBP G	-0.64	3.70E-08	-0.66	-0.89	-0.76	1.76E-02	3.21E-03	2.01E-04	9.13E-02	0.02	4.66E-03	-0.67	9.17E-11
Levy	rs2681472	12	90008959	SBP G	-1.29	3.50E-11	-0.72	-0.93	-0.81	1.06E-01	5.74E-02	1.41E-02	2.16E-01	0.30	7.11E-02	-1.17	1.16E-12

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
Levy	rs2681492	12	90013089	DBP C	-0.62	4.60E-08	-0.64	-0.75	-0.69	2.09E-02	1.16E-02	7.02E-04	9.13E-02	0.02	4.66E-03	-0.64	5.03E-11
Levy	rs2681492	12	90013089	SBP C	-1.26	3.00E-11	-0.69	-0.69	-0.69	1.16E-01	1.47E-01	3.38E-02	2.16E-01	0.31	7.11E-02	-1.12	1.06E-11
Levy	rs111105354	12	90026523	DBP G	-0.63	5.80E-08	-0.68	-0.87	-0.76	1.47E-02	3.91E-03	1.97E-04	9.13E-02	0.02	4.66E-03	-0.66	1.44E-10
Levy	rs111105354	12	90026523	SBP G	-1.30	3.70E-11	-0.72	-0.89	-0.80	1.02E-01	6.65E-02	1.54E-02	2.16E-01	0.30	7.11E-02	-1.16	9.52E-12
Levy	rs12579302	12	90050503	DBP G	-0.62	1.20E-07	-0.66	-0.87	-0.76	1.66E-02	3.97E-03	2.26E-04	9.13E-02	0.02	4.66E-03	-0.65	2.58E-10
Levy	rs12579302	12	90050503	SBP G	-1.29	6.20E-11	-0.70	-0.87	-0.78	1.15E-01	7.25E-02	1.85E-02	2.16E-01	0.30	7.11E-02	-1.15	1.63E-11
Ehret '11	rs17249754	12	90060586	DBP G	0.52	1.20E-14	0.64	0.69	0.66	2.06E-02	1.98E-02	1.12E-03	7.47E-02	0.08	4.62E-03	0.54	6.74E-17
Ehret '11	rs17249754	12	90060586	SBP G	0.93	1.80E-18	0.68	0.55	0.62	1.23E-01	2.46E-01	5.69E-02	3.36E-01	0.66	1.50E-01	0.90	4.34E-19
HMG	rs17249754	12	90060586	DBP G	0.52	2.13E-10	0.64	0.69	0.66	2.06E-02	1.98E-02	1.12E-03	7.83E-02	0.08	5.30E-03	0.54	4.38E-13
HMG	rs17249754	12	90060586	SBP G	1.03	3.66E-12	0.68	0.55	0.62	1.23E-01	2.46E-01	5.69E-02	2.93E-01	0.49	1.54E-01	0.96	2.02E-12
Levy	rs17249754	12	90060586	DBP A	-0.63	1.00E-07	-0.64	-0.69	-0.66	2.06E-02	1.98E-02	1.12E-03	9.13E-02	0.04	4.66E-03	-0.64	6.48E-10
Levy	rs17249754	12	90060586	SBP A	-1.30	5.20E-11	-0.68	-0.55	-0.62	1.23E-01	2.46E-01	5.69E-02	2.16E-01	0.41	9.19E-02	-1.11	6.39E-11
Levy	rs111105364	12	90069276	DBP G	-0.63	1.20E-07	-0.66	-0.83	-0.74	1.77E-02	5.44E-03	3.15E-04	9.13E-02	0.02	4.66E-03	-0.66	2.13E-10
Levy	rs111105364	12	90069276	SBP G	-1.30	4.80E-11	-0.69	-0.80	-0.74	1.16E-01	9.90E-02	2.43E-02	2.16E-01	0.30	7.11E-02	-1.15	1.77E-11
Levy	rs111105368	12	90074441	DBP C	-0.63	1.20E-07	-0.65	-0.78	-0.71	1.90E-02	8.83E-03	5.09E-04	9.13E-02	0.02	4.66E-03	-0.65	3.22E-10
Levy	rs111105368	12	90074441	SBP C	-1.30	5.30E-11	-0.70	-0.71	-0.70	1.12E-01	1.42E-01	3.17E-02	2.16E-01	0.31	7.11E-02	-1.14	2.64E-11
Levy	rs111105378	12	90090741	DBP T	-0.62	3.10E-07	-0.62	-0.84	-0.72	2.42E-02	5.30E-03	4.29E-04	9.42E-02	0.02	1.06E-02	-0.65	4.42E-10
Levy	rs111105378	12	90090741	SBP T	-1.31	9.10E-11	-0.65	-0.80	-0.71	1.44E-01	1.01E-01	3.02E-02	2.16E-01	0.30	7.11E-02	-1.15	1.79E-11
Levy	rs12230074	12	90090867	DBP G	-0.62	3.40E-07	-0.61	-0.81	-0.70	2.76E-02	6.30E-03	5.63E-04	9.66E-02	0.02	1.09E-02	-0.64	5.55E-10
Levy	rs12230074	12	90090867	SBP G	-1.31	9.10E-11	-0.64	-0.75	-0.69	1.44E-01	1.16E-01	3.38E-02	2.16E-01	0.30	7.11E-02	-1.14	2.17E-11
Hoffmann	rs10859580	12	94180616	PP A	-0.14	3.70E-08	-0.31	-0.11	-0.23	1.02E-01	6.41E-01	1.20E-01	5.60E-01	1.00	4.96E-01	-0.23	1.20E-01
Hoffmann	rs76785029	12	94882905	PP C	0.38	5.40E-14	-0.24	-0.25	-0.25	6.33E-01	6.48E-01	5.11E-01	1.00E+00	1.00	1.00E+00	-0.25	5.11E-01
Hoffmann	rs7312132	12	110352509	SBP G	0.35	1.40E-06	0.22	0.42	0.34	7.01E-01	4.11E-01	3.84E-01	1.00E+00	1.00	7.88E-01	0.34	3.84E-01



Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					beta	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	$p$ -value
Hoffmann	rs7312132	12	110352509	PP G	0.28	6.80E-09	0.24	0.00	0.11	5.21E-01	9.95E-01	6.74E-01	1.00E+00	1.00	1.00E+00	0.11	6.74E-01
Ehret '11	rs3184504	12	111884608	DBP T	0.45	3.60E-25	0.41	0.67	0.53	5.77E-02	4.06E-03	9.38E-04	1.43E-01	0.02	4.62E-03	0.45	1.63E-27
Ehret '11	rs3184504	12	111884608	SBP T	0.60	3.80E-18	0.15	0.39	0.26	6.56E-01	2.99E-01	3.07E-01	7.95E-01	0.66	4.69E-01	0.58	4.99E-18
Levy	rs3184504	12	111884608	DBP T	0.50	1.70E-08	0.41	0.67	0.53	5.77E-02	4.06E-03	9.38E-04	1.31E-01	0.02	4.66E-03	0.51	1.02E-10
Levy	rs3184504	12	111884608	SBP T	0.75	5.70E-07	0.15	0.39	0.26	6.56E-01	2.99E-01	3.07E-01	9.18E-01	0.41	4.30E-01	0.63	1.34E-06
Levy	rs4766578	12	111904371	DBP T	0.49	4.20E-08	0.42	0.65	0.53	5.05E-02	4.93E-03	9.33E-04	1.31E-01	0.02	4.66E-03	0.50	1.91E-10
Levy	rs10774625	12	111910219	DBP A	0.49	4.20E-08	0.41	0.65	0.52	5.86E-02	5.06E-03	1.12E-03	1.31E-01	0.02	4.66E-03	0.50	2.26E-10
Levy	rs653178	12	112007756	DBP C	0.50	2.00E-08	0.39	0.64	0.51	6.78E-02	5.61E-03	1.43E-03	1.35E-01	0.02	4.66E-03	0.50	1.50E-10
Levy	rs653178	12	112007756	SBP C	0.74	8.50E-07	0.13	0.39	0.25	7.15E-01	3.01E-01	3.37E-01	9.39E-01	0.41	4.42E-01	0.62	2.07E-06
Levy	rs11065987	12	112072424	DBP G	0.48	2.20E-07	0.38	0.73	0.55	8.31E-02	2.01E-03	8.55E-04	1.45E-01	0.02	7.98E-03	0.50	3.38E-10
Levy	rs17696736	12	112486818	DBP G	0.46	5.10E-07	0.31	0.72	0.50	1.62E-01	2.41E-03	2.25E-03	2.37E-01	0.02	1.46E-02	0.47	2.67E-09
Levy	rs17630235	12	112591686	DBP A	0.50	1.00E-07	0.35	0.77	0.54	1.14E-01	1.26E-03	9.20E-04	1.73E-01	0.02	4.66E-03	0.51	1.02E-10
Levy	rs11066188	12	112610714	DBP A	0.50	1.10E-07	0.36	0.74	0.54	1.01E-01	2.01E-03	1.10E-03	1.69E-01	0.02	4.66E-03	0.51	1.19E-10
HMG	rs11066280	12	112817783	DBP T	0.62	3.19E-10	-2.89	1.61	-1.46	3.00E-01	6.92E-01	5.28E-01	1.00E+00	0.88	1.00E+00	0.62	6.96E-10
HMG	rs11066280	12	112817783	SBP T	0.96	9.80E-08	-1.65	10.42	2.09	7.13E-01	1.17E-01	5.75E-01	1.00E+00	0.32	7.45E-01	0.96	1.46E-08
Levy	rs7963771	12	115343492	DBP T	-0.53	4.30E-07	-0.23	-0.20	-0.22	1.81E-01	3.57E-01	1.07E-01	2.54E-01	0.42	1.49E-01	-0.42	1.73E-07
HMG	rs1991391	12	115352666	DBP G	0.21	4.52E-02	0.07	0.12	0.09	7.39E-01	5.72E-01	5.33E-01	1.00E+00	1.00	1.00E+00	0.17	5.65E-02
HMG	rs1991391	12	115352666	SBP G	0.60	1.81E-03	-0.00	0.28	0.12	9.90E-01	4.35E-01	6.09E-01	1.00E+00	1.00	1.00E+00	0.40	8.46E-03
Levy	rs1991391	12	115352666	DBP A	-0.48	1.40E-07	-0.07	-0.12	-0.09	7.39E-01	5.72E-01	5.33E-01	7.83E-01	0.61	5.49E-01	-0.38	1.00E-06
Levy	rs2384550	12	115352731	DBP A	-0.48	1.30E-07	-0.09	-0.16	-0.13	6.42E-01	4.56E-01	4.01E-01	7.02E-01	0.50	4.25E-01	-0.39	5.42E-07
Levy	rs6489992	12	115352769	DBP A	-0.48	2.00E-07	-0.10	-0.18	-0.14	5.89E-01	3.91E-01	3.36E-01	6.65E-01	0.44	3.68E-01	-0.38	5.15E-07
Levy	rs10744835	12	115353849	DBP A	-0.49	7.10E-07	-0.14	-0.37	-0.25	5.06E-01	1.02E-01	1.12E-01	5.90E-01	0.17	1.50E-01	-0.42	6.17E-07
Levy	rs7977406	12	115359424	DBP A	-0.49	7.60E-07	-0.06	-0.36	-0.20	7.67E-01	1.07E-01	1.90E-01	7.90E-01	0.17	2.22E-01	-0.41	1.40E-06

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					beta	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	$p$ -value
Ehret '11	rs10850411	12	115387796	DBP T	0.25	5.40E-10	0.42	0.27	0.36	1.85E-02	2.29E-01	1.00E-02	7.47E-02	0.45	2.91E-02	0.26	2.39E-11
Ehret '11	rs10850411	12	115387796	SBP T	0.35	5.40E-08	0.76	0.58	0.69	7.70E-03	1.05E-01	2.11E-03	4.46E-02	0.38	1.22E-02	0.38	1.20E-09
HMG	rs35444	12	115552437	DBP A	0.36	6.73E-05	0.13	0.16	0.14	4.92E-01	4.43E-01	3.09E-01	1.00E+00	1.00	1.00E+00	0.30	9.03E-05
HMG	rs35444	12	115552437	SBP A	0.83	2.17E-07	0.26	-0.07	0.12	3.79E-01	8.40E-01	5.88E-01	7.20E-01	1.00	7.45E-01	0.59	5.59E-06
HMG	rs11067763	12	116198341	DBP A	0.51	2.00E-18	0.63	0.33	0.52	2.55E-03	2.15E-01	1.72E-03	1.61E-02	0.42	5.86E-03	0.51	1.31E-19
HMG	rs11067763	12	116198341	SBP A	0.81	5.68E-16	0.54	0.23	0.42	1.06E-01	5.96E-01	1.09E-01	2.88E-01	0.87	2.30E-01	0.76	3.83E-16
Hoffmann	rs7980687	12	123822711	DBP G	0.20	1.70E-11	0.21	0.20	0.21	2.92E-01	4.39E-01	1.93E-01	9.30E-01	1.00	6.02E-01	0.21	1.93E-01
Hoffmann	rs530280439	12	127031062	PP C	-17.47	4.80E-09	-0.40	3.59	2.75	9.58E-01	3.64E-01	4.34E-01	1.00E+00	1.00	1.00E+00	2.75	4.34E-01
Hoffmann	rs63418562	13	30146201	SBP C	0.31	8.90E-09	-0.27	0.54	0.04	3.29E-01	1.30E-01	8.64E-01	1.00E+00	0.68	1.00E+00	0.04	8.64E-01
Hoffmann	rs63418562	13	30146201	DBP C	0.24	1.10E-11	-0.13	0.32	0.04	4.54E-01	1.45E-01	7.46E-01	1.00E+00	0.83	1.00E+00	0.04	7.46E-01
Hoffmann	rs9565436	13	36213631	SBP A	-0.30	2.60E-08	-0.47	0.10	-0.21	2.31E-01	8.12E-01	4.72E-01	8.26E-01	1.00	8.62E-01	-0.21	4.72E-01
Hoffmann	rs9565436	13	36213631	PP A	-0.20	6.20E-08	-0.35	0.06	-0.16	1.71E-01	8.22E-01	3.98E-01	7.22E-01	1.00	8.71E-01	-0.16	3.98E-01
Hoffmann	rs7989823	13	110959643	DBP A	-0.15	5.60E-09	-0.03	-0.05	-0.04	8.63E-01	8.19E-01	7.80E-01	1.00E+00	1.00	1.00E+00	-0.04	7.80E-01
Hoffmann	rs3011549	13	113634937	SBP A	0.33	1.20E-11	0.16	-0.19	0.04	5.65E-01	6.17E-01	8.76E-01	1.00E+00	1.00	1.00E+00	0.04	8.76E-01
Hoffmann	rs3011549	13	113634937	DBP A	0.14	2.50E-06	0.11	0.03	0.08	5.15E-01	9.00E-01	5.58E-01	1.00E+00	1.00	1.00E+00	0.08	5.58E-01
Hoffmann	rs3011549	13	113634937	PP A	0.17	5.10E-08	0.08	-0.22	-0.03	6.69E-01	3.54E-01	8.27E-01	1.00E+00	1.00	1.00E+00	-0.03	8.27E-01
Hoffmann	rs3934939	13	114503990	DBP A	0.16	8.40E-09	0.00	-0.26	-0.10	9.95E-01	2.19E-01	4.47E-01	1.00E+00	1.00	1.00E+00	-0.10	4.47E-01
Hoffmann	rs9314907	13	115015163	SBP C	-0.29	1.30E-10	-0.09	-0.46	-0.28	8.13E-01	2.12E-01	2.90E-01	1.00E+00	0.87	7.05E-01	-0.28	2.90E-01
Hoffmann	rs9314907	13	115015163	DBP C	-0.12	9.90E-06	-0.13	-0.19	-0.16	5.87E-01	4.06E-01	3.31E-01	1.00E+00	0.99	7.79E-01	-0.16	3.31E-01
Hoffmann	rs9314907	13	115015163	PP C	-0.16	1.40E-07	0.05	-0.25	-0.11	8.56E-01	2.87E-01	5.17E-01	1.00E+00	0.86	9.48E-01	-0.11	5.17E-01
Hoffmann	rs12050260	14	23761094	SBP T	0.21	3.20E-07	0.08	-0.41	-0.12	7.66E-01	2.22E-01	5.84E-01	1.00E+00	1.00	1.00E+00	-0.12	5.84E-01
Hoffmann	rs12050260	14	23761094	PP T	0.19	1.60E-12	0.13	-0.12	0.03	4.83E-01	5.81E-01	8.55E-01	1.00E+00	1.00	1.00E+00	0.03	8.55E-01
Liu	rs452036	14	23865885	PP A	-0.27	2.40E-16	-0.32	-0.57	-0.45	1.34E-01	9.02E-03	3.93E-03	2.68E-01	0.07	3.14E-02	-0.28	6.31E-21

