

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Aging	BoneAging	BUA	Bone Ultrasound attenuation measured by QUS, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001753">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001753</a>
Aging	BoneAging	deltaOSSR	Bone age by osseographic scoring system, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001787">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001787</a>
Aging	BoneAging	deltaOSSrf	Bone age by osseographic scoring system (Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001789">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001789</a>
Aging	BoneAging	deltaOSSrm	Bone age by osseographic scoring system (Men, multivariable adjusted)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001791">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001791</a>
Aging	BoneAging	FNBMd	Femoral Neck BMD measured by DXA, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001755">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001755</a>
Aging	BoneAging	FNBMdf	Femoral Neck BMD measured by DXA (Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001793">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001793</a>
Aging	BoneAging	FNBMdm	Femoral Neck BMD measured by DXA (Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001795">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001795</a>
Aging	BoneAging	ITAvgBR1rf	Hip geometry (IT BucklingRatio, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001797">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001797</a>
Aging	BoneAging	ITAvgBR1rm	Hip geometry (IT BucklingRatio, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001799">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001799</a>
Aging	BoneAging	ITAvgBRrf	Hip geometry (IT BucklingRatio, Women), age- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001801">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001801</a>
Aging	BoneAging	ITAvgBRrm	Hip geometry (IT BucklingRatio, Men), age- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001803">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001803</a>
Aging	BoneAging	LSBMD	Lumbar Spine BMD measured by DXA, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001757">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001757</a>
Aging	BoneAging	LSBMDf	Spine Neck BMD measured by DXA (Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001817">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001817</a>
Aging	BoneAging	LSBMDm	Spine Neck BMD measured by DXA (Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001819">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001819</a>
Aging	BoneAging	NeckCSMI	Hip geometry by DXA (Neck Moment of Inertia), age- and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001759">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001759</a>
Aging	BoneAging	NeckCSMI1	Hip geometry by DXA (Neck Moment of Inertia), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001761">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001761</a>
Aging	BoneAging	NeckLeng	Hip geometry by DXA (Neck Length), age- and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001763">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001763</a>
Aging	BoneAging	NeckLeng1	Hip geometry by DXA (Neck Length), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001765">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001765</a>
Aging	BoneAging	NeckLengf	Hip geometry (Neck Length, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001821">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001821</a>
Aging	BoneAging	NeckLengm	Hip geometry (Neck Length, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001823">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001823</a>
Aging	BoneAging	NeckW	Hip geometry by DXA (Neck Width), age- and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001767">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001767</a>
Aging	BoneAging	NeckW1	Hip geometry by DXA (Neck Width), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001769">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001769</a>
Aging	BoneAging	NeckW1rf	Hip geometry (Neck Width, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001825">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001825</a>
Aging	BoneAging	NeckW1rm	Hip geometry (Neck Width, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001827">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001827</a>
Aging	BoneAging	NeckWrf	Hip geometry (Neck Width, Women), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001829">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001829</a>
Aging	BoneAging	NeckWrm	Hip geometry (Neck Width, Men), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001831">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001831</a>
Aging	BoneAging	NeckZ	Hip geometry by DXA (Neck Section Modulus), age- and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001771">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001771</a>
Aging	BoneAging	NeckZ1	Hip geometry by DXA (Neck Section Modulus), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001773">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001773</a>
Aging	BoneAging	NeckZ1rf	Hip geometry (Neck Section Modulus, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001833">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001833</a>
Aging	BoneAging	NeckZ1rm	Hip geometry (Neck Section Modulus, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001835">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001835</a>
Aging	BoneAging	NeckZrf	Hip geometry (Neck Section Modulus, Women), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001837">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001837</a>
Aging	BoneAging	NeckZrm	Hip geometry (Neck Section Modulus, Men), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001839">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001839</a>
Aging	BoneAging	NNAvgBR1rf	Hip geometry (NN BucklingRatio, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001841">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001841</a>
Aging	BoneAging	NNAvgBR1rm	Hip geometry (NN BucklingRatio, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001843">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001843</a>
Aging	BoneAging	NNAvgBRrf	Hip geometry (NN BucklingRatio, Women), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001845">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001845</a>
Aging	BoneAging	NNAvgBRrm	Hip geometry (NN BucklingRatio, Men), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001847">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001847</a>
Aging	BoneAging	NNCSMI1rf	Hip geometry (Neck CSMI, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001849">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001849</a>
Aging	BoneAging	NNCSMI1rm	Hip geometry (Neck CSMI, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001851">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001851</a>
Aging	BoneAging	NNCSMIrf	Hip geometry (Neck CSMI, Women), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001853">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001853</a>
Aging	BoneAging	NNCSMIrm	Hip geometry (Neck CSMI, Men), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001855">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001855</a>
Aging	BoneAging	NSA	Hip geometry by DXA (Neck-Shaft Angle), age- and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001775">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001775</a>
Aging	BoneAging	NSA1	Hip geometry by DXA (Neck-Shaft Angle), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001777">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001777</a>
Aging	BoneAging	NSA1f	Hip geometry (Neck-Shaft Angle, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001857">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001857</a>
Aging	BoneAging	NSA1m	Hip geometry (Neck-Shaft Angle, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001859">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001859</a>
Aging	BoneAging	NSA1rf	Hip geometry (Shaft BucklingRatio, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001861">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001861</a>
Aging	BoneAging	NSA1rm	Hip geometry (Shaft BucklingRatio, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001863">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001863</a>
Aging	BoneAging	NSA1rf	Hip geometry (Shaft BucklingRatio, Women), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001865">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001865</a>
Aging	BoneAging	NSA1rm	Hip geometry (Shaft BucklingRatio, Men), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001867">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001867</a>
Aging	BoneAging	NSA1rf	Hip geometry (Shaft CSMI), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001869">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001869</a>
Aging	BoneAging	NSA1rm	Hip geometry (Shaft CSMI, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001871">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001871</a>
Aging	BoneAging	NSA1rf	Hip geometry (Shaft CSMI, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001873">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001873</a>
Aging	BoneAging	NSA1rm	Hip geometry by DXA (Shaft Width), age- and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001779">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001779</a>
Aging	BoneAging	NSA1rf	Hip geometry by DXA (Shaft Width), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001781">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001781</a>
Aging	BoneAging	NSA1rm	Hip geometry (Shaft Width, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001875">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001875</a>
Aging	BoneAging	NSA1rf	Hip geometry (Shaft Width, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001877">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001877</a>
Aging	BoneAging	NSA1rm	Hip geometry (Shaft Width, Women), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001879">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001879</a>

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Group	Category	Trait Label	Name	FBAT Link
Aging	BoneAging	ShaftWm	Hip geometry (Shaft Width, Men), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001881">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001881</a>
Aging	BoneAging	ShaftZ1R	Hip geometry (Shaft Section Modulus), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001883">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001883</a>
Aging	BoneAging	ShaftZ1rf	Hip geometry (Shaft Section Modulus, Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001885">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001885</a>
Aging	BoneAging	ShaftZ1rm	Hip geometry (Shaft Section Modulus, Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001887">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001887</a>
Aging	BoneAging	SOS	Bone Ultrasound speed measured by QUS, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001783">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001783</a>
Aging	BoneAging	TRBMD	Trochanter BMD measured by DXA, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001785">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001785</a>
Aging	BoneAging	TRBMDf	Troch Neck BMD measured by DXA (Women), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001889">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001889</a>
Aging	BoneAging	TRBMDm	Troch Neck BMD measured by DXA (Men), multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001891">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001891</a>
Aging	BrainMRI	AFBV	Frontal lobe to intracranial volume ratio, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001893">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001893</a>
Aging	BrainMRI	AHPV	Hippocampal to intracranial volume ratio, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001895">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001895</a>
Aging	BrainMRI	AHPVapoe1	Hippocampal to intracranial volume ratio, multivariable with APOE	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001929">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001929</a>
Aging	BrainMRI	AHPVr	Hippocampal to total cerebral volume ratio, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001897">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001897</a>
Aging	BrainMRI	AHPVrapoe1	Hippocampal to total cerebral volume ratio, multivariable with APOE	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001931">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001931</a>
Aging	BrainMRI	ALLV	Log lateral ventricular to intracranial volume ratio, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001899">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001899</a>
Aging	BrainMRI	ALTHBV	Log temporal horn to intracranial volume ratio, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001901">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001901</a>
Aging	BrainMRI	ALWMMHIVapoe1	Log white matter hyperintensity to cranial ratio, multivariable with APOE	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001933">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001933</a>
Aging	BrainMRI	AOBV	Occipital lobe to intracranial volume ratio, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001903">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001903</a>
Aging	BrainMRI	APBV	Parietal lobe to intracranial volume ratio, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001905">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001905</a>
Aging	BrainMRI	ATBV	Temporal lobe to intracranial volume ratio, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001907">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001907</a>
Aging	BrainMRI	ATCBV	Total cerebral brain to intracranial volume ratio, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001909">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001909</a>
Aging	BrainMRI	ATCBVapoe1	Total cerebral brain to intracranial volume ratio, multivariable with APOE	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001935">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001935</a>
Aging	BrainMRI	CFBV	Frontal lobe to intracranial volume ratio, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001911">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001911</a>
Aging	BrainMRI	CHPV	Hippocampal to intracranial volume ratio, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001913">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001913</a>
Aging	BrainMRI	CHPVr	Hippocampal to total cerebral volume ratio, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001915">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001915</a>
Aging	BrainMRI	CLLV	Log lateral ventricular to intracranial volume ratio, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001917">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001917</a>
Aging	BrainMRI	CLTHBV	Log temporal horn to intracranial volume ratio, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001919">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001919</a>
Aging	BrainMRI	COBV	Occipital lobe to intracranial volume ratio, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001921">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001921</a>
Aging	BrainMRI	CPBV	Parietal lobe to intracranial volume ratio, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001923">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001923</a>
Aging	BrainMRI	CTBV	Temporal lobe to intracranial volume ratio, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001925">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001925</a>
Aging	BrainMRI	CTCBV	Total cerebral brain to intracranial volume ratio, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001927">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001927</a>
Aging	CognitiveFunction	F1	Visual memory composite score, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001937">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001937</a>
Aging	CognitiveFunction	F2	Visuospatial memory & organization, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001939">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001939</a>
Aging	CognitiveFunction	F3	Visual scanning & motor speed, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001941">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001941</a>
Aging	CognitiveFunction	MMSE5MVX	MMSE score, offspring exam 5, multivariable- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001949">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001949</a>
Aging	CognitiveFunction	MMSE5to7MVX	average MMSE score, offspring exams 5 & 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001951">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001951</a>
Aging	CognitiveFunction	MMSE5to7X	average MMSE score, offspring exam 5 & 7, age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001953">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001953</a>
Aging	CognitiveFunction	MMSE5X	MMSE score, offspring exam 5, age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001955">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001955</a>
Aging	CognitiveFunction	MMSE65MVX	MMSE score at age 65, offspring & cohort pooled, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001957">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001957</a>
Aging	CognitiveFunction	MMSE65X	MMSE score at age 65, offspring & cohort pooled, birth cohort-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001959">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001959</a>
Aging	CognitiveFunction	MMSE7MV	MMSE score, offspring exam 7, multivariable- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha002836">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha002836</a>
Aging	CognitiveFunction	MMSE7X	MMSE score, offspring exam 7, age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001961">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001961</a>
Aging	CognitiveFunction	Nam	Boston Naming Test score without cues, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001943">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001943</a>
Aging	CognitiveFunction	Sim	Similarities raw score, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001945">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001945</a>
Aging	CognitiveFunction	WRAT	Wide Range Achievement Test, multivariable adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001947">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001947</a>
Aging	Hearing	SPTA	Pure tone audiometry average over medium frequencies, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001963">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001963</a>
Aging	Hearing	SPTAHI	Pure tone audiometry average over high frequencies, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001965">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001965</a>
Aging	Hearing	SPTALO	Pure tone audiometry average over low frequencies, age and sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001967">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001967</a>
Aging	Morbidity-freesurvival	Morbidityfree65MVX	morbidity-free survival at age 65, offspring & cohort pooled, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001969">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001969</a>
Aging	Morbidity-freesurvival	Morbidityfree65X	morbidity-free survival at age 65, offspring & cohort pooled, birth cohort- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001971">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001971</a>
Aging	PhysicalDisability	Handgrip727X	hand grip, offspring exam 7 & cohort exam 27	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001977">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001977</a>
Aging	PhysicalDisability	Handgrip7X	hand grip, offspring exam 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001979">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001979</a>
Aging	PhysicalDisability	Walkingspeed727X	walking speed, offspring exam 7 & cohort exam 27	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001981">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001981</a>
Aging	PhysicalDisability	Walkingspeed7X	walking speed, offspring exam 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001983">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001983</a>
Aging	ReproductiveTraits	MenoageMVX	age at natural menopause, adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001985">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001985</a>
Aging	ReproductiveTraits	MenoageX	age at natural menopause, crude	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001987">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001987</a>
Aging	Survival	DeathageMV	age at death, offspring & cohort pooled, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001989">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001989</a>