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs36226649	14	24835500	DBP T	-0.30	2.60E-09	0.75	-0.23	0.29	1.23E-01	6.55E-01	4.17E-01	1.00E+00	1.00	1.00E+00	0.29	4.17E-01
Hoffmann	rs8904	14	35871217	SBP G	-0.26	4.20E-11	0.20	0.23	0.22	5.09E-01	4.91E-01	3.44E-01	1.00E+00	1.00	1.00E+00	0.22	3.44E-01
Hoffmann	rs8904	14	35871217	PP G	-0.17	1.50E-10	-0.04	0.11	0.03	8.56E-01	6.05E-01	8.29E-01	1.00E+00	1.00	1.00E+00	0.03	8.29E-01
Hoffmann	rs7161323	14	53366149	SBP C	-0.28	5.70E-11	0.02	-0.53	-0.21	9.36E-01	1.32E-01	3.59E-01	1.00E+00	0.68	7.72E-01	-0.21	3.59E-01
Hoffmann	rs7161323	14	53366149	DBP C	-0.15	1.20E-08	0.11	-0.32	-0.07	5.53E-01	1.41E-01	6.07E-01	1.00E+00	0.83	1.00E+00	-0.07	6.07E-01
Hoffmann	rs7161323	14	53366149	PP C	-0.13	2.20E-06	-0.06	-0.21	-0.12	7.78E-01	3.51E-01	4.09E-01	1.00E+00	0.94	8.71E-01	-0.12	4.09E-01
Hoffmann	rs2215590	14	73297741	PP C	-0.16	1.80E-08	-0.03	0.01	-0.01	8.78E-01	9.68E-01	9.21E-01	1.00E+00	1.00	1.00E+00	-0.01	9.21E-01
Hoffmann	rs2244643	14	92359022	PP A	-0.22	4.00E-14	-0.19	-0.11	-0.15	3.23E-01	6.22E-01	2.86E-01	1.00E+00	1.00	7.77E-01	-0.15	2.86E-01
Hoffmann	rs367700296	14	98597422	PP G	-0.27	9.80E-09	-0.16	-0.17	-0.16	4.95E-01	4.65E-01	3.21E-01	1.00E+00	1.00	8.04E-01	-0.16	3.21E-01
Hoffmann	rs1475130	14	100225144	PP T	-0.17	6.90E-10	0.51	0.10	0.31	2.98E-02	6.60E-01	6.45E-02	1.00E+00	1.00	1.00E+00	0.31	6.45E-02
Hoffmann	rs937213	15	40322124	SBP T	0.26	1.60E-10	0.36	-0.22	0.09	3.27E-01	5.79E-01	7.38E-01	9.42E-01	1.00	1.00E+00	0.09	7.38E-01
Hoffmann	rs937213	15	40322124	DBP T	0.13	7.50E-08	0.26	-0.24	0.03	2.56E-01	3.26E-01	8.79E-01	8.98E-01	1.00	1.00E+00	0.03	8.79E-01
Hoffmann	rs937213	15	40322124	PP T	0.12	4.70E-06	0.09	0.00	0.05	7.12E-01	9.90E-01	7.80E-01	1.00E+00	1.00	1.00E+00	0.05	7.80E-01
Hoffmann	rs112925537	15	41334213	SBP A	-0.41	2.40E-10	-0.69	-0.40	-0.57	2.19E-02	2.48E-01	1.34E-02	3.46E-01	0.89	2.51E-01	-0.57	1.34E-02
Hoffmann	rs112925537	15	41334213	DBP A	-0.20	2.10E-08	-0.37	-0.18	-0.29	5.18E-02	4.13E-01	4.61E-02	5.12E-01	0.99	3.11E-01	-0.29	4.61E-02
Hoffmann	rs112925537	15	41334213	PP A	-0.20	8.40E-06	-0.36	-0.21	-0.30	6.43E-02	3.60E-01	4.67E-02	5.53E-01	0.95	3.10E-01	-0.30	4.67E-02
Hoffmann	rs4923910	15	42086340	DBP G	-0.18	3.50E-13	0.10	-0.05	0.04	5.62E-01	8.32E-01	7.54E-01	1.00E+00	1.00	1.00E+00	0.04	7.54E-01
Hoffmann	rs35654783	15	44018656	DBP T	0.17	1.30E-10	0.31	-0.12	0.13	1.01E-01	5.88E-01	3.77E-01	5.49E-01	1.00	8.01E-01	0.13	3.77E-01
Hoffmann	rs2899463	15	50938978	SBP T	0.19	5.80E-07	-0.03	0.38	0.14	9.25E-01	2.64E-01	5.27E-01	1.00E+00	0.89	8.78E-01	0.14	5.27E-01
Hoffmann	rs2899463	15	50938978	PP T	0.15	1.30E-09	-0.03	0.34	0.12	8.50E-01	1.18E-01	3.96E-01	1.00E+00	0.71	8.71E-01	0.12	3.96E-01
Hoffmann	rs956006	15	62808539	PP C	0.21	2.90E-15	0.17	0.68	0.37	3.67E-01	5.04E-03	1.51E-02	1.00E+00	0.25	2.72E-01	0.37	1.51E-02
Hoffmann	rs1027647	15	63374825	PP C	0.15	3.30E-09	0.07	0.42	0.22	7.34E-01	6.96E-02	1.50E-01	1.00E+00	0.53	5.31E-01	0.22	1.50E-01
Hoffmann	rs11638064	15	67460009	PP G	-0.17	1.70E-08	-0.62	-0.19	-0.45	1.36E-03	4.20E-01	2.74E-03	2.69E-01	1.00	1.91E-01	-0.45	2.74E-03