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Aging	Survival	DeathageX	age at death, offspring & cohort pooled, adjusted for birth cohort	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001991">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001991</a>
Aging	Survival	DeathpastALEMV	death past average life expectancy, offspring & cohort pooled, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001993">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001993</a>
Aging	Survival	DeathpastALEX	death past average life expectancy, offspring & cohort pooled, birth cohort adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001995">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001995</a>
BloodPressure	Bloodpressure	DBP17AVGIMPAS	diastolic BP average age-sex-adjusted residual exams 1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001417">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001417</a>
BloodPressure	Bloodpressure	DBP17AVGIMPMV	diastolic BP average multivariable-adjusted residual exams 1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001419">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001419</a>
BloodPressure	Bloodpressure	DBP1IMPMEANAS	diastolic BP exam 1, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001421">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001421</a>
BloodPressure	Bloodpressure	DBP1IMPMEANMV	diastolic BP exam 1, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001423">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001423</a>
BloodPressure	Bloodpressure	DBP2IMPMEANAS	diastolic BP exam 2, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001425">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001425</a>
BloodPressure	Bloodpressure	DBP2IMPMEANMV	diastolic BP exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001427">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001427</a>
BloodPressure	Bloodpressure	DBP3IMPMEANAS	diastolic BP exam 3, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001429">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001429</a>
BloodPressure	Bloodpressure	DBP3IMPMEANMV	diastolic BP exam 3, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001431">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001431</a>
BloodPressure	Bloodpressure	DBP4IMPMEANAS	diastolic BP exam 4, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001433">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001433</a>
BloodPressure	Bloodpressure	DBP4IMPMEANMV	diastolic BP exam 4, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001435">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001435</a>
BloodPressure	Bloodpressure	DBP5IMPMEANAS	diastolic BP exam 5, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001437">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001437</a>
BloodPressure	Bloodpressure	DBP5IMPMEANMV	diastolic BP exam 5, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001439">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001439</a>
BloodPressure	Bloodpressure	DBP6IMPMEANAS	diastolic BP exam 6, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001441">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001441</a>
BloodPressure	Bloodpressure	DBP6IMPMEANMV	diastolic BP exam 6, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001443">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001443</a>
BloodPressure	Bloodpressure	DBP7IMPMEANAS	diastolic BP exam 7, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001445">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001445</a>
BloodPressure	Bloodpressure	DBP7IMPMEANMV	diastolic BP exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001447">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001447</a>
BloodPressure	Bloodpressure	PP17AVGIMPAS	pulse pressure average age-sex-adjusted residual exams 1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001449">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001449</a>
BloodPressure	Bloodpressure	PP17AVGIMPMV	pulse pressure average multivariable-adjusted residual exams 1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001451">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001451</a>
BloodPressure	Bloodpressure	PP1IMPMEANAS	pulse pressure exam 1, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001453">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001453</a>
BloodPressure	Bloodpressure	PP1IMPMEANMV	pulse pressure exam 1, multivariable- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001455">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001455</a>
BloodPressure	Bloodpressure	PP2IMPMEANAS	pulse pressure exam 2, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001457">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001457</a>
BloodPressure	Bloodpressure	PP2IMPMEANMV	pulse pressure exam 2, multivariable- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001459">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001459</a>
BloodPressure	Bloodpressure	PP3IMPMEANAS	pulse pressure exam 3, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001461">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001461</a>
BloodPressure	Bloodpressure	PP3IMPMEANMV	pulse pressure exam 3, multivariable- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001463">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001463</a>
BloodPressure	Bloodpressure	PP4IMPMEANAS	pulse pressure exam 4, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001465">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001465</a>
BloodPressure	Bloodpressure	PP4IMPMEANMV	pulse pressure exam 4, multivariable- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001467">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001467</a>
BloodPressure	Bloodpressure	PP5IMPMEANAS	pulse pressure exam 5, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001469">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001469</a>
BloodPressure	Bloodpressure	PP5IMPMEANMV	pulse pressure exam 5, multivariable- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001471">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001471</a>
BloodPressure	Bloodpressure	PP6IMPMEANAS	pulse pressure exam 6, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001473">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001473</a>
BloodPressure	Bloodpressure	PP6IMPMEANMV	pulse pressure exam 6, multivariable- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001475">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001475</a>
BloodPressure	Bloodpressure	PP7IMPMEANAS	pulse pressure exam 7, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001477">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001477</a>
BloodPressure	Bloodpressure	PP7IMPMEANMV	pulse pressure exam 7, multivariable- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001479">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001479</a>
BloodPressure	Bloodpressure	SBP17AVGIMPAS	systolic BP average age-sex-adjusted residual exams 1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001481">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001481</a>
BloodPressure	Bloodpressure	SBP17AVGIMPMV	systolic BP average multivariable-adjusted residual exams 1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001483">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001483</a>
BloodPressure	Bloodpressure	SBP1IMPMEANAS	systolic BP exam 1, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001485">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001485</a>
BloodPressure	Bloodpressure	SBP1IMPMEANMV	systolic BP exam 1, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001487">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001487</a>
BloodPressure	Bloodpressure	SBP2IMPMEANAS	systolic BP exam 2, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001489">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001489</a>
BloodPressure	Bloodpressure	SBP2IMPMEANMV	systolic BP exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001491">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001491</a>
BloodPressure	Bloodpressure	SBP3IMPMEANAS	systolic BP exam 3, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001493">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001493</a>
BloodPressure	Bloodpressure	SBP3IMPMEANMV	systolic BP exam 3, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001495">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001495</a>
BloodPressure	Bloodpressure	SBP4IMPMEANAS	systolic BP exam 4, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001497">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001497</a>
BloodPressure	Bloodpressure	SBP4IMPMEANMV	systolic BP exam 4, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001499">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001499</a>
BloodPressure	Bloodpressure	SBP5IMPMEANAS	systolic BP exam 5, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001501">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001501</a>
BloodPressure	Bloodpressure	SBP5IMPMEANMV	systolic BP exam 5, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001503">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001503</a>
BloodPressure	Bloodpressure	SBP6IMPMEANAS	systolic BP exam 6, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001505">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001505</a>
BloodPressure	Bloodpressure	SBP6IMPMEANMV	systolic BP exam 6, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001507">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001507</a>
BloodPressure	Bloodpressure	SBP7IMPMEANAS	systolic BP exam 7, age- sex- adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001509">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001509</a>
BloodPressure	Bloodpressure	SBP7IMPMEANMV	systolic BP exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001511">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001511</a>
BloodPressure	echocardiography	AOR26AVGAS	M-mode Echo aortic root diastolic diameter, avg age-sex resid, exams 2,4,5,6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001513">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001513</a>
BloodPressure	echocardiography	AOR26AVGMV	M-mode Echo aortic root diastolic diameter, avg multivar resid, exams 2,4,5,6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001515">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001515</a>
BloodPressure	echocardiography	AOR2AS	M-mode Echo aortic root diastolic diameter, exam 2, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001517">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001517</a>
BloodPressure	echocardiography	AOR2MV	M-mode Echo aortic root diastolic diameter, exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001519">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001519</a>
BloodPressure	echocardiography	AOR4AS	M-mode Echo aortic root diastolic diameter, exam 4, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001521">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001521</a>



Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
BloodPressure	echocardiography	LVWT26AVGMV	M-mode Echo LV diastolic wall thickness, avg multivar resid, exams 2,4,5,6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001635">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001635</a>
BloodPressure	echocardiography	LVWT2AS	M-mode Echo LV diastolic wall thickness, exam 2, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001637">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001637</a>
BloodPressure	echocardiography	LVWT2MV	M-mode Echo LV diastolic wall thickness, exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001639">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001639</a>
BloodPressure	echocardiography	LVWT4AS	M-mode Echo LV diastolic wall thickness, exam 4, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001641">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001641</a>
BloodPressure	echocardiography	LVWT4MV	M-mode Echo LV diastolic wall thickness, exam 4, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001643">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001643</a>
BloodPressure	echocardiography	LVWT5AS	M-mode Echo LV diastolic wall thickness, exam 5, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001645">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001645</a>
BloodPressure	echocardiography	LVWT5MV	M-mode Echo LV diastolic wall thickness, exam 5, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001647">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001647</a>
BloodPressure	echocardiography	LVWT6AS	M-mode Echo LV diastolic wall thickness, exam 6, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001649">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001649</a>
BloodPressure	echocardiography	LVWT6MV	M-mode Echo LV diastolic wall thickness, exam 6, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001651">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001651</a>
BloodPressure	Endothelialfunction	BASEFLOW7AS	Brachial artery Baseline flow velocity, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001653">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001653</a>
BloodPressure	Endothelialfunction	BASEFLOW7MV	Brachial artery Baseline flow velocity, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001655">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001655</a>
BloodPressure	Endothelialfunction	BASELINEDIAMETERAS7	baseline brachial artery diameter, exam 7, age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001657">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001657</a>
BloodPressure	Endothelialfunction	BASELINEDIAMETERMV7	baseline brachial artery diameter, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001659">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001659</a>
BloodPressure	Endothelialfunction	FMD7PCTAS	Brachial artery Flow mediated dilation, exam 7, age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001661">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001661</a>
BloodPressure	Endothelialfunction	FMD7PCTMV	Brachial artery Flow mediated dilation, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001663">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001663</a>
BloodPressure	Endothelialfunction	HYPERFLOW7AS	Brachial artery hyperemic flow velocity, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001665">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001665</a>
BloodPressure	Endothelialfunction	HYPERFLOW7MV	Brachial artery hyperemic flow velocity, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001667">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001667</a>
BloodPressure	ExerciseTest	ETT2DBPREC3AS	Exercise recovery 3-min diastolic BP, exam 2, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001669">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001669</a>
BloodPressure	ExerciseTest	ETT2DBPREC3MV	Exercise recovery 3-min diastolic BP, exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001671">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001671</a>
BloodPressure	ExerciseTest	ETT2DBPSTG2AS	Exercise Stage 2 diastolic BP, exam 2, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001673">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001673</a>
BloodPressure	ExerciseTest	ETT2DBPSTG2MV	Exercise Stage 2 diastolic BP, exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001675">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001675</a>
BloodPressure	ExerciseTest	ETT2HRREC3AS	Exercise recovery 3-min heart rate, exam 2, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001677">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001677</a>
BloodPressure	ExerciseTest	ETT2HRREC3MV	Exercise recovery 3-min heart rate, exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001679">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001679</a>
BloodPressure	ExerciseTest	ETT2HRSTG2AS	Exercise Stage 2 heart rate, exam 2, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001681">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001681</a>
BloodPressure	ExerciseTest	ETT2HRSTG2MV	Exercise Stage 2 heart rate, exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001683">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001683</a>
BloodPressure	ExerciseTest	ETT2SBPREC3AS	Exercise recovery 3-min systolic BP, exam 2, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001685">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001685</a>
BloodPressure	ExerciseTest	ETT2SBPREC3MV	Exercise recovery 3-min systolic BP, exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001687">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001687</a>
BloodPressure	ExerciseTest	ETT2SBPSTG2AS	Exercise Stage 2 systolic BP, exam 2, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001689">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001689</a>
BloodPressure	ExerciseTest	ETT2SBPSTG2MV	Exercise Stage 2 systolic BP, exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001691">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001691</a>
BloodPressure	tonometry	A17AS	augmentation index, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001693">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001693</a>
BloodPressure	tonometry	A17MV	augmentation index, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001695">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001695</a>
BloodPressure	tonometry	CBPWV7AS	carotid-brachial pulse wave velocity, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001697">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001697</a>
BloodPressure	tonometry	CBPWV7MV	carotid-brachial pulse wave velocity, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001699">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001699</a>
BloodPressure	tonometry	CFPWV7AS	carotid-femoral pulse wave velocity, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001701">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001701</a>
BloodPressure	tonometry	CFPWV7MV	carotid-femoral pulse wave velocity, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001703">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001703</a>
BloodPressure	tonometry	CPP7AS	central pulse pressure, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001705">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001705</a>
BloodPressure	tonometry	CPP7MV	central pulse pressure, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001707">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001707</a>
BloodPressure	tonometry	CRPW7AS	carotid-radial pulse wave velocity, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001709">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001709</a>
BloodPressure	tonometry	CRPWV7MV	carotid-radial pulse wave velocity, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001711">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001711</a>
BloodPressure	tonometry	DBP7BRAOSCAS	Diastolic BP Brachial oscillometric, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001713">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001713</a>
BloodPressure	tonometry	DBP7BRAOSCMV	Diastolic BP Brachial oscillometric, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001715">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001715</a>
BloodPressure	tonometry	FWDWAVE7AS	forward wave amplitude, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001717">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001717</a>
BloodPressure	tonometry	FWDWAVE7MV	forward wave amplitude, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001719">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001719</a>
BloodPressure	tonometry	INVCFPWV7AS	LV ejection time, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001721">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001721</a>
BloodPressure	tonometry	INVCFPWV7MV	LV ejection time, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001723">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001723</a>
BloodPressure	tonometry	MAP7AS	mean arterial pressure, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001725">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001725</a>
BloodPressure	tonometry	MAP7MV	mean arterial pressure, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001727">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001727</a>
BloodPressure	tonometry	PERAMPAP7AS	Peripheral amplification apparent, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001729">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001729</a>
BloodPressure	tonometry	PERAMPAP7MV	Peripheral amplification apparent, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001731">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001731</a>
BloodPressure	tonometry	PERAMPTRU7AS	Peripheral amplification true, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001733">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001733</a>
BloodPressure	tonometry	PERAMPTRU7MV	Peripheral amplification true, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001735">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001735</a>
BloodPressure	tonometry	PP7BRAOSCAS	Pulse pressure Brachial oscillometric, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001737">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001737</a>
BloodPressure	tonometry	PP7BRAOSCMV	Pulse pressure Brachial oscillometric, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001739">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001739</a>
BloodPressure	tonometry	REFWAVE7AS	reflected wave amplitude, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001741">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001741</a>
BloodPressure	tonometry	REFWAVE7MV	reflected wave amplitude, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001743">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001743</a>
BloodPressure	tonometry	RWTT7AS	reflected wave transit time, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001745">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001745</a>