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
Hoffmann	rs117638970	15	69675605	DBP C	0.48	2.20E-08	-0.49	-0.51	-0.50	6.03E-01	5.73E-01	4.43E-01	1.00E+00	1.00	1.00E+00	-0.50	4.43E-01
Hoffmann	rs11631778	15	71606380	DBP G	-0.14	1.10E-08	-0.45	-0.19	-0.32	4.03E-02	3.80E-01	4.04E-02	5.12E-01	0.95	3.09E-01	-0.32	4.04E-02
Ehret '11	rs1378942	15	75077367	DBP C	0.42	2.70E-26	0.62	0.00	0.34	2.14E-03	9.98E-01	2.52E-02	2.07E-02	1.00	5.63E-02	0.41	2.48E-27
Ehret '11	rs1378942	15	75077367	SBP C	0.61	5.70E-23	0.29	0.15	0.23	3.61E-01	6.60E-01	3.40E-01	5.23E-01	1.00	4.93E-01	0.59	1.19E-22
Newton-Chen	rs1378942	15	75077367	DBP C	0.43	1.00E-23	0.62	0.00	0.34	2.14E-03	9.98E-01	2.52E-02	6.41E-03	1.00	7.57E-02	0.42	5.73E-28
Levy	rs6495122	15	75125645	DBP C	0.45	8.00E-07	-0.13	-0.27	-0.19	4.57E-01	2.02E-01	1.66E-01	1.00E+00	1.00	1.00E+00	0.26	6.37E-04
Hoffmann	rs62011052	15	79156983	PP T	-0.28	3.10E-15	-0.06	-0.06	-0.06	8.36E-01	8.56E-01	7.84E-01	1.00E+00	1.00	1.00E+00	-0.06	7.84E-01
Hoffmann	rs2759308	15	81016227	SBP G	-0.28	1.30E-12	0.16	-0.70	-0.24	6.29E-01	5.50E-02	3.50E-01	1.00E+00	0.56	7.72E-01	-0.24	3.50E-01
Hoffmann	rs2759308	15	81016227	DBP G	-0.14	9.00E-09	0.03	-0.24	-0.10	9.05E-01	2.96E-01	5.41E-01	1.00E+00	0.90	1.00E+00	-0.10	5.41E-01
Hoffmann	rs2759308	15	81016227	PP G	-0.14	2.60E-08	0.12	-0.46	-0.15	5.96E-01	5.20E-02	3.48E-01	1.00E+00	0.46	8.20E-01	-0.15	3.48E-01
Hoffmann	rs2034618	15	83799632	DBP C	0.19	2.00E-11	0.32	0.16	0.26	1.06E-01	5.02E-01	9.73E-02	5.49E-01	1.00	4.34E-01	0.26	9.73E-02
Hoffmann	rs734780	15	89564958	PP T	0.24	1.60E-08	0.06	0.15	0.09	7.55E-01	5.50E-01	5.42E-01	1.00E+00	1.00	9.50E-01	0.09	5.42E-01
Hoffmann	rs9708177	15	90649072	PP C	-0.27	4.30E-08	-0.05	-0.31	-0.16	8.85E-01	4.51E-01	5.52E-01	1.00E+00	1.00	9.58E-01	-0.16	5.52E-01
Ehret '11	rs2521501	15	91437388	DBP T	0.36	1.90E-15	0.60	0.35	0.47	1.30E-02	1.33E-01	5.19E-03	6.28E-02	0.39	1.67E-02	0.37	4.47E-17
Ehret '11	rs2521501	15	91437388	SBP T	0.65	5.20E-19	0.59	0.67	0.63	1.28E-01	7.59E-02	2.00E-02	3.36E-01	0.34	7.26E-02	0.65	3.37E-20
Hoffmann	rs12906962	15	95312071	DBP T	-0.16	1.30E-10	-0.13	-0.09	-0.11	4.99E-01	6.93E-01	4.43E-01	1.00E+00	1.00	8.69E-01	-0.11	4.43E-01
Hoffmann	rs4984497	15	96635899	DBP T	0.15	5.40E-09	0.31	-0.16	0.12	1.17E-01	5.16E-01	4.19E-01	5.60E-01	1.00	8.55E-01	0.12	4.19E-01
Hoffmann	rs139491786	16	2086421	SBP C	1.69	2.60E-07	2.07	2.23	2.12	4.77E-01	5.77E-01	3.66E-01	1.00E+00	1.00	7.77E-01	2.12	3.66E-01
Hoffmann	rs139491786	16	2086421	DBP C	1.16	1.20E-09	2.18	-0.05	1.40	2.29E-01	9.84E-01	3.37E-01	8.39E-01	1.00	7.81E-01	1.40	3.37E-01
Hoffmann	rs12596053	16	4946794	SBP A	-0.28	1.50E-12	-0.07	0.44	0.13	7.99E-01	2.04E-01	5.56E-01	1.00E+00	1.00	1.00E+00	0.13	5.56E-01
Hoffmann	rs12596053	16	4946794	DBP A	-0.16	9.60E-12	-0.12	0.24	0.03	5.12E-01	2.59E-01	8.40E-01	1.00E+00	1.00	1.00E+00	0.03	8.40E-01
Hoffmann	rs3915499	16	15910743	PP G	0.15	2.30E-08	0.36	0.19	0.28	1.00E-01	4.03E-01	7.88E-02	5.60E-01	1.00	4.40E-01	0.28	7.88E-02

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL <i>p</i> -value			FDR <sub>g</sub> <i>r</i> -value			all meta	
					beta	<i>p</i> -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	<i>p</i> -value
Hoffmann	rs9935770	16	21091291	SBP C	0.22	5.20E-09	0.50	0.54	0.52	7.25E-02	1.08E-01	1.63E-02	5.58E-01	0.66	2.51E-01	0.52	1.63E-02
Hoffmann	rs9935770	16	21091291	DBP C	0.11	1.90E-06	0.23	0.35	0.28	1.84E-01	9.76E-02	3.79E-02	7.43E-01	0.71	3.09E-01	0.28	3.79E-02
Hoffmann	rs200541	16	24733141	SBP A	-0.28	8.50E-09	-0.17	-0.61	-0.34	6.56E-01	1.91E-01	2.44E-01	1.00E+00	0.85	6.59E-01	-0.34	2.44E-01
Hoffmann	rs200541	16	24733141	PP A	-0.17	7.60E-08	-0.06	-0.36	-0.18	8.15E-01	2.26E-01	3.46E-01	1.00E+00	0.83	8.20E-01	-0.18	3.46E-01
Liu	rs11639856	16	24788645	SBP A	-0.34	1.30E-08	-0.23	-0.44	-0.32	5.35E-01	2.91E-01	2.47E-01	7.14E-01	0.72	4.77E-01	-0.34	7.32E-09
Hoffmann	rs72799341	16	30936743	DBP G	-0.16	3.70E-09	-0.43	0.00	-0.28	2.15E-02	9.98E-01	6.51E-02	3.57E-01	1.00	3.69E-01	-0.28	6.51E-02
Hoffmann	rs72799341	16	30936743	PP G	0.13	9.30E-06	0.17	-0.12	0.07	3.74E-01	6.51E-01	6.53E-01	1.00E+00	1.00	1.00E+00	0.07	6.53E-01
Hoffmann	rs56143613	16	56328811	PP A	0.28	1.50E-09	0.11	0.20	0.15	5.62E-01	4.26E-01	3.47E-01	1.00E+00	1.00	8.20E-01	0.15	3.47E-01
Hoffmann	rs56249585	16	65265702	SBP C	-0.37	5.20E-09	0.14	-0.20	-0.02	6.60E-01	5.51E-01	9.45E-01	1.00E+00	1.00	1.00E+00	-0.02	9.45E-01
Hoffmann	rs56249585	16	65265702	PP C	-0.34	6.10E-14	-0.05	0.10	0.02	8.23E-01	6.53E-01	8.84E-01	1.00E+00	1.00	1.00E+00	0.02	8.84E-01
Hoffmann	rs35261357	16	75444572	SBP C	-0.27	7.90E-12	-0.56	-0.66	-0.60	6.26E-02	5.53E-02	8.04E-03	5.44E-01	0.56	2.51E-01	-0.60	8.04E-03
Hoffmann	rs35261357	16	75444572	PP C	-0.22	6.40E-17	-0.19	-0.26	-0.22	3.45E-01	2.38E-01	1.38E-01	1.00E+00	0.83	5.06E-01	-0.22	1.38E-01
Hoffmann	rs12928482	16	81513871	SBP G	0.20	4.10E-06	0.08	0.09	0.08	7.87E-01	8.15E-01	7.20E-01	1.00E+00	1.00	1.00E+00	0.08	7.20E-01
Hoffmann	rs12928482	16	81513871	DBP G	0.15	1.90E-08	0.22	0.27	0.23	2.17E-01	2.61E-01	9.92E-02	8.32E-01	0.87	4.34E-01	0.23	9.92E-02
Hoffmann	rs7500448	16	83045790	DBP A	-0.14	6.50E-07	-0.38	-0.18	-0.29	9.62E-02	4.77E-01	8.67E-02	5.49E-01	1.00	4.15E-01	-0.29	8.67E-02
Hoffmann	rs7500448	16	83045790	PP A	0.30	3.30E-24	0.40	0.18	0.30	9.19E-02	4.92E-01	8.71E-02	5.60E-01	1.00	4.56E-01	0.30	8.71E-02
Hoffmann	rs460105	16	89682006	DBP T	0.18	3.60E-12	0.32	0.17	0.26	9.62E-02	4.35E-01	7.89E-02	5.49E-01	1.00	4.02E-01	0.26	7.89E-02
Liu	rs1126464	16	89704365	DBP C	0.24	2.40E-13	0.33	0.39	0.35	6.79E-02	1.45E-01	2.04E-02	3.17E-01	0.51	1.43E-01	0.24	1.04E-16
Hoffmann	rs34457140	17	1353920	SBP T	-0.18	2.30E-06	-0.37	-0.56	-0.45	1.87E-01	1.04E-01	4.10E-02	8.13E-01	0.66	3.67E-01	-0.45	4.10E-02
Hoffmann	rs34457140	17	1353920	PP T	-0.16	3.00E-10	-0.07	-0.26	-0.15	7.00E-01	2.45E-01	3.00E-01	1.00E+00	0.83	7.93E-01	-0.15	3.00E-01
Hoffmann	rs9303241	17	1978963	SBP T	0.20	1.90E-07	0.40	-0.03	0.22	1.85E-01	9.34E-01	3.43E-01	8.13E-01	1.00	7.72E-01	0.22	3.43E-01
Hoffmann	rs9303241	17	1978963	PP T	0.16	1.00E-09	0.04	0.02	0.03	8.32E-01	9.34E-01	8.32E-01	1.00E+00	1.00	1.00E+00	0.03	8.32E-01
Hoffmann	rs67833703	17	3888437	DBP C	-0.15	1.10E-08	-0.15	-0.06	-0.11	4.36E-01	7.65E-01	4.37E-01	1.00E+00	1.00	8.69E-01	-0.11	4.37E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs7226020	17	6473828	SBP T	-0.22	1.10E-07	-0.09	-0.16	-0.12	7.55E-01	6.42E-01	5.95E-01	1.00E+00	1.00	9.46E-01	-0.12	5.95E-01
Hoffmann	rs7226020	17	6473828	PP T	-0.23	2.10E-17	-0.05	-0.46	-0.22	7.91E-01	3.53E-02	1.24E-01	1.00E+00	0.44	4.96E-01	-0.22	1.24E-01
Hoffmann	rs78378222	17	7571752	DBP T	-0.64	1.00E-08	-2.96	2.65	-0.56	7.80E-02	1.73E-01	6.59E-01	5.49E-01	1.00	1.00E+00	-0.56	6.59E-01
Hoffmann	rs78378222	17	7571752	PP T	0.88	4.30E-13	1.43	1.99	1.66	4.13E-01	3.31E-01	2.10E-01	1.00E+00	0.94	6.11E-01	1.66	2.10E-01
Hoffmann	rs35565381	17	16175025	DBP T	-0.14	3.30E-09	0.37	0.06	0.25	3.39E-02	7.75E-01	6.90E-02	1.00E+00	1.00	1.00E+00	0.25	6.90E-02
Newton-Chen	rs12946454	17	43208121	SBP T	0.57	1.00E-08	-0.14	0.74	0.26	7.09E-01	6.79E-02	3.43E-01	1.00E+00	0.14	3.43E-01	0.53	1.35E-08
Hoffmann	rs115231027	17	44199290	SBP T	-0.33	7.60E-07	-0.13	0.13	0.01	8.44E-01	8.32E-01	9.88E-01	1.00E+00	1.00	1.00E+00	0.01	9.88E-01
Hoffmann	rs115231027	17	44199290	PP T	-0.24	2.90E-08	-0.38	-0.02	-0.19	3.74E-01	9.59E-01	5.18E-01	1.00E+00	1.00	9.48E-01	-0.19	5.18E-01
Ehret '11	rs17608766	17	45013271	DBP T	-0.13	1.70E-02	-0.06	0.52	0.24	8.71E-01	1.62E-01	3.78E-01	1.00E+00	1.00	1.00E+00	-0.11	3.04E-02
Ehret '11	rs17608766	17	45013271	SBP T	-0.56	1.10E-10	-0.27	0.09	-0.09	6.58E-01	8.83E-01	8.37E-01	7.95E-01	1.00	9.76E-01	-0.54	1.92E-10
Ehret '11	rs12940887	17	47402807	DBP T	0.27	2.30E-14	0.17	0.03	0.10	4.71E-01	9.11E-01	5.57E-01	5.89E-01	1.00	6.46E-01	0.26	3.27E-14
Ehret '11	rs12940887	17	47402807	SBP T	0.36	1.80E-10	0.13	-0.03	0.05	7.32E-01	9.47E-01	8.46E-01	8.49E-01	1.00	9.76E-01	0.35	3.43E-10
Newton-Chen	rs16948048	17	47440466	DBP G	0.31	5.00E-09	0.08	0.14	0.11	7.26E-01	5.09E-01	4.76E-01	7.64E-01	1.00	7.14E-01	0.29	9.47E-10
Hoffmann	rs2645466	17	57853214	PP A	-0.15	3.00E-08	0.03	0.25	0.12	8.95E-01	2.61E-01	3.99E-01	1.00E+00	1.00	1.00E+00	0.12	3.99E-01
Liu	rs8068318	17	59483766	DBP C	-0.26	3.00E-18	0.02	-0.18	-0.06	9.09E-01	4.02E-01	6.48E-01	1.00E+00	0.80	1.00E+00	-0.25	1.04E-17
Kato	rs2240736	17	59485393	MAPT	0.35	2.20E-16	0.06	0.40	0.20	7.73E-01	1.06E-01	2.11E-01	1.00E+00	0.16	3.17E-01	0.34	1.52E-18
Hoffmann	rs4295	17	61556298	SBP C	0.24	1.20E-08	0.08	0.25	0.16	7.82E-01	4.66E-01	4.98E-01	1.00E+00	1.00	8.65E-01	0.16	4.98E-01
Hoffmann	rs4295	17	61556298	DBP C	0.14	4.20E-08	0.38	0.38	0.38	4.53E-02	7.58E-02	7.83E-03	5.12E-01	0.62	2.00E-01	0.38	7.83E-03
Hoffmann	rs7225219	17	62407559	SBP T	-0.25	2.50E-09	-0.55	-0.41	-0.50	8.61E-02	3.23E-01	5.02E-02	5.63E-01	0.94	4.02E-01	-0.50	5.02E-02
Hoffmann	rs7225219	17	62407559	PP T	-0.14	7.80E-07	-0.36	-0.23	-0.31	8.92E-02	3.95E-01	6.35E-02	5.60E-01	1.00	3.93E-01	-0.31	6.35E-02
Hoffmann	rs4788913	17	73950216	SBP G	-0.28	1.80E-12	-0.73	0.28	-0.30	1.62E-02	4.29E-01	1.92E-01	3.46E-01	1.00	6.58E-01	-0.30	1.92E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HC/HS/SOL beta			HC/HS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Hoffmann	rs4788913	17	73950216	DBP G	-0.12	7.50E-07	-0.33	0.42	-0.01	8.33E-02	5.44E-02	9.65E-01	5.49E-01	1.00	1.00E+00	-0.01	9.65E-01
Hoffmann	rs4788913	17	73950216	PP G	-0.15	8.40E-09	-0.41	-0.15	-0.30	3.78E-02	5.10E-01	4.70E-02	5.44E-01	1.00	3.10E-01	-0.30	4.70E-02
Hoffmann	rs8073626	17	76790279	SBP C	0.22	1.40E-08	0.25	-0.03	0.14	3.65E-01	9.26E-01	5.22E-01	9.55E-01	1.00	8.78E-01	0.14	5.22E-01
Hoffmann	rs8073626	17	76790279	PP C	0.12	1.80E-06	0.04	-0.22	-0.07	8.34E-01	3.21E-01	6.35E-01	1.00E+00	1.00	1.00E+00	-0.07	6.35E-01
Levy	rs8096897	18	13438905	SBP G	-12.87	3.20E-08	-3.34	0.04	-0.87	2.69E-02	9.69E-01	2.67E-01	2.16E-01	1.00	4.01E-01	-2.10	4.81E-03
Hoffmann	rs61735998	18	34289285	PP G	-0.52	2.40E-08	0.23	1.01	0.61	8.88E-01	5.37E-01	5.94E-01	1.00E+00	1.00	1.00E+00	0.61	5.94E-01
Hoffmann	rs12606620	18	42008097	SBP G	0.29	2.50E-12	-0.15	0.13	-0.04	6.04E-01	7.18E-01	8.59E-01	1.00E+00	1.00	1.00E+00	-0.04	8.59E-01
Hoffmann	rs12606620	18	42008097	PP G	0.23	1.50E-16	0.13	0.03	0.09	4.86E-01	9.10E-01	5.41E-01	1.00E+00	1.00	9.50E-01	0.09	5.41E-01
Ehret '16	rs12958173	18	42141977	SBP A	0.36	1.43E-13	0.68	-0.24	0.25	4.83E-02	5.12E-01	3.16E-01	3.36E-01	1.00	5.86E-01	0.36	9.59E-14
Ehret '16	rs12958173	18	42141977	DBP A	0.18	5.87E-10	0.27	-0.18	0.06	2.15E-01	4.23E-01	7.17E-01	6.58E-01	1.00	1.00E+00	0.17	7.56E-10
Hoffmann	rs2193635	18	43096236	SBP C	-0.27	1.60E-08	-0.50	-0.19	-0.38	9.14E-02	6.16E-01	1.03E-01	5.76E-01	1.00	6.36E-01	-0.38	1.03E-01
Hoffmann	rs2193635	18	43096236	PP C	-0.32	9.30E-24	-0.48	-0.27	-0.40	1.41E-02	2.78E-01	9.64E-03	5.44E-01	0.86	2.36E-01	-0.40	9.64E-03
Hoffmann	rs36010659	18	48283949	SBP T	0.28	3.20E-07	0.29	-0.01	0.17	4.67E-01	9.86E-01	5.89E-01	1.00E+00	1.00	9.44E-01	0.17	5.89E-01
Hoffmann	rs36010659	18	48283949	PP T	0.25	4.00E-12	0.37	0.14	0.27	1.61E-01	6.45E-01	1.74E-01	7.10E-01	1.00	5.77E-01	0.27	1.74E-01
Hoffmann	rs183335240	18	59096824	DBP A	2.31	1.30E-08	-5.69	-9.90	-8.42	3.23E-01	1.90E-02	1.34E-02	1.00E+00	1.00	1.00E+00	-8.42	1.34E-02
Liu	rs2302061	19	2226772	PP C	0.29	2.20E-10	-0.15	0.31	0.06	5.41E-01	2.53E-01	7.43E-01	1.00E+00	0.34	9.90E-01	0.27	1.30E-08
Kato	rs740406	19	2232221	PP A	0.55	3.10E-15	-0.00	-0.28	-0.13	9.87E-01	3.64E-01	5.36E-01	1.00E+00	1.00	1.00E+00	0.48	4.69E-13
Liu	rs7248104	19	7224431	PP A	-0.20	2.60E-10	0.18	-0.30	-0.02	3.33E-01	1.71E-01	8.87E-01	1.00E+00	0.34	1.00E+00	-0.19	5.55E-11
Ehret '16	rs4247374	19	7252756	SBP T	-0.59	1.23E-18	-0.69	-0.08	-0.38	2.47E-01	8.90E-01	3.63E-01	5.35E-01	1.00	5.91E-01	-0.59	8.90E-19
Ehret '16	rs4247374	19	7252756	DBP T	-0.39	2.08E-22	-0.42	-0.36	-0.39	2.53E-01	3.20E-01	1.33E-01	6.58E-01	0.69	4.71E-01	-0.39	7.36E-23
Hoffmann	rs10427021	19	7259346	SBP T	0.51	9.50E-19	1.11	-0.15	0.41	3.24E-02	7.43E-01	2.36E-01	4.17E-01	1.00	6.58E-01	0.41	2.36E-01
Hoffmann	rs10427021	19	7259346	DBP T	0.34	4.50E-22	0.63	0.31	0.45	5.36E-02	2.88E-01	3.83E-02	5.12E-01	0.90	3.09E-01	0.45	3.83E-02
Hoffmann	rs200688233	19	10372360	PP G	-0.31	3.90E-08	-0.06	0.24	0.09	8.62E-01	4.85E-01	7.01E-01	1.00E+00	1.00	1.00E+00	0.09	7.01E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL p-value			FDR <sub>g</sub> r-value			all meta	
					beta	p-value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	p-value
Liu	rs167479	19	11526765	DBP T	-0.30	4.20E-28	0.26	-0.18	0.07	2.51E-01	4.89E-01	6.83E-01	1.00E+00	0.86	1.00E+00	-0.29	1.31E-22
Hoffmann	rs167479	19	11526765	SBP G	0.41	1.60E-21	-0.60	0.75	-0.02	1.05E-01	7.64E-02	9.50E-01	1.00E+00	0.65	1.00E+00	-0.02	9.50E-01
Hoffmann	rs167479	19	11526765	DBP G	0.25	4.30E-22	-0.26	0.18	-0.07	2.51E-01	4.89E-01	6.83E-01	1.00E+00	1.00	1.00E+00	-0.07	6.83E-01
Hoffmann	rs167479	19	11526765	PP G	0.18	3.20E-08	-0.32	0.57	0.07	1.87E-01	3.56E-02	6.90E-01	1.00E+00	0.44	1.00E+00	0.07	6.90E-01
Hoffmann	rs10418305	19	15278808	PP C	-0.33	3.50E-16	-0.40	-0.47	-0.42	5.91E-02	1.40E-01	1.73E-02	5.44E-01	0.74	2.86E-01	-0.42	1.73E-02
Hoffmann	rs4808569	19	17218970	SBP C	0.23	1.30E-06	0.51	0.40	0.46	2.18E-01	4.12E-01	1.45E-01	8.26E-01	1.00	6.36E-01	0.46	1.45E-01
Hoffmann	rs4808569	19	17218970	DBP C	0.16	4.50E-08	0.24	0.19	0.22	3.48E-01	5.31E-01	2.66E-01	9.87E-01	1.00	6.68E-01	0.22	2.66E-01
Hoffmann	rs8103992	19	19665643	PP A	0.20	9.50E-10	-0.35	0.29	-0.02	2.00E-01	2.67E-01	9.15E-01	1.00E+00	0.85	1.00E+00	-0.02	9.15E-01
Hoffmann	rs34331990	19	30321561	DBP T	-0.15	2.80E-10	-0.22	0.01	-0.12	2.58E-01	9.69E-01	4.13E-01	8.98E-01	1.00	8.55E-01	-0.12	4.13E-01
Hoffmann	rs8105753	19	31927547	SBP A	0.25	3.60E-10	-0.05	-0.04	-0.05	8.56E-01	9.12E-01	8.32E-01	1.00E+00	1.00	1.00E+00	-0.05	8.32E-01
Hoffmann	rs8105753	19	31927547	DBP A	0.14	1.90E-08	-0.19	0.11	-0.08	2.69E-01	6.32E-01	5.65E-01	1.00E+00	1.00	1.00E+00	-0.08	5.65E-01
Hoffmann	rs4803457	19	41861359	PP T	0.15	1.50E-08	-0.13	0.03	-0.06	4.76E-01	8.81E-01	6.50E-01	1.00E+00	1.00	1.00E+00	-0.06	6.50E-01
Hoffmann	rs1887320	20	10573001	PP C	0.37	1.10E-09	0.12	-0.82	-0.48	8.08E-01	2.88E-02	1.13E-01	1.00E+00	1.00	1.00E+00	0.34	1.52E-08
HMG	rs1887320	20	10965998	DBP A	0.43	2.13E-08	0.52	0.64	0.57	1.31E-02	2.62E-03	1.16E-04	6.23E-02	0.03	1.11E-03	0.46	5.44E-11
HMG	rs1887320	20	10965998	SBP A	0.78	1.48E-08	1.26	0.78	1.02	1.53E-04	2.27E-02	1.94E-05	2.90E-03	0.14	1.48E-03	0.84	3.25E-12
Hoffmann	rs2104574	20	10968891	PP C	-0.13	2.20E-05	-0.72	-0.16	-0.43	7.02E-03	5.38E-01	2.01E-02	5.44E-01	1.00	3.10E-01	-0.14	5.04E-06
Hoffmann	rs2104574	20	10968891	DBP C	-0.23	4.00E-16	-0.62	-0.30	-0.46	1.42E-02	2.38E-01	1.08E-02	3.26E-01	0.87	2.07E-01	-0.24	3.29E-17
Ehret '11	rs1327235	20	10969030	DBP G	0.30	1.40E-15	0.54	0.66	0.60	9.72E-03	1.77E-03	6.07E-05	5.63E-02	0.01	6.85E-04	0.32	2.62E-18
Ehret '11	rs1327235	20	10969030	SBP G	0.34	1.90E-08	1.26	0.80	1.03	1.42E-04	1.92E-02	1.50E-05	4.80E-03	0.14	4.80E-03	0.38	7.47E-11
Hoffmann	rs3790227	20	19469002	PP C	-0.22	3.00E-15	-0.40	-0.66	-0.50	3.09E-02	3.47E-03	4.52E-04	5.44E-01	0.23	8.95E-02	-0.50	4.52E-04
Hoffmann	rs369386096	20	23502129	DBP C	-9.79	3.60E-08	-42.97	-11.94	-12.61	6.38E-01	3.79E-01	3.48E-01	1.00E+00	0.95	7.82E-01	-12.61	3.48E-01
Hoffmann	rs6060114	20	30169673	SBP T	0.26	1.70E-06	0.25	0.35	0.30	5.33E-01	3.56E-01	2.76E-01	1.00E+00	0.95	6.91E-01	0.30	2.76E-01
Hoffmann	rs6060114	20	30169673	DBP T	0.24	6.50E-13	0.17	0.32	0.25	4.99E-01	1.73E-01	1.51E-01	1.00E+00	0.83	5.47E-01	0.25	1.51E-01



Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					beta	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	$p$ -value
Hoffmann	rs2424908	20	31360383	PP C	-0.19	4.50E-10	0.04	-0.48	-0.16	8.24E-01	4.36E-02	2.91E-01	1.00E+00	0.44	7.77E-01	-0.16	2.91E-01
Hoffmann	rs6129880	20	40251829	SBP T	0.26	2.10E-08	0.44	0.27	0.38	1.26E-01	4.65E-01	1.01E-01	6.50E-01	1.00	6.36E-01	0.38	1.01E-01
Hoffmann	rs6129880	20	40251829	DBP T	0.17	2.10E-09	0.08	0.04	0.07	6.38E-01	8.48E-01	6.32E-01	1.00E+00	1.00	1.00E+00	0.07	6.32E-01
Hoffmann	rs6031435	20	42797358	SBP A	-0.21	2.40E-08	-0.88	-0.14	-0.55	4.52E-03	6.76E-01	1.81E-02	3.46E-01	1.00	2.56E-01	-0.55	1.81E-02
Hoffmann	rs6031435	20	42797358	PP A	-0.17	2.80E-11	-0.54	-0.10	-0.34	7.82E-03	6.45E-01	2.46E-02	5.16E-01	1.00	3.10E-01	-0.34	2.46E-02
Hoffmann	rs6019378	20	47309716	DBP C	0.16	1.80E-11	0.17	-0.07	0.07	3.34E-01	7.22E-01	6.06E-01	9.65E-01	1.00	1.00E+00	0.07	6.06E-01
Ehret '11	rs6015450	20	57751117	DBP G	0.56	5.60E-23	0.26	-0.19	0.00	4.88E-01	5.61E-01	9.90E-01	5.89E-01	1.00	1.00E+00	0.53	6.62E-22
Ehret '11	rs6015450	20	57751117	SBP G	0.90	3.90E-23	0.79	-0.70	-0.07	1.87E-01	1.73E-01	8.68E-01	3.82E-01	1.00	1.00E+00	0.85	6.85E-22
Hoffmann	rs6090040	20	62692060	SBP A	0.27	1.40E-09	0.36	0.86	0.59	2.39E-01	1.06E-02	1.01E-02	8.30E-01	0.45	2.51E-01	0.59	1.01E-02
Hoffmann	rs6090040	20	62692060	PP A	0.15	2.60E-07	-0.05	0.27	0.10	8.21E-01	2.09E-01	4.96E-01	1.00E+00	0.83	9.48E-01	0.10	4.96E-01
Hoffmann	rs13050325	21	16343812	SBP A	-0.26	5.50E-09	-0.52	-0.54	-0.53	7.55E-02	1.71E-01	2.49E-02	5.58E-01	0.82	3.02E-01	-0.53	2.49E-02
Hoffmann	rs13050325	21	16343812	PP A	-0.15	6.90E-07	-0.17	-0.39	-0.25	3.91E-01	1.30E-01	1.10E-01	1.00E+00	0.73	4.96E-01	-0.25	1.10E-01
Hoffmann	rs57448815	21	30123533	PP A	-0.23	6.00E-09	0.20	-0.92	-0.38	4.60E-01	4.30E-04	4.53E-02	1.00E+00	0.05	3.10E-01	-0.38	4.53E-02
Hoffmann	rs11701033	21	33788341	SBP C	-0.25	3.20E-07	-0.58	0.27	-0.30	6.72E-02	5.43E-01	2.54E-01	5.44E-01	1.00	6.61E-01	-0.30	2.54E-01
Hoffmann	rs11701033	21	33788341	PP C	-0.18	5.70E-08	-0.29	0.17	-0.13	1.66E-01	5.48E-01	4.40E-01	7.15E-01	1.00	9.04E-01	-0.13	4.40E-01
Hoffmann	rs117870289	21	39983448	DBP C	0.54	1.00E-06	-0.55	0.73	0.11	7.80E-01	6.99E-01	9.35E-01	1.00E+00	1.00	1.00E+00	0.11	9.35E-01
Hoffmann	rs117870289	21	39983448	PP C	-0.73	2.40E-09	-1.79	-1.43	-1.61	3.78E-01	4.73E-01	2.59E-01	1.00E+00	1.00	7.12E-01	-1.61	2.59E-01
Hoffmann	rs112204826	21	44721027	SBP C	-0.60	5.00E-07	-0.70	-0.32	-0.51	5.15E-01	7.62E-01	5.00E-01	1.00E+00	1.00	8.65E-01	-0.51	5.00E-01
Hoffmann	rs112204826	21	44721027	DBP C	-0.40	2.70E-08	-0.98	-0.22	-0.59	1.43E-01	7.34E-01	2.05E-01	6.21E-01	1.00	6.02E-01	-0.59	2.05E-01
Ehret '16	rs12627651	21	44760603	SBP A	0.39	2.69E-14	-0.30	0.57	0.04	3.45E-01	1.47E-01	8.70E-01	1.00E+00	0.64	1.00E+00	0.38	7.13E-14
Ehret '16	rs12627651	21	44760603	DBP A	0.20	1.36E-11	-0.14	-0.15	-0.14	4.78E-01	5.29E-01	3.46E-01	1.00E+00	1.00	1.00E+00	0.19	1.05E-10
Hoffmann	rs8139817	22	18468369	DBP A	-0.14	3.80E-08	0.12	-0.21	-0.05	6.00E-01	3.38E-01	7.43E-01	1.00E+00	0.92	1.00E+00	-0.05	7.43E-01
Hoffmann	rs2012714	22	19977647	SBP C	-0.22	1.30E-06	-0.08	-0.16	-0.11	7.82E-01	6.48E-01	6.16E-01	1.00E+00	1.00	9.69E-01	-0.11	6.16E-01