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Group	Category	Trait Label	Name	FBAT Link
BloodPressure	tonometry	RWTT7MV	reflected wave transit time, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001747">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001747</a>
BloodPressure	tonometry	SBP7BRAOSCAS	Systolic BP Brachial oscillometric, exam 7, age-sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001749">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001749</a>
BloodPressure	tonometry	SBP7BRAOSCMV	Systolic BP Brachial oscillometric, exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001751">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001751</a>
CVDMiscTraits	Cancer	ALLCANCER1	all cancer, adjusted for age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001331">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001331</a>
CVDMiscTraits	Cancer	ALLCANCER2	all cancer, fully adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001333">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001333</a>
CVDMiscTraits	Cancer	BREASTCANCER1	breast cancer (women only), age-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001335">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001335</a>
CVDMiscTraits	Cancer	BREASTCANCER2	breast cancer (women only), adjusted for age, parity, BMI at entry	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001337">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001337</a>
CVDMiscTraits	Cancer	PROSTATECANCER1	prostate cancer, adjusted for age at entry	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001339">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001339</a>
CVDMiscTraits	CVDbySOE	AllatheroCVD1D	Age- & sex- adjusted incident CHD, ABI, TIA, or IC	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001341">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001341</a>
CVDMiscTraits	CVDbySOE	AllatheroCVD2D	multivariable-adjusted incident CHD, ABI, TIA, or IC	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001343">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001343</a>
CVDMiscTraits	CVDbySOE	AllCHD1D	Age- & sex-adjusted incident MI, AP, CI, or CHD death	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001345">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001345</a>
CVDMiscTraits	CVDbySOE	AllCHD2D	multivariable-adjusted incident MI, AP, CI, or CHD death	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001347">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001347</a>
CVDMiscTraits	CVDbySOE	ALLCHF1D	Age- & sex-adjusted incident heart failure (free of MI)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001349">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001349</a>
CVDMiscTraits	CVDbySOE	ALLCHF2D	multivariable-adjusted incident heart failure (free of MI)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001351">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001351</a>
CVDMiscTraits	CVDbySOE	HardatheroCVD1D	Age- & sex-adjusted incident MI, CI, CHD death, or ABI	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001357">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001357</a>
CVDMiscTraits	CVDbySOE	HardatheroCVD2D	multivariable-adjusted incident MI, CI, CHD death, or ABI	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001359">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001359</a>
CVDMiscTraits	CVDbySOE	HardCHD1D	Age- & sex-adjusted incident MI, CI, or CHD death	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001361">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001361</a>
CVDMiscTraits	CVDbySOE	HardCHD2D	multivariable-adjusted incident MI, CI, or CHD death	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001363">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001363</a>
CVDMiscTraits	CVDbySOE	NoMICHF1D	Age- & sex-adjusted incident heart failure, censored at interval MI	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001365">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001365</a>
CVDMiscTraits	CVDbySOE	NoMICHF2D	multivariable-adjusted incident heart failure, censored at interval MI	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001367">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001367</a>
CVDMiscTraits	ECGtraits	PRAdjRRPOOL	Age & RR adjusted PR interval cohort ex 11 offspring ex 1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001369">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001369</a>
CVDMiscTraits	ECGtraits	QTMEN	Age & RR adjusted QT interval men cohort ex 11 offspring ex 1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001371">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001371</a>
CVDMiscTraits	ECGtraits	QTPOOL	Age & RR adjusted QT interval men & women cohort ex 11 offspring ex 1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001373">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001373</a>
CVDMiscTraits	ECGtraits	QTWOMEN	Age & RR adjusted QT interval women cohort ex 11 offspring ex 1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001375">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001375</a>
CVDMiscTraits	ECGtraits	RRMEN	Age adjusted RR interval men cohort ex 11 offspring ex 1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001377">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001377</a>
CVDMiscTraits	ECGtraits	RRPOOL	Age adjusted RR interval men & women cohort ex 11 offspring ex 1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001379">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001379</a>
CVDMiscTraits	ECGtraits	RRWOMEN	Age adjusted RR interval women cohort ex 11 offspring ex 1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001381">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001381</a>
CVDMiscTraits	HRVtraits	HFHRV	Age & HR adjusted high freq power HRV exams 18 (cohort), 3 (offspring)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001383">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001383</a>
CVDMiscTraits	HRVtraits	LFHFHRV	Age & HR adjusted low:high freq power HRV exams 18 (cohort), 3 (offspring)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001385">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001385</a>
CVDMiscTraits	HRVtraits	LFHRV	Age & HR adjusted low frequency power HRV exams 18 (cohort), 3 (offspring)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001387">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001387</a>
CVDMiscTraits	HRVtraits	PNN50HRV	Age & HR adjusted PNN50 HRV exams 18 (cohort), 3 (offspring)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001389">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001389</a>
CVDMiscTraits	HRVtraits	SDNNHRV	Age & HR adjusted SDNN HRV exams 18 (cohort), 3 (offspring)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001391">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001391</a>
CVDMiscTraits	HRVtraits	TOTPWRHRV	Age & HR adjusted total power HRV exams 18 (cohort), 3 (offspring)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001393">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001393</a>
CVDMiscTraits	HRVtraits	VLFRV	Age & HR adjusted very low freq power HRV exams 18 (cohort), 3 (offspring)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001395">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001395</a>
CVDMiscTraits	Otherclinicaltraits	ALCOHOL1	Age- & sex-adjusted drinks/day ex 1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001397">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001397</a>
CVDMiscTraits	Otherclinicaltraits	ALCOHOL2	Age- & sex-adjusted drinks/day across all exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001399">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001399</a>
CVDMiscTraits	Otherclinicaltraits	ALCOHOL3	Age- & sex-adjusted max drinks/day at any exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001401">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001401</a>
CVDMiscTraits	Otherclinicaltraits	GALLBLADDER	Age- & sex-adjusted gallbladder disease	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001403">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001403</a>
CVDMiscTraits	Otherclinicaltraits	GOUT	Age-, sex- & BMI-adjusted gout	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001405">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001405</a>
CVDMiscTraits	Othervasctraits	ALLAF1	Age- & sex-adjusted incident atrial fibrillation	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001407">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001407</a>
CVDMiscTraits	Othervasctraits	ALLAF2	multivariable-adjusted incident atrial fibrillation	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001409">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001409</a>
CVDMiscTraits	Othervasctraits	VARICOSEVEINS	age- & sex-adjusted varicose veins, men and women	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001411">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001411</a>
CVDMiscTraits	Othervasctraits	VARICOSEVEINSF	age- & #childbirths-adjusted varicose veins in women	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001413">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001413</a>
CVDMiscTraits	Othervasctraits	VARICOSEVEINSM	age-adjusted varicose veins in men	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001415">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001415</a>
ITBiomarkers	Hematological	Hctavg12as	Hematocrit, averaged residuals of exam 1 & 2, age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000979">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000979</a>
ITBiomarkers	Hematological	Hctavg12mv	Hematocrit, averaged residuals of exam 1 & 2, multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000981">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000981</a>
ITBiomarkers	Hematological	Hctex1as	Hematocrit exam 1 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000983">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000983</a>
ITBiomarkers	Hematological	Hctex1mv	Hematocrit exam 1 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000985">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000985</a>
ITBiomarkers	Hematological	Hctex2as	Hematocrit exam 2 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000987">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000987</a>
ITBiomarkers	Hematological	Hctex2mv	Hematocrit exam 2 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000989">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000989</a>
ITBiomarkers	Hematological	Hgbavg12as	Hemoglobin, averaged residuals of exam 1 & 2, age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000991">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000991</a>
ITBiomarkers	Hematological	Hgbavg12mv	Hemoglobin averaged residuals of exam 1 & 2, multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000993">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000993</a>
ITBiomarkers	Hematological	Hgbex1as	Hemoglobin exam 1 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000995">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000995</a>
ITBiomarkers	Hematological	Hgbex1mv	Hemoglobin exam 1 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000997">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000997</a>
ITBiomarkers	Hematological	Hgbex2as	Hemoglobin exam 2 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000999">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000999</a>
ITBiomarkers	Hematological	Hgbex2mv	Hemoglobin exam 2 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001001">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001001</a>

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
ITBiomarkers	Hematological	MCHCavg12as	Mean corpuscular hemoglobin concentration avg. residuals exam 1&2 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001003">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001003</a>
ITBiomarkers	Hematological	MCHCavg12mv	Mean corpuscular hemoglobin concentration avg. residuals of exam 1&2 MV	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001005">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001005</a>
ITBiomarkers	Hematological	MCHCex1as	Mean corpuscular hemoglobin concentration exam 1 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001007">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001007</a>
ITBiomarkers	Hematological	MCHCex1mv	Mean corpuscular hemoglobin concentration exam 1 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001009">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001009</a>
ITBiomarkers	Hematological	MCHCex2as	Mean corpuscular hemoglobin concentration exam 2 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001011">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001011</a>
ITBiomarkers	Hematological	MCHCex2mv	Mean corpuscular hemoglobin concentration exam 2 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001013">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001013</a>
ITBiomarkers	Hematological	MCVavg12as	Mean corpuscular volume averaged residuals of exam 1 & 2, age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001015">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001015</a>
ITBiomarkers	Hematological	MCVavg12mv	Mean corpuscular volume averaged residuals of exam 1 and 2, multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001017">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001017</a>
ITBiomarkers	Hematological	MCVex1as	Mean corpuscular volume exam 1 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001019">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001019</a>
ITBiomarkers	Hematological	MCVex1mv	Mean corpuscular volume multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001021">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001021</a>
ITBiomarkers	Hematological	MCVex2as	Mean corpuscular volume exam 2 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001023">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001023</a>
ITBiomarkers	Hematological	MCVex2mv	Mean corpuscular volume multivariable exam 2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001025">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001025</a>
ITBiomarkers	Hematological	RBCCavg12as	Red blood cell count averaged residuals of exam 1 & 2, age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001027">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001027</a>
ITBiomarkers	Hematological	RBCCavg12mv	Red blood cell count averaged residuals exam 1 & 2, multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001029">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001029</a>
ITBiomarkers	Hematological	RBCCex1as	Red blood cell count exam 1 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001031">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001031</a>
ITBiomarkers	Hematological	RBCCex1mv	Red blood cell count exam 1 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001033">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001033</a>
ITBiomarkers	Hematological	RBCCex2as	Red blood cell count exam 2 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001035">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001035</a>
ITBiomarkers	Hematological	RBCCex2asWIN	Red blood cell count exam 2 age & sex, Winsorized	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001037">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001037</a>
ITBiomarkers	Hematological	RBCCex2mv	Red blood cell count exam 2 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001039">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001039</a>
ITBiomarkers	Hematological	RBCCex2mvWIN	Red blood cell count exam 2 multivariable, Winsorized	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001041">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001041</a>
ITBiomarkers	Hematological	WBCavg12as	White blood cell count averaged residuals of exam 1 & 2, age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001043">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001043</a>
ITBiomarkers	Hematological	WBCavg12mv	White blood cell count, averaged residuals of exam 1 & 2, multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001045">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001045</a>
ITBiomarkers	Hematological	WBCex1as	White blood cell count exam 1 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001047">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001047</a>
ITBiomarkers	Hematological	WBCex1mv	White blood cell count exam 1 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001049">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001049</a>
ITBiomarkers	Hematological	WBCex2as	White blood cell count exam 2 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001051">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001051</a>
ITBiomarkers	Hematological	WBCex2mv	White blood cell count exam 2 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001053">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001053</a>
ITBiomarkers	Hemostatic	dDimerex5as	D dimer at exam 6 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001055">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001055</a>
ITBiomarkers	Hemostatic	dDimerex5mv	D dimer at exam 6 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001057">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001057</a>
ITBiomarkers	Hemostatic	FibrinogenAvg567as	Fibrinogen averaged residuals of exam 5, 6 & 7 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001059">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001059</a>
ITBiomarkers	Hemostatic	FibrinogenAvg567mv	Fibrinogen averaged residuals exam 5, 6 & 7 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001061">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001061</a>
ITBiomarkers	Hemostatic	Fibrinogenex5as	Fibrinogen at exam 5 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001063">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001063</a>
ITBiomarkers	Hemostatic	Fibrinogenex5mv	Fibrinogen at exam 5 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001065">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001065</a>
ITBiomarkers	Hemostatic	Fibrinogenex6as	Fibrinogen at exam 6 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001067">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001067</a>
ITBiomarkers	Hemostatic	Fibrinogenex6mv	Fibrinogen at exam 6 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001069">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001069</a>
ITBiomarkers	Hemostatic	Fibrinogenex7as	Fibrinogen at exam 7 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001071">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001071</a>
ITBiomarkers	Hemostatic	Fibrinogenex7mv	Fibrinogen at exam 7 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001073">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001073</a>
ITBiomarkers	Hemostatic	FVIIlex5as	Factor VII at exam 5 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001075">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001075</a>
ITBiomarkers	Hemostatic	FVIIlex5mv	Factor VII at exam 5 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001077">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001077</a>
ITBiomarkers	Hemostatic	PAI1ex56Avgas	Log plasminogen Activator 1 avg. residuals exam 5& 6 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001079">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001079</a>
ITBiomarkers	Hemostatic	PAI1ex56Avgmv	Log plasminogen Activator 1 avg. residuals exam 5 & 6 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001081">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001081</a>
ITBiomarkers	Hemostatic	PAI1ex5as	Plasminogen Activator 1 at exam 5 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001083">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001083</a>
ITBiomarkers	Hemostatic	PAI1ex5mv	Plasminogen Activator 1 at exam 5 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001085">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001085</a>
ITBiomarkers	Hemostatic	PAI1ex6as	Plasminogen Activator 1 at exam 6 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001087">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001087</a>
ITBiomarkers	Hemostatic	PAI1ex6mv	Plasminogen Activator 1 at exam 6 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001089">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001089</a>
ITBiomarkers	Hemostatic	PlateletAgADPex5as	Platelet Aggregation to ADP exam 5, age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001091">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001091</a>
ITBiomarkers	Hemostatic	PlateletAgADPex5mv	Log ADP platelet aggregation, exam 5, multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001093">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001093</a>
ITBiomarkers	Hemostatic	PlateletAgCollx5as	Platelet Aggregation to collagen, exam 5, age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001095">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001095</a>
ITBiomarkers	Hemostatic	PlateletAgCollx5mv	Platelet Aggregation to collagen, exam 5, multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001097">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001097</a>
ITBiomarkers	Hemostatic	PlateletAgEpiex5as	Platelet Aggregation to Epinephrine at exam 5 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001099">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001099</a>
ITBiomarkers	Hemostatic	PlateletAgEpiex5mv	Platelet Aggregation to Epinephrine exam 5 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001101">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001101</a>
ITBiomarkers	Hemostatic	tPAex5as	tPA Antigen at exam 5 age & sex, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001103">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001103</a>
ITBiomarkers	Hemostatic	tPAex5mv	tPA Antigen at exam 5 multivariable, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001105">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001105</a>
ITBiomarkers	Hemostatic	Viscosityex5as	Viscosity I at exam 5 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001107">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001107</a>
ITBiomarkers	Hemostatic	Viscosityex5mv	Viscosity I at exam 5 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001109">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001109</a>
ITBiomarkers	Hemostatic	wVWex5as	von Willebrand Factor at exam 5 age & sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001111">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001111</a>
ITBiomarkers	Hemostatic	wVWex5mv	von Willebrand Factor at exam 5 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001113">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001113</a>