Table S8: Generalization of previously reported loci associated with quantitative BP traits.

Ref	rsID	chr	position	trait A1	discovery		HCHS/SOL beta			HCHS/SOL $p$ -value			FDR <sub>g</sub> $r$ -value			all meta	
					beta	$p$ -value	Main	Carib	All	Main	Carib	All	Main	Carib	All	beta	$p$ -value
Hoffmann	rs2012714	22	19977647	PP C	-0.18	2.80E-09	0.08	-0.28	-0.07	6.81E-01	2.25E-01	6.53E-01	1.00E+00	0.83	1.00E+00	-0.07	6.53E-01
Hoffmann	rs34887403	22	29151150	SBP G	-0.30	3.10E-08	0.69	-0.34	0.17	1.77E-01	5.02E-01	6.35E-01	1.00E+00	1.00	1.00E+00	0.17	6.35E-01
Liu	rs4823006	22	29451671	SBP G	-0.26	7.90E-09	-0.36	0.04	-0.20	1.96E-01	9.06E-01	3.58E-01	3.93E-01	1.00	4.77E-01	-0.26	1.34E-07
Hoffmann	rs12485003	22	40635276	PP G	-0.33	4.60E-13	-0.08	-0.51	-0.17	6.78E-01	1.80E-01	3.30E-01	1.00E+00	0.82	8.09E-01	-0.17	3.30E-01

## 5 Replication studies

### 5.1 COGENT

The Continental Origins and Genetic Epidemiology Network Blood Pressure (COGENT-BP) is a consortium of African American and African studies that was brought together with the goal of identifying genetic loci that account for the increased risk of hypertension in populations of African descent (Franceschini et al., 2013). Standardized protocols for phenotype harmonization and for statistical analyses have been previously described (Franceschini et al., 2013). For the replication of HCHS/SOL findings, we used data from 31,968 individuals from 19 African American studies and two Nigeria cohorts, which have imputed genotypes from Phase 1 integrated (March 2012 release) multi-ethnic reference panel from the 1000 Genomes Project (1KG) Consortium 1 (1000 Genomes Project Consortium, 2012). Participating studies:

### 5.2 WHI

WHI is a long-term national health study that focuses on strategies for preventing common diseases such as heart disease, cancer and fracture in postmenopausal women. A total of 161,838 women aged 50-79 years old were recruited from 40 clinical centers in the US between 1993 and 1998. WHI consists of an observational study, two clinical trials of postmenopausal hormone therapy (estrogen alone or estrogen plus progestin), a calcium and vitamin D supplement trial, and a dietary modification trial (Hays et al., 2003). Demographic data, medical history and anthropometric measures were obtained at a baseline clinical visit. BP was measured by certified staff using standardized procedures and instruments (Hsia et al., 2007). Two BP measures were recorded after 5 minutes rest using a mercury sphygmomanometer. Diastolic BP was taken from the phase V Korotkoff measures. The average of the two measurements, obtained 30 seconds apart, was used in analyses. Women were asked to bring all of their current prescription and over-the-counter medications to each visit. The WHI European ancestry samples included two studies: GARNET (N=4,279, genotyped using the Illumina HumanOmni1-Quad v1-0 B) and WHIMS (N=5,478, HumanOmniExpressExome-8v1.B), already imputed to 1000G reference panels.

### 5.3 UK Biobank

The UK Biobank (UKB) is a prospective cohort study including  $\sim 500,000$  male and female consenting volunteers aged 40-69 years ascertained through NHS registers (Allen et al., 2012). Data includes extensive baseline phenotypic measurements, stored biological samples (Elliott and Peakman, 2008), and follow-up by electronic health record linkage (Sudlow et al., 2015). Two clinic blood pressure measurements are taken seated after two minutes rest using an appropriate cuff and an Omron HEM-7015IT digital blood pressure monitor. Interim data are available for 152,249 UKB participants:  $\sim 100k$  individuals from UKB genotyped at  $\sim 800,000$  single nucleotide variants (SNVs) with a custom Affymetrix UK Biobank Axiom Array chip and  $\sim 50k$  individuals genotyped with a custom Affymetrix UK BiLEVE Axiom Array chip from the UK BiLEVE study (Wain et al., 2015), a subset of UKB. The two arrays overlap with over 95% of SNVs content in common. SNVs were imputed centrally by UKB using a merged UK10K sequencing +1000G imputation reference panel, yielding a total of  $\sim 73$  million autosomal genetic variants available for analysis (Huang et al., 2015). Initial Quality Control (QC) of the genetic data was performed centrally by UK Biobank (Biobank, 2015). Further details are available at the UK Biobank website: [www.ukbiobank.ac.uk](http://www.ukbiobank.ac.uk). As further QC, we excluded discordant SNVs and samples with QC failures, gender discordance and high heterozygosity/missingness. We further restricted our data to a subset of individuals of European ancestry, by applying kmeans clustering to the Principal Component Analysis (PCA) data provided, with a total of  $N=145,315$  Europeans remaining. We used the provided kinship data to exclude 1st and 2nd degree relatives, with  $N=141,647$  unrelated individuals remaining. Finally we restricted our data to non-pregnant individuals with two automated BP measurements available, resulting in a maximum of  $N=140,886$  unrelated individuals of European ancestry for analysis. After calculating the mean SBP and DBP values from the two BP measurements, we adjusted for medication use by adding 15 and 10 mmHg to SBP and DBP, respectively, for individuals reported to be taking BP-lowering medication (21.4% of individuals). PP is calculated as  $SBP - DBP$ . We carried out GWAS analyses of (untransformed) medication-adjusted systolic (SBP), diastolic (DBP) and pulse pressure (PP) traits using single-variant linear regression in dosage format using SNPTEST software (Marchini et al., 2007) under an additive genetic model. Each analysis included the following covariates: sex, age,  $age^2$ , body

mass index, top ten PCs and a binary indicator variable for UK Biobank vs UK BiLEVE to adjust for the different genotyping chips. Further details of the QC and GWAS analyses we performed have been described previously (Warren et al., 2017).

### **5.3.1 UK Biobank replication acknowledgements**

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This research has been conducted using the UK Biobank Resource under Application Number 236.

trait	rsID	Chr	position	A1	A2	HCHS/SOL		WHI		Biobank		EA meta				
						EAF	beta	p-value	EAF	beta	p-value	EAF	beta	p-value	beta	p-value
SBP	rs143503553	5	159593663	G	C	0.01	7.99	5.94E-08	0.01	-0.18	9.40E-01	0.01	0.44	3.51E-01	0.42	3.70E-01
SBP	rs9366626*	6	25684953	G	A	0.55	1.18	8.75E-08	0.6	-0.35	1.10E-01	0.61	-0.14	4.02E-02	-0.16	1.50E-02
MAP	rs9366626*	6	25684953	G	A	0.55	0.79	3.04E-07	0.6	-0.31	2.00E-02	NA	NA	NA	-0.31	2.25E-02
DBP		10	84135292	CA	C	0.3	0.94	7.05E-09	NA	NA	NA	0.16	0.06	3.15E-01	0.06	3.15E-01
MAP	rs7909484*	10	84206002	T	C	0.4	0.68	1.50E-05	0.77	0.15	3.40E-01	NA	NA	NA	0.15	3.37E-01
DBP	rs7909484*	10	84206002	T	C	0.4	0.6	1.55E-05	0.26	0.1	4.20E-01	0.22	-0.01	8.70E-01	0.01	8.97E-01
SBP	rs73156692	12	101608695	A	G	0.16	1.65	5.44E-08	0.24	0.52	4.00E-02	0.25	0.18	2.84E-02	0.21	7.05E-03
PP	rs117386367	17	53098512	A	G	0.01	5.01	7.61E-08	0.01	-0.14	9.50E-01	<0.01	-0.1	8.10E-01	-0.1	8.05E-01

Table S9: Replication results in the two studies of European ancestry (WHI and Biobank), and their meta-analysis. SNPs marked with an asterisk are secondary variants (not the lead HCHS/SOL SNPs in their region).

## 5.4 1982 Pelotas Birth Cohort Study

Characteristics of the genotyped participants from the 1982 Pelotas Birth Cohort Study (Victora and Barros, 2006; Horta et al., 2015) are provided in Table S10. Genotyping was performed on an Illumina HumanOmni2.5-8v1 array. For quality control, SNPs excluded if their call rate was  $< 95\%$ , their Hardy-Weinberg  $P < 1 \times 10^{-7}$  or were monomorphic. Samples were excluded if there were sex mismatches (heterozygosity threshold 0.02), heterozygosity rate outside the range of  $\text{median} \pm 1.5 \times \text{IQR}$ , missingness  $> 3\%$  and cryptic relatedness ( $\text{kinship} > 0.1$ , as described elsewhere). Pre-phasing was done using SHAPEIT (Delaneau et al., 2013) and imputation using IMPUTE2 (Howie et al., 2009), with reference panel 1000 Genomes (1000 Genomes Project Consortium, 2012) Phase I integrated haplotypes - December 2013 release.

Characteristic	Measure
n	2764
Mean age (SD)	30.2 (0.3)
female sex	1422 (51.4%)
Mean BMI	27.0 (5.6)
Hypertension	329 (11.9%)
Mean SBP (SD)	121.3 (13.7)
Mean DBP (SD)	75.6 (9.4)
Mean MAP (SD)	60.4 (9.6)
Mean PP (SD)	45.7 (9.1)

Table S10: Sample characteristics of the Pelotas birth cohort study.

## 6 Reproducibility

All GWAS were performed and tracked by the Integrated Computing and Tracking (ICT) system (Stilp et al., 2017) at the HCHS/SOL genetic analysis center (GAC). The unique analysis IDs are provided in

Table S11.

Trait	Analysis ID - main analyses	Analysis ID - conditional analyses
DBP	s536935	s949424
SBP	s485005	s358622
MAP	s266973	s820826
PP	s246600	s174992
HT (stratified)	s930006	
HT (overall)	855289	

Table S11: Analysis IDs of the performed GWAS in the HCHS/SOL GAC tracking database. Conditional analysis used SNPs from multiple loci (SNPs rs2240736, rs1902859, rs11953630, and rs1799945) as additional covariates in the regression model. HT has different analysis ID for the overall analysis since stratified analyses could not be combined in meta-analysis when the outcome is binary and there are related individuals between the strata.

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