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
ITBiomarkers	Inflammation	CD40Lplasmaex7as	CD40Ligand plasma exam 7, age- & sex-adjusted, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001115">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001115</a>
ITBiomarkers	Inflammation	CD40Lplasmaex7mv	CD40Ligand plasma exam 7 multivariable-adjusted, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001117">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001117</a>
ITBiomarkers	Inflammation	CD40Lserumex7as	CD40Ligand serum exam 7, age- & sex-adjusted, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001119">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001119</a>
ITBiomarkers	Inflammation	CD40Lserumex7mv	CD40Ligand serum, exam 7 multivariable-adjusted, log transformed	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001121">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001121</a>
ITBiomarkers	Inflammation	CRPavg267asB	Log C-reactive protein average exam 2, 6 & 7 age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001171">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001171</a>
ITBiomarkers	Inflammation	CRPavg267mvB	Log C-reactive protein average exam 2, 6 & 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001173">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001173</a>
ITBiomarkers	Inflammation	CRPex2asB	Log C-reactive protein exam 2, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001175">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001175</a>
ITBiomarkers	Inflammation	CRPex2mvB	Log C-reactive protein exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001177">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001177</a>
ITBiomarkers	Inflammation	CRPex5as	Log C-reactive protein Hemagen Assay exam 5, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001123">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001123</a>
ITBiomarkers	Inflammation	CRPex5mv	Log C-reactive protein Hemagen Assay exam 5, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001125">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001125</a>
ITBiomarkers	Inflammation	CRPex6as	Log C-reactive protein exam 6, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001127">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001127</a>
ITBiomarkers	Inflammation	CRPex6mv	Log C-reactive protein exam 6, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001129">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001129</a>
ITBiomarkers	Inflammation	CRPex7as	Log C-reactive protein exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001131">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001131</a>
ITBiomarkers	Inflammation	CRPex7mv	Log C-reactive protein exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001133">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001133</a>
ITBiomarkers	Inflammation	ICAM1ex7as	Log intercellular adhesion molecule-1 exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001135">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001135</a>
ITBiomarkers	Inflammation	ICAM1ex7mv	Log intercellular adhesion molecule-1 exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001137">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001137</a>
ITBiomarkers	Inflammation	IL6ex7as	Log interleukin 6 Exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001139">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001139</a>
ITBiomarkers	Inflammation	IL6ex7mv	Log interleukin 6 Exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001141">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001141</a>
ITBiomarkers	Inflammation	IsoCrUrinePex7as	Log urinary isoprostanes/creatinine exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001143">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001143</a>
ITBiomarkers	Inflammation	IsoCrUrinePex7mv	Log urinary isoprostanes/creatinine exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001145">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001145</a>
ITBiomarkers	Inflammation	MCP1ex7as	Log monocyte chemoattractant protein 1 exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001147">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001147</a>
ITBiomarkers	Inflammation	MCP1ex7mv	Log monocyte chemoattractant protein 1 exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001149">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001149</a>
ITBiomarkers	Inflammation	MPOex7as	Log myeloperoxidase exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001151">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001151</a>
ITBiomarkers	Inflammation	MPOex7mv	Log myeloperoxidase exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001153">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001153</a>
ITBiomarkers	Inflammation	OPGex7as	Log osteoprotegerin exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001155">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001155</a>
ITBiomarkers	Inflammation	OPGex7mv	Log osteoprotegerin exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001157">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001157</a>
ITBiomarkers	Inflammation	Pselectinex7as	Log P-selectin exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001159">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001159</a>
ITBiomarkers	Inflammation	Pselectinex7mv	Log P-selectin exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001161">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001161</a>
ITBiomarkers	Inflammation	TNFAex7as	Log tumor necrosis factor alpha exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001163">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001163</a>
ITBiomarkers	Inflammation	TNFAex7mv	Log tumor necrosis factor alpha exam 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001165">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001165</a>
ITBiomarkers	Inflammation	TNFR1lex7as	Log tumor necrosis factor receptor II exam 7, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001167">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001167</a>
ITBiomarkers	Inflammation	TNFR1lex7mv	Log tumor necrosis factor receptor II exam 7 multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001169">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001169</a>
ITBiomarkers	LFT	AlkPhosex2as	Log alkaline phosphatase exam 2 age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001179">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001179</a>
ITBiomarkers	LFT	AlkPhosex2mv	Log alkaline phosphatase exam 2, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001181">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001181</a>
ITBiomarkers	LFT	ALTex2as	Log alanine transaminase exam 2, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001183">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001183</a>
ITBiomarkers	LFT	ALTex2mv	Log alanine transaminase exam 2; multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001185">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001185</a>
ITBiomarkers	LFT	ASTex2as	Log aspartate aminotransferase exam, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001187">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001187</a>
ITBiomarkers	LFT	ASTex2mv	Log aspartate aminotransferase exam 2 multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001189">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001189</a>
ITBiomarkers	LFT	Bilirubinex2as	Log bilirubin exam 2, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001191">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001191</a>
ITBiomarkers	LFT	Bilirubinex2mv	Log bilirubin exam 2 multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001193">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001193</a>
ITBiomarkers	LFT	GGTex2as	Log gamma-glutamyl transferase exam 2, age- & sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001195">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001195</a>
ITBiomarkers	LFT	GGTex2mv	Log Gamma-glutamyl transferase exam 2, Multivariable,adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001197">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001197</a>
ITBiomarkers	Neurohumoral	ANPex6as	Log atrial natriuretic peptide exam 6, age- & sex-adjusted Tobit-model	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001199">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001199</a>
ITBiomarkers	Neurohumoral	ANPex6mv	Log atrial natriuretic peptide exam 6, multivariable-adjusted Tobit model	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001201">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001201</a>
ITBiomarkers	Neurohumoral	BNPex6as	Log brain natriuretic peptide exam 6, age- & sex-adjusted Tobit model	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001203">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001203</a>
ITBiomarkers	Neurohumoral	BNPex6mv	Log brain natriuretic peptide exam 6, multivariable-adjusted Tobit model	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001205">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001205</a>
ITBiomarkers	Vitamins	VitD25OHex6or7as	25(OH)-D exam 6 or 7, age & sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001207">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001207</a>
ITBiomarkers	Vitamins	VitD25OHex6or7mv	25(OH)-D exam 6 or 7, multivariable-adjusted; covariates from vit D exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001209">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001209</a>
ITBiomarkers	Vitamins	VitKPhylloqex6or7as	Vit K exam 6 or 7, age & sex adjusted, log transformed, no warfarin	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001211">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001211</a>
ITBiomarkers	Vitamins	VitKPhylloqex6or7mv	Vit K exam 6 or 7, multivariable-adjusted, log transformed, no warfarin	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001213">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001213</a>
ITBiomarkers	Vitamins	VitKPucOCex6or7as	%ucOC, exam 6 or 7, age, sex adjust, log transformed; no warfarin	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001215">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001215</a>
ITBiomarkers	Vitamins	VitKPucOCex6or7mv	%ucOC, exam 6 or 7, multivariable, log-transformed, no warfarin use	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001217">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001217</a>
Metabolic	Adiposity	allbmi1602	adj bmi, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000101">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000101</a>
Metabolic	Adiposity	allbmi1803	adj bmi, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000103">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000103</a>
Metabolic	Adiposity	allbmi1x01	adj bmi, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000105">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000105</a>
Metabolic	Adiposity	allbmi2004	adj bmi, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000107">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000107</a>



Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Metabolic	Adiposity	allbmi2205	adj bmi, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000109">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000109</a>
Metabolic	Adiposity	allbmi2406	adj bmi, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000111">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000111</a>
Metabolic	Adiposity	allbmi2607	adj bmi, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000113">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000113</a>
Metabolic	Adiposity	allchgmbi	adj bmi change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000115">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000115</a>
Metabolic	Adiposity	allchgwt	adj weight change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000117">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000117</a>
Metabolic	Adiposity	allhgt1602	adj height, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000119">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000119</a>
Metabolic	Adiposity	allhgt1803	adj height, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000121">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000121</a>
Metabolic	Adiposity	allhgt1x01	adj height, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000123">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000123</a>
Metabolic	Adiposity	allhgt2004	adj height, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000125">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000125</a>
Metabolic	Adiposity	allhgt2205	adj height, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000127">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000127</a>
Metabolic	Adiposity	allhgt2406	adj height, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000129">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000129</a>
Metabolic	Adiposity	allhgt2607	adj height, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000131">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000131</a>
Metabolic	Adiposity	allmeanbmi	adj mean bmi, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000133">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000133</a>
Metabolic	Adiposity	allmeanhgt	adj mean height, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000135">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000135</a>
Metabolic	Adiposity	allmeanwgt	adj mean weight, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000137">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000137</a>
Metabolic	Adiposity	allochgwt	adj waist change, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000139">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000139</a>
Metabolic	Adiposity	allomeanwst	adj mean waist, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000141">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000141</a>
Metabolic	Adiposity	allowst0007	adj waist, offsp 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000143">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000143</a>
Metabolic	Adiposity	allrankbmi1602	rank adj bmi, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000145">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000145</a>
Metabolic	Adiposity	allrankbmi1803	rank adj bmi, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000147">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000147</a>
Metabolic	Adiposity	allrankbmi1x01	rank adj bmi, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000149">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000149</a>
Metabolic	Adiposity	allrankbmi2004	rank adj bmi, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000151">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000151</a>
Metabolic	Adiposity	allrankbmi2205	rank adj bmi, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000153">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000153</a>
Metabolic	Adiposity	allrankbmi2406	rank adj bmi, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000155">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000155</a>
Metabolic	Adiposity	allrankbmi2607	rank adj bmi, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000157">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000157</a>
Metabolic	Adiposity	allrankchgmbi	rank adj bmi change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000159">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000159</a>
Metabolic	Adiposity	allrankchgwt	rank adj weight change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000161">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000161</a>
Metabolic	Adiposity	allrankmeanbmi	rank adj mean bmi, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000163">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000163</a>
Metabolic	Adiposity	allrankmeanwgt	rank adj mean weight, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000165">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000165</a>
Metabolic	Adiposity	allrankochgwt	rank adj waist change, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000167">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000167</a>
Metabolic	Adiposity	allrankomeanwst	rank adj mean waist, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000169">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000169</a>
Metabolic	Adiposity	allrankwgt1602	rank adj weight, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000171">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000171</a>
Metabolic	Adiposity	allrankwgt1803	rank adj weight, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000173">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000173</a>
Metabolic	Adiposity	allrankwgt1x01	rank adj weight, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000175">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000175</a>
Metabolic	Adiposity	allrankwgt2004	rank adj weight, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000177">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000177</a>
Metabolic	Adiposity	allrankwgt2205	rank adj weight, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000179">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000179</a>
Metabolic	Adiposity	allrankwgt2406	rank adj weight, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000181">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000181</a>
Metabolic	Adiposity	allrankwgt2607	rank adj weight, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000183">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000183</a>
Metabolic	Adiposity	allrankwst2306	rank adj waist, offsp 6 & cohort exam 23	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000185">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000185</a>
Metabolic	Adiposity	allwgt1602	adj weight, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000187">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000187</a>
Metabolic	Adiposity	allwgt1803	adj weight, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000189">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000189</a>
Metabolic	Adiposity	allwgt1x01	adj weight, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000191">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000191</a>
Metabolic	Adiposity	allwgt2004	adj weight, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000193">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000193</a>
Metabolic	Adiposity	allwgt2205	adj weight, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000195">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000195</a>
Metabolic	Adiposity	allwgt2406	adj weight, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000197">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000197</a>
Metabolic	Adiposity	allwgt2607	adj weight, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000199">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000199</a>
Metabolic	Adiposity	allwst2004	adj waist, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000201">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000201</a>
Metabolic	Adiposity	allwst2205	adj waist, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000203">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000203</a>
Metabolic	Adiposity	allwst2306	adj waist, offsp 6 & cohort exam 23	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000205">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000205</a>
Metabolic	Adiposity	fembmi1602	Female adj bmi, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000207">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000207</a>
Metabolic	Adiposity	fembmi1803	Female adj bmi, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000209">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000209</a>
Metabolic	Adiposity	fembmi1x01	Female adj bmi, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000211">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000211</a>
Metabolic	Adiposity	fembmi2004	Female adj bmi, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000213">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000213</a>
Metabolic	Adiposity	fembmi2205	Female adj bmi, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000215">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000215</a>
Metabolic	Adiposity	fembmi2406	Female adj bmi, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000217">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000217</a>
Metabolic	Adiposity	fembmi2607	Female adj bmi, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000219">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000219</a>

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Metabolic	Adiposity	femchgmbi	Female adj bmi change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000221">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000221</a>
Metabolic	Adiposity	femchgwt	Female adj weight change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000223">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000223</a>
Metabolic	Adiposity	femhgt1602	Female adj height, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000225">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000225</a>
Metabolic	Adiposity	femhgt1803	Female adj height, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000227">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000227</a>
Metabolic	Adiposity	femhgt1x01	Female adj height, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000229">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000229</a>
Metabolic	Adiposity	femhgt2004	Female adj height, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000231">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000231</a>
Metabolic	Adiposity	femhgt2205	Female adj height, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000233">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000233</a>
Metabolic	Adiposity	femhgt2406	Female adj height, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000235">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000235</a>
Metabolic	Adiposity	femhgt2607	Female adj height, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000237">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000237</a>
Metabolic	Adiposity	femmeanbmi	Female adj mean bmi, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000239">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000239</a>
Metabolic	Adiposity	femmeanhgt	Female adj mean height, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000241">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000241</a>
Metabolic	Adiposity	femmeanwgt	Female adj mean weight, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000243">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000243</a>
Metabolic	Adiposity	femochgwst	Female adj waist change, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000245">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000245</a>
Metabolic	Adiposity	femomeanwst	Female adj mean waist, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000247">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000247</a>
Metabolic	Adiposity	femowst0007	Female adj waist, offsp 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000249">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000249</a>
Metabolic	Adiposity	femrankbmi1602	Female rank adj bmi, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000251">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000251</a>
Metabolic	Adiposity	femrankbmi1803	Female rank adj bmi, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000253">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000253</a>
Metabolic	Adiposity	femrankbmi1x01	Female rank adj bmi, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000255">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000255</a>
Metabolic	Adiposity	femrankbmi2004	Female rank adj bmi, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000257">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000257</a>
Metabolic	Adiposity	femrankbmi2205	Female rank adj bmi, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000259">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000259</a>
Metabolic	Adiposity	femrankbmi2406	Female rank adj bmi, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000261">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000261</a>
Metabolic	Adiposity	femrankbmi2607	Female rank adj bmi, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000263">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000263</a>
Metabolic	Adiposity	femrankchgwt	Female rank adj weight change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000265">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000265</a>
Metabolic	Adiposity	femrankmeanbmi	Female rank adj mean bmi, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000267">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000267</a>
Metabolic	Adiposity	femrankmeanwgt	Female rank adj mean weight, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000269">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000269</a>
Metabolic	Adiposity	femrankomeanwst	Female rank adj mean waist, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000271">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000271</a>
Metabolic	Adiposity	femrankwgt1602	Female rank adj weight, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000273">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000273</a>
Metabolic	Adiposity	femrankwgt1803	Female rank adj weight, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000275">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000275</a>
Metabolic	Adiposity	femrankwgt1x01	Female rank adj weight, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000277">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000277</a>
Metabolic	Adiposity	femrankwgt2004	Female rank adj weight, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000279">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000279</a>
Metabolic	Adiposity	femrankwgt2205	Female rank adj weight, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000281">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000281</a>
Metabolic	Adiposity	femrankwgt2406	Female rank adj weight, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000283">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000283</a>
Metabolic	Adiposity	femrankwgt2607	Female rank adj weight, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000285">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000285</a>
Metabolic	Adiposity	femwgt1602	Female adj weight, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000287">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000287</a>
Metabolic	Adiposity	femwgt1803	Female adj weight, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000289">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000289</a>
Metabolic	Adiposity	femwgt1x01	Female adj weight, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000291">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000291</a>
Metabolic	Adiposity	femwgt2004	Female adj weight, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000293">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000293</a>
Metabolic	Adiposity	femwgt2205	Female adj weight, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000295">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000295</a>
Metabolic	Adiposity	femwgt2406	Female adj weight, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000297">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000297</a>
Metabolic	Adiposity	femwgt2607	Female adj weight, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000299">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000299</a>
Metabolic	Adiposity	femwst2004	Female adj waist, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000301">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000301</a>
Metabolic	Adiposity	femwst2205	Female adj waist, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000303">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000303</a>
Metabolic	Adiposity	femwst2306	Female adj waist, offsp 6 & cohort exam 23	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000305">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000305</a>
Metabolic	Adiposity	malebmi1602	Male adj bmi, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000307">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000307</a>
Metabolic	Adiposity	malebmi1803	Male adj bmi, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000309">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000309</a>
Metabolic	Adiposity	malebmi1x01	Male adj bmi, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000311">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000311</a>
Metabolic	Adiposity	malebmi2004	Male adj bmi, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000313">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000313</a>
Metabolic	Adiposity	malebmi2205	Male adj bmi, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000315">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000315</a>
Metabolic	Adiposity	malebmi2406	Male adj bmi, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000317">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000317</a>
Metabolic	Adiposity	malebmi2607	Male adj bmi, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000319">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000319</a>
Metabolic	Adiposity	malechgmbi	Male adj bmi change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000321">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000321</a>
Metabolic	Adiposity	malechgwt	Male adj weight change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000323">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000323</a>
Metabolic	Adiposity	malehgt1602	Male adj height, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000325">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000325</a>
Metabolic	Adiposity	malehgt1803	Male adj height, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000327">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000327</a>
Metabolic	Adiposity	malehgt1x01	Male adj height, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000329">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000329</a>
Metabolic	Adiposity	malehgt2004	Male adj height, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000331">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000331</a>

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Metabolic	Adiposity	malehgt2205	Male adj height, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000333">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000333</a>
Metabolic	Adiposity	malehgt2406	Male adj height, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000335">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000335</a>
Metabolic	Adiposity	malehgt2607	Male adj height, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000337">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000337</a>
Metabolic	Adiposity	malemeanbmi	Male adj mean bmi, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000339">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000339</a>
Metabolic	Adiposity	malemeanhgt	Male adj mean hgt, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000341">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000341</a>
Metabolic	Adiposity	malemeanwgt	Male adj mean weight, offsp 1-7 & cohort 10,16,18,20,22,24,26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000343">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000343</a>
Metabolic	Adiposity	maleochgwt	Male adj waist change, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000345">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000345</a>
Metabolic	Adiposity	maleomeanwst	Male adj mean waist, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000347">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000347</a>
Metabolic	Adiposity	maleowst0007	Male adj waist, offsp 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000349">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000349</a>
Metabolic	Adiposity	malerankbmi1602	Male rank adj bmi, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000351">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000351</a>
Metabolic	Adiposity	malerankbmi1803	Male rank adj bmi, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000353">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000353</a>
Metabolic	Adiposity	malerankbmi2004	Male rank adj bmi, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000355">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000355</a>
Metabolic	Adiposity	malerankbmi2205	Male rank adj bmi, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000357">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000357</a>
Metabolic	Adiposity	malerankbmi2406	Male rank adj bmi, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000359">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000359</a>
Metabolic	Adiposity	malerankbmi2607	Male rank adj bmi, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000361">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000361</a>
Metabolic	Adiposity	malerankchgmbi	Male rank adj bmi change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000363">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000363</a>
Metabolic	Adiposity	malerankchgwt	Male rank adj weight change, offsp 1-7 & cohort exams 10-26	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000365">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000365</a>
Metabolic	Adiposity	malerankhgt2406	Male rank adj height, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000367">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000367</a>
Metabolic	Adiposity	malerankochgwt	Male rank adj waist change, offsp 4 to 7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000369">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000369</a>
Metabolic	Adiposity	malerankwgt1602	Male rank adj weight, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000371">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000371</a>
Metabolic	Adiposity	malerankwgt2004	Male rank adj weight, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000373">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000373</a>
Metabolic	Adiposity	malerankwgt2205	Male rank adj weight, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000375">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000375</a>
Metabolic	Adiposity	malerankwst2306	Male rank adj waist, offsp 6 & cohort exam 23	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000377">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000377</a>
Metabolic	Adiposity	malewgt1602	Male adj weight, offsp 2 & cohort 16 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000379">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000379</a>
Metabolic	Adiposity	malewgt1803	Male adj weight, offsp 3 & cohort 18 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000381">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000381</a>
Metabolic	Adiposity	malewgt1x01	Male adj weight, offsp 1 & cohort 10 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000383">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000383</a>
Metabolic	Adiposity	malewgt2004	Male adj weight, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000385">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000385</a>
Metabolic	Adiposity	malewgt2205	Male adj weight, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000387">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000387</a>
Metabolic	Adiposity	malewgt2406	Male adj weight, offsp 6 & cohort 24 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000389">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000389</a>
Metabolic	Adiposity	malewgt2607	Male adj weight, offsp 7 & cohort 26 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000391">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000391</a>
Metabolic	Adiposity	malewst2004	Male adj waist, offsp 4 & cohort 20 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000393">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000393</a>
Metabolic	Adiposity	malewst2205	Male adj waist, offsp 5 & cohort 22 exams	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000395">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000395</a>
Metabolic	Adiposity	malewst2306	Male adj waist, offsp 6 & cohort exam 23	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000397">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000397</a>
Metabolic	Adiposity	SATAS	SAT adj for age, age sqr, sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000399">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000399</a>
Metabolic	Adiposity	SATMV	SAT adj for age, age square, sex, meno status, smoking	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000401">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000401</a>
Metabolic	Adiposity	SDAS	Sagittal diameter adj for age, age square, sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000403">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000403</a>
Metabolic	Adiposity	SDMV	Sagittal diameter adj for age, age square, sex, meno status, smoking	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000405">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000405</a>
Metabolic	Adiposity	VATAS	VAT adj for age, age squared, sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000407">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000407</a>
Metabolic	Adiposity	VATMV	VAT adj for age, age squared, sex, meno status, smoking	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000409">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000409</a>
Metabolic	Adiposity	WCAS	Waist by CT adj for age, age squared, sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000411">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000411</a>
Metabolic	Adiposity	WCMV	Waist by CT adj for age, age squared, sex, meno status, smoking	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000413">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000413</a>
Metabolic	Glycemic	DiabSurv1sexage	Diabetes incidence to ex7, age-sex adjusted in FBAT, Cox model for GEE	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000415">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000415</a>
Metabolic	Glycemic	DiabSurv2sexagebmi	Diabetes incidence to ex7, age-sex-bmi adjusted in FBAT, Cox model for GEE	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000417">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000417</a>
Metabolic	Glycemic	res1ladipoq7o	Age-sex adjusted Adiponectin ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000419">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000419</a>
Metabolic	Glycemic	res1lfglu5o	Age-sex adjusted Fasting Plasma Glucose ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000421">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000421</a>
Metabolic	Glycemic	res1lfglu7o	Age-sex adjusted Fasting Plasma Glucose ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000423">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000423</a>
Metabolic	Glycemic	res1lfn5o	Age-sex adjusted Fasting Insulin ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000425">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000425</a>
Metabolic	Glycemic	res1lfn7o	Age-sex adjusted Fasting Insulin ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000427">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000427</a>
Metabolic	Glycemic	res1lqutt5o	Age-sex adjusted Insulin Sensitivity ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000429">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000429</a>
Metabolic	Glycemic	res1lhba1c5o	Age-sex adjusted Fasting HbA1c ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000431">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000431</a>
Metabolic	Glycemic	res1lhba1c7o	Age-sex adjusted HbA1c ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000433">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000433</a>
Metabolic	Glycemic	res1lhir5o	Age-sex adjusted HOMA-IR ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000435">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000435</a>
Metabolic	Glycemic	res1lhir7o	Age-sex adjusted HOMA-IR ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000437">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000437</a>
Metabolic	Glycemic	res1lmfglu17o	Age-sex adjusted Mean Plasma Glucose ex1-7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000439">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000439</a>
Metabolic	Glycemic	res1lretn7o	Age-sex adjusted Resistin ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000441">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000441</a>
Metabolic	Glycemic	res2ladipoq7o	Multivariable adjusted Adiponectin ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000443">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000443</a>

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Metabolic	Glycemic	res2lfglu5o	Multivariable adjusted Fasting Plasma Glucose ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000445">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000445</a>
Metabolic	Glycemic	res2lfglu7o	Multivariable adjusted Fasting Plasma Glucose ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000447">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000447</a>
Metabolic	Glycemic	res2lflns5o	Multivariable adjusted Fasting Insulin ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000449">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000449</a>
Metabolic	Glycemic	res2lflns7o	Multivariable adjusted Fasting Insulin ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000451">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000451</a>
Metabolic	Glycemic	res2lgtt5o	Multivariable adjusted Insulin Sensitivity ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000453">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000453</a>
Metabolic	Glycemic	res2lhba1c5o	Multivariable adjusted Fasting HbA1c ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000455">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000455</a>
Metabolic	Glycemic	res2lhba1c7o	Multivariable adjusted HbA1c ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000457">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000457</a>
Metabolic	Glycemic	res2lhir5o	Multivariable adjusted HOMA-IR ex5 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000459">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000459</a>
Metabolic	Glycemic	res2lhir7o	Multivariable adjusted HOMA-IR ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000461">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000461</a>
Metabolic	Glycemic	res2lmglu17o	Multivariable adjusted Mean Plasma Glucose exam1-7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000463">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000463</a>
Metabolic	Glycemic	res2lretn7o	Multivariable adjusted Resistin ex7 offspring	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000465">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000465</a>
Metabolic	Lipids	ApoA14a	Multivariable adj Plasma ApoA1 Level Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000467">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000467</a>
Metabolic	Lipids	ApoA14b	Age-sex adj Plasma ApoA1 Level Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000469">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000469</a>
Metabolic	Lipids	ApoB4a	Multivariable adj Plasma ApoB Level Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000471">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000471</a>
Metabolic	Lipids	ApoB4b	Age-sex adj Plasma ApoB Level Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000473">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000473</a>
Metabolic	Lipids	ApoC3a	Multivariable adj Plasma ApoCIII Level Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000475">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000475</a>
Metabolic	Lipids	ApoC3b	Age-sex adj Plasma ApoCIII Level Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000477">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000477</a>
Metabolic	Lipids	chol1a	Multivariable adj Chol Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000479">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000479</a>
Metabolic	Lipids	chol1b	Age-sex adj Chol Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000481">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000481</a>
Metabolic	Lipids	chol2b	Age-sex adj Chol Offsp ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000483">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000483</a>
Metabolic	Lipids	chol3b	Age-sex adj Chol Offsp ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000485">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000485</a>
Metabolic	Lipids	chol4b	Age-sex adj Chol Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000487">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000487</a>
Metabolic	Lipids	chol5b	Age-sex adj Chol Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000489">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000489</a>
Metabolic	Lipids	chol6b	Age-sex adj Chol Offsp ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000491">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000491</a>
Metabolic	Lipids	chol7b	Age-sex adj Chol Offsp ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000493">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000493</a>
Metabolic	Lipids	cholhdl1a	Multivariable adj Chol-HDL Ratio Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000495">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000495</a>
Metabolic	Lipids	cholhdl1b	Age-sex adj Chol-HDL Ratio Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000497">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000497</a>
Metabolic	Lipids	cholhdl2b	Age-sex adj Chol-HDL Ratio Offsp ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000499">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000499</a>
Metabolic	Lipids	cholhdl3b	Age-sex adj Chol-HDL Ratio Offsp ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000501">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000501</a>
Metabolic	Lipids	cholhdl4b	Age-sex adj Chol-HDL Ratio Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000503">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000503</a>
Metabolic	Lipids	cholhdl5b	Age-sex adj Chol-HDL Ratio Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000505">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000505</a>
Metabolic	Lipids	cholhdl6b	Age-sex adj Chol-HDL Ratio Offsp ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000507">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000507</a>
Metabolic	Lipids	cholhdl7b	Age-sex adj Chol-HDL Ratio Offsp ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000509">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000509</a>
Metabolic	Lipids	hdl1a	Multivariable adj HDL Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000511">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000511</a>
Metabolic	Lipids	hdl1b	Age-sex adj HDL Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000513">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000513</a>
Metabolic	Lipids	hdl24a	Multivariable adj HDL2 Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000515">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000515</a>
Metabolic	Lipids	hdl24b	Age-sex adj HDL2 Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000517">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000517</a>
Metabolic	Lipids	hdl25a	Multivariable adj HDL2 Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000519">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000519</a>
Metabolic	Lipids	hdl25b	Age-sex adj HDL2 Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000521">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000521</a>
Metabolic	Lipids	hdl2b	Age-sex adj HDL Offsp ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000523">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000523</a>
Metabolic	Lipids	hdl34a	Multivariable adj HDL3 Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000525">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000525</a>
Metabolic	Lipids	hdl34b	Age-sex adj HDL3 Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000527">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000527</a>
Metabolic	Lipids	hdl35a	Multivariable adj HDL3 Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000529">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000529</a>
Metabolic	Lipids	hdl35b	Age-sex adj HDL3 Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000531">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000531</a>
Metabolic	Lipids	hdl3b	Age-sex adj HDL Offsp ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000533">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000533</a>
Metabolic	Lipids	hdl4b	Age-sex adj HDL Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000535">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000535</a>
Metabolic	Lipids	hdl5b	Age-sex adj HDL Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000537">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000537</a>
Metabolic	Lipids	hdl6b	Age-sex adj HDL Offsp ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000539">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000539</a>
Metabolic	Lipids	hdl7b	Age-sex adj HDL Offsp ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000541">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000541</a>
Metabolic	Lipids	HDLNMRint4a	Multivariable adj NMR HDL Int Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000543">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000543</a>
Metabolic	Lipids	HDLNMRint4b	Age-sex adj NMR HDL Int Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000545">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000545</a>
Metabolic	Lipids	HDLNMRlg4a	Multivariable adj NMR HDL Lg Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000547">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000547</a>
Metabolic	Lipids	HDLNMRlg4b	Age-sex adj NMR HDL Lg Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000549">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000549</a>
Metabolic	Lipids	HDLNMRsm4a	Multivariable adj NMR HDL Sm Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000551">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000551</a>
Metabolic	Lipids	HDLNMRsm4b	Age-sex adj NMR HDL Sm Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000553">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000553</a>
Metabolic	Lipids	HDLNMRsz4a	Multivariable adj NMR HDL Size Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000555">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000555</a>

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Metabolic	Lipids	IDLNMRsz4b	Age-sex adj NMR HDL Size Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000557">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000557</a>
Metabolic	Lipids	IDLNMR4a	Multivariable adj NMR IDL Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000559">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000559</a>
Metabolic	Lipids	IDLNMR4b	Age-sex adj NMR IDL Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000561">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000561</a>
Metabolic	Lipids	ldl1a	Multivariable adj LDL Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000563">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000563</a>
Metabolic	Lipids	ldl1b	Age-sex adj LDL Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000565">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000565</a>
Metabolic	Lipids	ldl2b	Age-sex adj LDL Offsp ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000567">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000567</a>
Metabolic	Lipids	ldl3b	Age-sex adj LDL Offsp ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000569">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000569</a>
Metabolic	Lipids	ldl4b	Age-sex adj LDL Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000571">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000571</a>
Metabolic	Lipids	ldl5b	Age-sex adj LDL Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000573">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000573</a>
Metabolic	Lipids	ldl6b	Age-sex adj LDL Offsp ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000575">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000575</a>
Metabolic	Lipids	ldl7b	Age-sex adj LDL Offsp ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000577">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000577</a>
Metabolic	Lipids	LDLNMRlg4a	Multivariable adj NMR LDL Lg Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000579">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000579</a>
Metabolic	Lipids	LDLNMRlg4b	Age-sex adj NMR LDL Lg Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000581">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000581</a>
Metabolic	Lipids	LDLNMRsm4a	Multivariable adj NMR LDL Sm Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000583">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000583</a>
Metabolic	Lipids	LDLNMRsm4b	Age-sex adj NMR LDL Sm Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000585">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000585</a>
Metabolic	Lipids	LDLNMRsz4a	Multivariable adj NMR LDL Size Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000587">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000587</a>
Metabolic	Lipids	LDLNMRsz4b	Age-sex adj NMR LDL Size Offsp ex4 or TG > 400	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000589">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000589</a>
Metabolic	Lipids	lpa3a	Multivariable adj Lpa Offsp ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000591">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000591</a>
Metabolic	Lipids	lpa3b	Age-sex adj Lpa Offsp ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000593">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000593</a>
Metabolic	Lipids	meanchola	Multivariable adj NMR Chol Offsp ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000595">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000595</a>
Metabolic	Lipids	meancholb	Age-sex adj NMR Chol Offsp ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000597">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000597</a>
Metabolic	Lipids	meanhdla	Multivariable adj NMR HDL Offsp ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000599">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000599</a>
Metabolic	Lipids	meanhdlb	Age-sex adj NMR HDL Offsp ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000601">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000601</a>
Metabolic	Lipids	meanldla	Multivariable adj NMR Calc LDL Offsp ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000603">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000603</a>
Metabolic	Lipids	meanldlb	Age-sex adj NMR Calc LDL Offsp ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000605">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000605</a>
Metabolic	Lipids	meantga	Multivariable adj NMR (TG) Offsp ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000607">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000607</a>
Metabolic	Lipids	meantgb	Age-sex adj NMR (TG) Offsp ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000609">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000609</a>
Metabolic	Lipids	PlasmaApoEa	Multivariable adj Plasma ApoE Level Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000611">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000611</a>
Metabolic	Lipids	PlasmaApoEb	Age-sex adj Plasma ApoE Level Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000613">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000613</a>
Metabolic	Lipids	RLPChol4a	Multivariable adj Remnant LP Chol Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000923">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000923</a>
Metabolic	Lipids	RLPChol4b	Age-sex adj Remnant LP Chol Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000925">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000925</a>
Metabolic	Lipids	RLPTG4a	Remnant LP TG Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000617">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000617</a>
Metabolic	Lipids	RLPTG4b	Remnant LP Age-sex adj TG Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000615">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000615</a>
Metabolic	Lipids	tg1a	Multivariable adj TG Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000619">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000619</a>
Metabolic	Lipids	tg1b	Age-sex adj TG Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000621">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000621</a>
Metabolic	Lipids	tg2b	Age-sex adj TG Offsp ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000623">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000623</a>
Metabolic	Lipids	tg3b	Age-sex adj TG Offsp ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000625">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000625</a>
Metabolic	Lipids	tg4b	Age-sex adj TG Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000627">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000627</a>
Metabolic	Lipids	tg5b	Age-sex adj TG Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000629">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000629</a>
Metabolic	Lipids	tg6b	Age-sex adj TG Offsp ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000631">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000631</a>
Metabolic	Lipids	tg7b	Age-sex adj TG Offsp ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000633">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000633</a>
Metabolic	Lipids	tghdl1a	Multivariable adj TG-HDL Ratio Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000667">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000667</a>
Metabolic	Lipids	tghdl1b	Age-sex adj TG-HDL Ratio Offsp ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000913">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000913</a>
Metabolic	Lipids	tghdl2b	Age-sex adj TG-HDL Ratio Offsp ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000669">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000669</a>
Metabolic	Lipids	tghdl3b	Age-sex adj TG-HDL Ratio Offsp ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000671">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000671</a>
Metabolic	Lipids	tghdl4b	Age-sex adj TG-HDL Ratio Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000673">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000673</a>
Metabolic	Lipids	tghdl5b	Age-sex adj TG-HDL Ratio Offsp ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000675">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000675</a>
Metabolic	Lipids	tghdl6b	Age-sex adj TG-HDL Ratio Offsp ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000677">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000677</a>
Metabolic	Lipids	tghdl7b	Age-sex adj TG-HDL Ratio Offsp ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000679">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000679</a>
Metabolic	Lipids	VLDLNMRint4a	Multivariable adj NMR VLDL Int Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000865">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000865</a>
Metabolic	Lipids	VLDLNMRint4b	Age-sex adj NMR VLDL Int Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000867">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000867</a>
Metabolic	Lipids	VLDLNMRlg4a	Multivariable adj NMR VLDL Lg Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000877">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000877</a>
Metabolic	Lipids	VLDLNMRlg4b	Age-sex adj NMR VLDL Lg Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000879">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000879</a>
Metabolic	Lipids	VLDLNMRsm4a	Multivariable adj NMR VLDL Sm Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000901">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000901</a>
Metabolic	Lipids	VLDLNMRsm4b	Age-sex adj NMR VLDL Sm Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000903">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000903</a>
Metabolic	Lipids	VLDLNMRsz4a	Multivariable adj NMR VLDL Size Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000889">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000889</a>

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Metabolic	Lipids	VLDLNMRSz4b	Age-sex adj NMR VLDL Size Offsp ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000891">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000891</a>
Metabolic	Lipidsmen	menApoB4a	Multivariable adj Plasma ApoB Level Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000915">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000915</a>
Metabolic	Lipidsmen	menApoB4b	Age-sex adj Plasma ApoB Level Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000917">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000917</a>
Metabolic	Lipidsmen	menchol1a	Multivariable adj Chol Offsp men ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000709">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000709</a>
Metabolic	Lipidsmen	menchol1b	Age-sex adj Chol Offsp men ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000711">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000711</a>
Metabolic	Lipidsmen	menchol2b	Age-sex adj Chol Offsp men ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000713">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000713</a>
Metabolic	Lipidsmen	menchol3b	Age-sex adj Chol Offsp men ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000715">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000715</a>
Metabolic	Lipidsmen	menchol4b	Age-sex adj Chol Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000717">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000717</a>
Metabolic	Lipidsmen	menchol5b	Age-sex adj Chol Offsp men ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000719">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000719</a>
Metabolic	Lipidsmen	menchol6b	Age-sex adj Chol Offsp men ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000721">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000721</a>
Metabolic	Lipidsmen	menchol7b	Age-sex adj Chol Offsp men ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000723">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000723</a>
Metabolic	Lipidsmen	menhdl1a	Multivariable adj HDL Offsp men ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000741">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000741</a>
Metabolic	Lipidsmen	menhdl1b	Age-sex adj HDL Offsp men ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000743">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000743</a>
Metabolic	Lipidsmen	menhdl2b	Age-sex adj HDL Offsp men ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000745">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000745</a>
Metabolic	Lipidsmen	menhdl3b	Age-sex adj HDL Offsp men ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000747">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000747</a>
Metabolic	Lipidsmen	menhdl4b	Age-sex adj HDL Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000749">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000749</a>
Metabolic	Lipidsmen	menhdl5b	Age-sex adj HDL Offsp men ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000751">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000751</a>
Metabolic	Lipidsmen	menhdl6b	Age-sex adj HDL Offsp men ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000753">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000753</a>
Metabolic	Lipidsmen	menhdl7b	Age-sex adj HDL Offsp men ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000755">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000755</a>
Metabolic	Lipidsmen	menHDLNMRint4a	Multivariable adj NMR HDL Int Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000809">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000809</a>
Metabolic	Lipidsmen	menHDLNMRint4b	Age-sex adj NMR HDL Int Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000811">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000811</a>
Metabolic	Lipidsmen	menHDLNMRlg4a	Multivariable adj NMR HDL Lg Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000817">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000817</a>
Metabolic	Lipidsmen	menHDLNMRlg4b	Age-sex adj NMR HDL Lg Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000819">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000819</a>
Metabolic	Lipidsmen	menHDLNMRsm4a	Multivariable adj NMR HDL Sm Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000833">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000833</a>
Metabolic	Lipidsmen	menHDLNMRsm4b	Age-sex adj NMR HDL Sm Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000835">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000835</a>
Metabolic	Lipidsmen	menHDLNMRsz4a	Multivariable adj NMR HDL Size Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000825">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000825</a>
Metabolic	Lipidsmen	menHDLNMRsz4b	Age-sex adj NMR HDL Size Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000827">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000827</a>
Metabolic	Lipidsmen	menldl1a	Multivariable adj LDL Offsp men ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000681">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000681</a>
Metabolic	Lipidsmen	menldl1b	Age-sex adj LDL Offsp men ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000773">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000773</a>
Metabolic	Lipidsmen	menldl2b	Age-sex adj LDL Offsp men ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000678">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000678</a>
Metabolic	Lipidsmen	menldl3b	Age-sex adj LDL Offsp men ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000685">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000685</a>
Metabolic	Lipidsmen	menldl4b	Age-sex adj LDL Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000687">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000687</a>
Metabolic	Lipidsmen	menldl5b	Age-sex adj LDL Offsp men ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000689">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000689</a>
Metabolic	Lipidsmen	menldl6b	Age-sex adj LDL Offsp men ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000691">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000691</a>
Metabolic	Lipidsmen	menldl7b	Age-sex adj LDL Offsp men ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000693">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000693</a>
Metabolic	Lipidsmen	menLDLNMRlg4a	Multivariable adj NMR LDL Lg Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000841">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000841</a>
Metabolic	Lipidsmen	menLDLNMRlg4b	Age-sex adj NMR LDL Lg Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000843">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000843</a>
Metabolic	Lipidsmen	menLDLNMRsm4a	Multivariable adj NMR LDL Sm Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000857">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000857</a>
Metabolic	Lipidsmen	menLDLNMRsm4b	Age-sex adj NMR LDL Sm Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000859">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000859</a>
Metabolic	Lipidsmen	menLDLNMRsz4a	Multivariable adj NMR LDL Size Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000849">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000849</a>
Metabolic	Lipidsmen	menLDLNMRsz4b	Age-sex adj NMR LDL Size Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000851">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000851</a>
Metabolic	Lipidsmen	menmeanchola	Multivariable adj Mean Chol Offsp men ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000793">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000793</a>
Metabolic	Lipidsmen	menmeancholb	Age-sex adj Mean Chol Offsp men ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000795">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000795</a>
Metabolic	Lipidsmen	menmeanhdla	Multivariable adj Mean HDL Offsp men ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000801">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000801</a>
Metabolic	Lipidsmen	menmeanhdlb	Age-sex adj Mean HDL Offsp men ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000803">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000803</a>
Metabolic	Lipidsmen	menmeanldla	Multivariable adj Mean LDL Offsp men ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000785">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000785</a>
Metabolic	Lipidsmen	menmeanldlb	Age-sex adj Mean LDL Offsp men ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000787">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000787</a>
Metabolic	Lipidsmen	menmeantga	Multivariable adj Mean TG Offsp men ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000777">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000777</a>
Metabolic	Lipidsmen	menmeantgb	Age-sex adj Mean TG Offsp men ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000779">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000779</a>
Metabolic	Lipidsmen	mentg1a	Multivariable adj TG Offsp men ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000635">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000635</a>
Metabolic	Lipidsmen	mentg1b	Age-sex adj TG Offsp men ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000637">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000637</a>
Metabolic	Lipidsmen	mentg2b	Age-sex adj TG Offsp men ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000639">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000639</a>
Metabolic	Lipidsmen	mentg3b	Age-sex adj TG Offsp men ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000641">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000641</a>
Metabolic	Lipidsmen	mentg4b	Age-sex adj TG Offsp men ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000643">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000643</a>
Metabolic	Lipidsmen	mentg5b	Age-sex adj TG Offsp men ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000645">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000645</a>
Metabolic	Lipidsmen	mentg6b	Age-sex adj TG Offsp men ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000647">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000647</a>



Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Metabolic	Lipidswomen	womenmeantgb	Age-sex adj Mean TG Offsp wom ex1-7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000783">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000783</a>
Metabolic	Lipidswomen	womentg1a	Multivariable adj TG Offsp wom ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000651">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000651</a>
Metabolic	Lipidswomen	womentg1b	Age-sex adj TG Offsp wom ex1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000653">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000653</a>
Metabolic	Lipidswomen	womentg2b	Age-sex adj TG Offsp wom ex2	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000655">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000655</a>
Metabolic	Lipidswomen	womentg3b	Age-sex adj TG Offsp wom ex3	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000657">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000657</a>
Metabolic	Lipidswomen	womentg4b	Age-sex adj TG Offsp wom ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000659">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000659</a>
Metabolic	Lipidswomen	womentg5b	Age-sex adj TG Offsp wom ex5	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000661">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000661</a>
Metabolic	Lipidswomen	womentg6b	Age-sex adj TG Offsp wom ex6	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000663">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000663</a>
Metabolic	Lipidswomen	womentg7b	Age-sex adj TG Offsp wom ex7	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000665">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000665</a>
Metabolic	Lipidswomen	womenVLDLNMRInt4a	Multivariable adj NMR VLDL Int Offsp wom ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000873">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000873</a>
Metabolic	Lipidswomen	womenVLDLNMRInt4b	Age-sex adj NMR VLDL Int Offsp wom ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000875">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000875</a>
Metabolic	Lipidswomen	womenVLDLNMRIg4a	Multivariable adj NMR VLDL Lg Offsp wom ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000885">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000885</a>
Metabolic	Lipidswomen	womenVLDLNMRIg4b	Age-sex adj NMR VLDL Lg Offsp wom ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000887">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000887</a>
Metabolic	Lipidswomen	womenVLDLNMRSm4a	Multivariable adj NMR VLDL Sm Offsp wom ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000909">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000909</a>
Metabolic	Lipidswomen	womenVLDLNMRSm4b	Age-sex NMR VLDL Sm Offsp wom ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000911">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000911</a>
Metabolic	Lipidswomen	womenVLDLNMRSz4a	Multivariable adj NMR VLDL Size Offsp wom ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000897">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000897</a>
Metabolic	Lipidswomen	womenVLDLNMRSz4b	Age-sex adj NMR VLDL Size Offsp wom ex4	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000899">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000899</a>
Pulmonary	Circadian	bedtime	usual weekday bedtime unadjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000005">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000005</a>
Pulmonary	Circadian	bedtimeresid	usual weekday bedtime adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000007">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000007</a>
Pulmonary	Circadian	sleepdur	usual weekday sleep duration unadjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000009">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000009</a>
Pulmonary	Circadian	sleepdurrresid	usual weekday sleep duration adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000011">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000011</a>
Pulmonary	longitudinal	fef2575long	rate of decline of FEF(25-75)	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000013">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000013</a>
Pulmonary	longitudinal	fef2575longsmoke10	rate of decline of FEF(25-75) in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000015">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000015</a>
Pulmonary	longitudinal	feffvclong	rate of decline of FEF(25-75)/FVC	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000017">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000017</a>
Pulmonary	longitudinal	feffvclongsmoke10	rate of decline of FEF(25-75)/FVC in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000019">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000019</a>
Pulmonary	longitudinal	fev1fvclong	rate of decline of FEV1/FVC	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000021">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000021</a>
Pulmonary	longitudinal	fev1fvclongsmoke10	rate of decline of FEV1/FVC in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000023">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000023</a>
Pulmonary	longitudinal	fev1long	rate of decline of FEV1	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000025">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000025</a>
Pulmonary	longitudinal	fev1longsmoke10	rate of decline of FEV1 in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000027">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000027</a>
Pulmonary	longitudinal	fvclong	rate of decline of FVC	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000029">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000029</a>
Pulmonary	longitudinal	fvclongsmoke10	rate of decline of FVC in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000031">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000031</a>
Pulmonary	mean	genomefev1	mean FEV1 from 2 examinations	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000033">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000033</a>
Pulmonary	mean	genomefvc	mean FVC from 2 examinations	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000035">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000035</a>
Pulmonary	mean	genomeratio	mean FEV1/FVC from 2 examinations	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000037">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000037</a>
Pulmonary	ppcrosssectional	ppfefadj	percent predicted FEF(25-75) at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000039">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000039</a>
Pulmonary	ppcrosssectional	ppfefadjsm10	percent predicted FEF(25-75) at latest exam in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000041">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000041</a>
Pulmonary	ppcrosssectional	ppfefratadj	percent predicted FEF(25-75)/FVC at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000043">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000043</a>
Pulmonary	ppcrosssectional	ppfefratadjsm10	percent predicted FEF(25-75)/FVC latest exam, 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000045">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000045</a>
Pulmonary	ppcrosssectional	ppfev1adj	percent predicted FEV1 at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000047">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000047</a>
Pulmonary	ppcrosssectional	ppfev1adjsm10	percent predicted FEV1 at latest exam in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000049">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000049</a>
Pulmonary	ppcrosssectional	ppfvcaadj	percent predicted FVC at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000051">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000051</a>
Pulmonary	ppcrosssectional	ppfvcaadjsm10	percent predicted FVC at latest exam in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000053">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000053</a>
Pulmonary	ppcrosssectional	ppratioadj	percent predicted FEV1/FVC at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000055">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000055</a>
Pulmonary	ppcrosssectional	ppratioadjsm10	percent predicted FEV1/FVC at latest exam in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000057">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000057</a>
Pulmonary	ccrosssectional	rfefadj	residual from predicted FEF(25-75) at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000059">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000059</a>
Pulmonary	ccrosssectional	rfefadjsm10	residual from predicted FEF(25-75) at latest exam in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000061">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000061</a>
Pulmonary	ccrosssectional	rfefratadj	residual from predicted FEF(25-75)/FVC at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000063">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000063</a>
Pulmonary	ccrosssectional	rfefratadjsm10	residual from predicted FEF(25-75)/FVC latest exam in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000065">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000065</a>
Pulmonary	ccrosssectional	rfev1adj	residual from predicted FEV1 at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000067">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000067</a>
Pulmonary	ccrosssectional	rfev1adjsm10	residual from predicted FEV1 at latest exam in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000069">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000069</a>
Pulmonary	ccrosssectional	rfvcaadj	residual from predicted FVC at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000071">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000071</a>
Pulmonary	ccrosssectional	rfvcaadjsm10	residual from predicted FVC at latest exam in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000073">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000073</a>
Pulmonary	ccrosssectional	rratioadj	residual from predicted FEV1/FVC at latest exam	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000075">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000075</a>
Pulmonary	ccrosssectional	rratioadjsm10	residual from predicted FEV1/FVC at latest exam in 10+ packyear smokers	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000077">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000077</a>
Pulmonary	SDB	rdiresid	apnea-hypopnea index with 4% desaturation adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000079">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000079</a>
Pulmonary	singleexam	ppfev1single	percent predicted FEV1, exam: offspring 6, cohort 17	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000081">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000081</a>



Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
Pulmonary	singleexam	ppfvcsingle	percent predicted FVC, exam: offspring 6, cohort 17	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000083">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000083</a>
Pulmonary	singleexam	ppratiosingle	percent predicted FEV1/FVC, exam: offspring 6, cohort 17	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000085">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000085</a>
Pulmonary	singleexam	rfev1single	residual from predicted FEV1, exam: offspring 6, cohort 17	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000087">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000087</a>
Pulmonary	singleexam	rffcvsingle	residual from predicted FVC, exam: offspring 6, cohort 17	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000089">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000089</a>
Pulmonary	singleexam	rfratiosingle	residual from predicted FEV1/FVC, exam: offspring 6, cohort 17	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000091">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000091</a>
Pulmonary	Sleepiness	ess	Epworth Sleepiness Scale, unadjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000093">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000093</a>
Pulmonary	Sleepiness	essresid1	Epworth Sleepiness Scale, adjusted A	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000095">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000095</a>
Pulmonary	Sleepiness	essresid2	Epworth Sleepiness Scale, adjusted B	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000097">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000097</a>
Pulmonary	Sleepiness	essresid3	Epworth Sleepiness Scale, adjusted C	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000099">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000099</a>
RENALENDO	ENDO	DHEASAS3	DHEAS adjusted for age and sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001219">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001219</a>
RENALENDO	ENDO	DHEASMV3	DHEAS MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001221">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001221</a>
RENALENDO	ENDO	FSHAS3	FSH in men or post meno women no hormones, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001223">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001223</a>
RENALENDO	ENDO	FSHNMV3	FSH in men or post meno women no hormones, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001225">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001225</a>
RENALENDO	ENDO	LHAS3	LH in men or post-meno women no hormones, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001227">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001227</a>
RENALENDO	ENDO	LHMV3	LH in men or post-meno women no hormones, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001229">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001229</a>
RENALENDO	ENDO	TSHLNAS3	TSH from ex3 log transformed, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001231">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001231</a>
RENALENDO	ENDO	TSHLNAS4	TSH from ex4 log transformed, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001233">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001233</a>
RENALENDO	ENDO	TSHLNMV3	TSH ex3 log transformed, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001235">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001235</a>
RENALENDO	ENDO	TSHLNMV4	TSH ex4 log transformed, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001237">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001237</a>
RENALENDO	ENDO	TSHMEAN34LNAS	Mean TSH log transformed, mean of ex3 and ex4, age sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001239">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001239</a>
RENALENDO	ENDO	TSHMEAN34LNMV	Mean TSH ex3 and 4, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001241">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001241</a>
RENALENDO	RENAL	CALCIUMAS2	Calcium, ex2, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001243">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001243</a>
RENALENDO	RENAL	CALCIUMMV2	Calcium, ex2, age-sex-creatinine adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001245">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001245</a>
RENALENDO	RENAL	CHNGSCR27ASWIN	Change in creatinine ex2 to 7, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001247">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001247</a>
RENALENDO	RENAL	CHNGSCR27MVWIN	Change in creatinine ex2 to 7, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001249">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001249</a>
RENALENDO	RENAL	CKDAS7	CKD ex 7, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001251">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001251</a>
RENALENDO	RENAL	CKDMV7	CKD ex 7, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001253">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001253</a>
RENALENDO	RENAL	CYSCAS7	Cystatin C, ex 7, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001327">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001327</a>
RENALENDO	RENAL	CYSCMV7	Cystatin C, ex 7, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001329">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001329</a>
RENALENDO	RENAL	GFRAS5	GFR ex 5, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001355">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001355</a>
RENALENDO	RENAL	GFRAS6	GFR ex 6, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001257">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001257</a>
RENALENDO	RENAL	GFRAS7	GFR ex 7, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001259">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001259</a>
RENALENDO	RENAL	GFRASWIN2	GFR ex2, winsorized, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001261">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001261</a>
RENALENDO	RENAL	GFRMV5	GFR ex5, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001263">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001263</a>
RENALENDO	RENAL	GFRMV6	GFR ex6, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001265">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001265</a>
RENALENDO	RENAL	GFRMV7	GFR ex7, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001267">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001267</a>
RENALENDO	RENAL	GFRMVWIN2	GFR ex2, winsorized, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001269">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001269</a>
RENALENDO	RENAL	MeanGFRAS2567WIN	Mean GFR ex 2,5,6,7 age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001271">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001271</a>
RENALENDO	RENAL	MeanGFRMV2567WIN	Mean GFR ex 2,5,6,7, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001273">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001273</a>
RENALENDO	RENAL	MeanSCR2567LNASWIN	Mean creatinine ex 2,5,6,7 age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001275">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001275</a>
RENALENDO	RENAL	MeanSCR2567LNMVWIN	Mean creatinine ex 2,5,6,7, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001277">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001277</a>
RENALENDO	RENAL	MeanURICACID12AS	Mean uric acid, ex 1 and 2, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001279">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001279</a>
RENALENDO	RENAL	MeanURICACID12MV	Mean uric acid, ex 1 and 2, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001281">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001281</a>
RENALENDO	RENAL	PHOSAS2	Phos, ex 2, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001283">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001283</a>
RENALENDO	RENAL	PHOSMV2	Phos, ex 2, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001285">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001285</a>
RENALENDO	RENAL	SCRLNAS5	Creatinine, ex5, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001287">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001287</a>
RENALENDO	RENAL	SCRLNAS6	Creatinine, ex6, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001289">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001289</a>
RENALENDO	RENAL	SCRLNASWIN2	Creatinine ex2, log transformed and winsorized, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001291">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001291</a>
RENALENDO	RENAL	SCRLNASWIN7	Creatinine ex7, log transformed and winsorized, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001293">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001293</a>
RENALENDO	RENAL	SCRLNMV5	GFR ex 5 uncalibrated creatinine, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001295">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001295</a>
RENALENDO	RENAL	SCRLNMV6	GFR ex 6 uncalibrated creatinine, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001297">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001297</a>
RENALENDO	RENAL	SCRLNMVWIN2	Creatinine ex 2 log transformed winsorized MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001299">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001299</a>
RENALENDO	RENAL	SCRLNMVWIN7	Creatinine ex 7 uncalibrated MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001301">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001301</a>
RENALENDO	RENAL	UAEGE30HTNAS6	UAE of at least 30 in enriched hypertensive sample, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001303">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001303</a>
RENALENDO	RENAL	UAEGE30HTNMV6	UAE of at least 30 in enriched hypertensive sample, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001305">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001305</a>
RENALENDO	RENAL	UAELNAS6	Log-transformed UAE, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001307">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001307</a>

Online Table 2: Phenotypes Evaluated for Association using Family-based Analysis (FBAT)

Group	Category	Trait Label	Name	FBAT Link
RENALEND	RENAL	UAELNHTNAS6	Log-transformed UAE in HTN enriched sample, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001309">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001309</a>
RENALEND	RENAL	UAELNHTNMV6	Log-transformed UAE in HTN enriched sample, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001311">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001311</a>
RENALEND	RENAL	UAELNMV6	Log-transformed UAE, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001313">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001313</a>
RENALEND	RENAL	UNALNASWIN6	Urinary sodium, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001315">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001315</a>
RENALEND	RENAL	UNALNMVWIN6	Urinary sodium, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001317">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001317</a>
RENALEND	RENAL	URICACIDAS1	Uric acid, ex 1, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001319">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001319</a>
RENALEND	RENAL	URICACIDAS2	Uric acid, ex 2, age-sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001321">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001321</a>
RENALEND	RENAL	URICACIDMV1	Uric acid, ex1, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001323">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001323</a>
RENALEND	RENAL	URICACIDMV2	Uric acid, ex2, MV adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001325">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha001325</a>
SubclinCVD	Ankle-brachialindex	RANKLEBI6	Ankle-brachial index, cycle 6, age and sex-djusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000927">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000927</a>
SubclinCVD	Ankle-brachialindex	RANKLEBI6MV	Ankle-brachial index, cycle 6, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000929">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000929</a>
SubclinCVD	Ankle-brachialindex	RANKLEBI7	Ankle-brachial index, cycle 7, age- and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000931">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000931</a>
SubclinCVD	Ankle-brachialindex	RANKLEBI7MV	Ankle-brachial index, cycle 7, multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000933">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000933</a>
SubclinCVD	BrainMRI	BMRILWMHVC	Log white matter hyperintensity to intracranial volume ratio, age and sex	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000935">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000935</a>
SubclinCVD	BrainMRI	BMRILWMHVMV	Log white matter hyperintensity to intracranial volume ratio, multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000937">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000937</a>
SubclinCVD	BrainMRI	BMRIZLWMHVC	Z-score log white matter hyperintensity volume ratio, sex adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000939">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000939</a>
SubclinCVD	BrainMRI	BMRIZLWMHVMV	Z-score log white matter hyperintensity volume ratio, multivariable	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000941">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000941</a>
SubclinCVD	Carotid	RNKCAROTBULBAS6	Carotid bulb IMT mean max, cycle 6, log transformed age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000943">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000943</a>
SubclinCVD	Carotid	RNKCAROTBULBMV6	Carotid bulb IMT mean max, cycle 6, log transformed multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000945">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000945</a>
SubclinCVD	Carotid	RNKCAROTCCAMAXAS6	Common carotid IMT mean max, cycle 6, log transformed age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000947">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000947</a>
SubclinCVD	Carotid	RNKCAROTCCAMAXMV6	Common carotid IMT mean max, cycle 6, log transformed multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000949">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000949</a>
SubclinCVD	Carotid	RNKCAROTCCAMEANAS6	Common carotid IMT mean mean, cycle 6, log transformed age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000951">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000951</a>
SubclinCVD	Carotid	RNKCAROTCCAMEANMV6	Common carotid IMT mean mean, cycle 6, log transformed multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000953">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000953</a>
SubclinCVD	Carotid	RNKCAROTICAMAXAS6	Internal carotid IMT mean max, cycle 6, log transformed age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000955">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000955</a>
SubclinCVD	Carotid	RNKCAROTICAMAXMV6	Internal carotid IMT mean max, cycle 6, log transformed multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000957">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000957</a>
SubclinCVD	Carotid	RNKCAROTICAMEANAS6	Internal carotid IMT mean mean, cycle 6, log transformed age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000959">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000959</a>
SubclinCVD	Carotid	RNKCAROTICAMEANMV6	Internal carotid IMT mean mean, cycle 6, log transformed multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000961">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000961</a>
SubclinCVD	Carotid	RNKCAROTSTENAS6	Maximum Carotid Stenosis, cycle 6, age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000963">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000963</a>
SubclinCVD	Carotid	RNKCAROTSTENMV6	Maximum Carotid Stenosis, cycle 6 multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000965">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000965</a>
SubclinCVD	CT	RESMDCTAACAS7	Mean Agatston AAC score, MDCT ~cycle 7, log transform, age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000967">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000967</a>
SubclinCVD	CT	RESMDCTAACMV7	Mean Agatston AAC score, MDCT ~cycle 7, log transform multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000969">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000969</a>
SubclinCVD	CT	RESMDCTCACAS7	Mean Agatston CAC score, MDCT ~cycle 7, log transform age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000971">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000971</a>
SubclinCVD	CT	RESMDCTCACMAXAS7	Max Agatston CAC score, MDCT ~cycle 7, log transform age and sex-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000973">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000973</a>
SubclinCVD	CT	RESMDCTCACMAXMV7	Max Agatston CAC score, MDCT ~cycle 7, log transform multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000975">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000975</a>
SubclinCVD	CT	RESMDCTCACMV7	Mean Agatston CAC score, MDCT ~cycle 7, log transform multivariable-adjusted	<a href="http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000977">http://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/analysis.cgi?id=pha000977</a>