

## SUPPLEMENTAL MATERIAL

### Association of *APOL1* Risk Alleles with Cardiovascular Disease in African Americans in the Million Veteran Program

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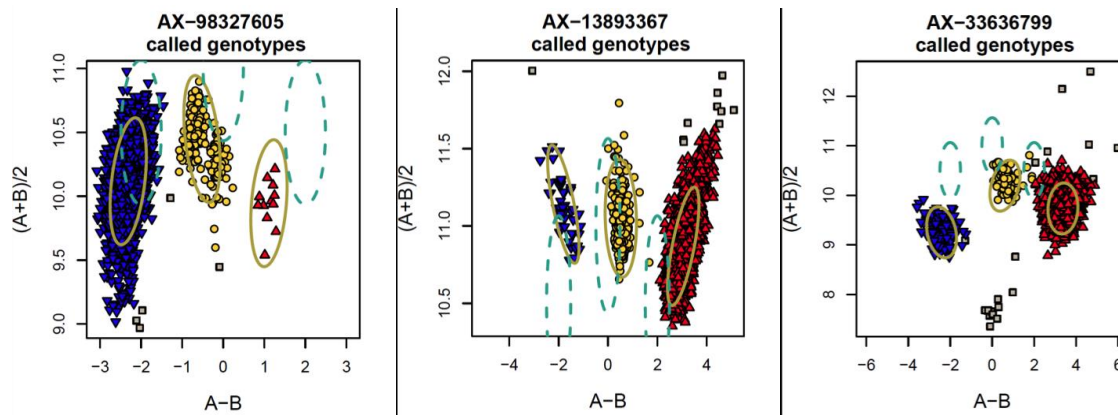
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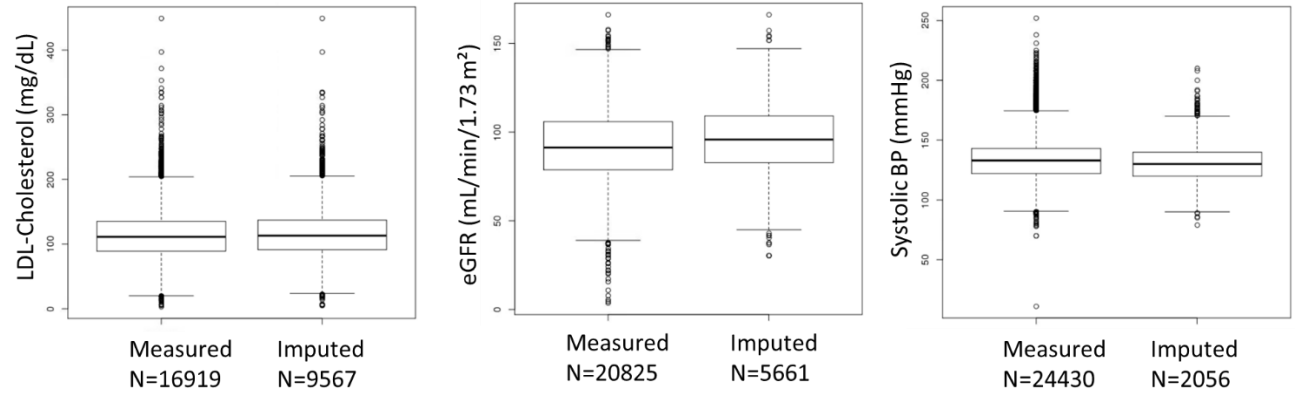
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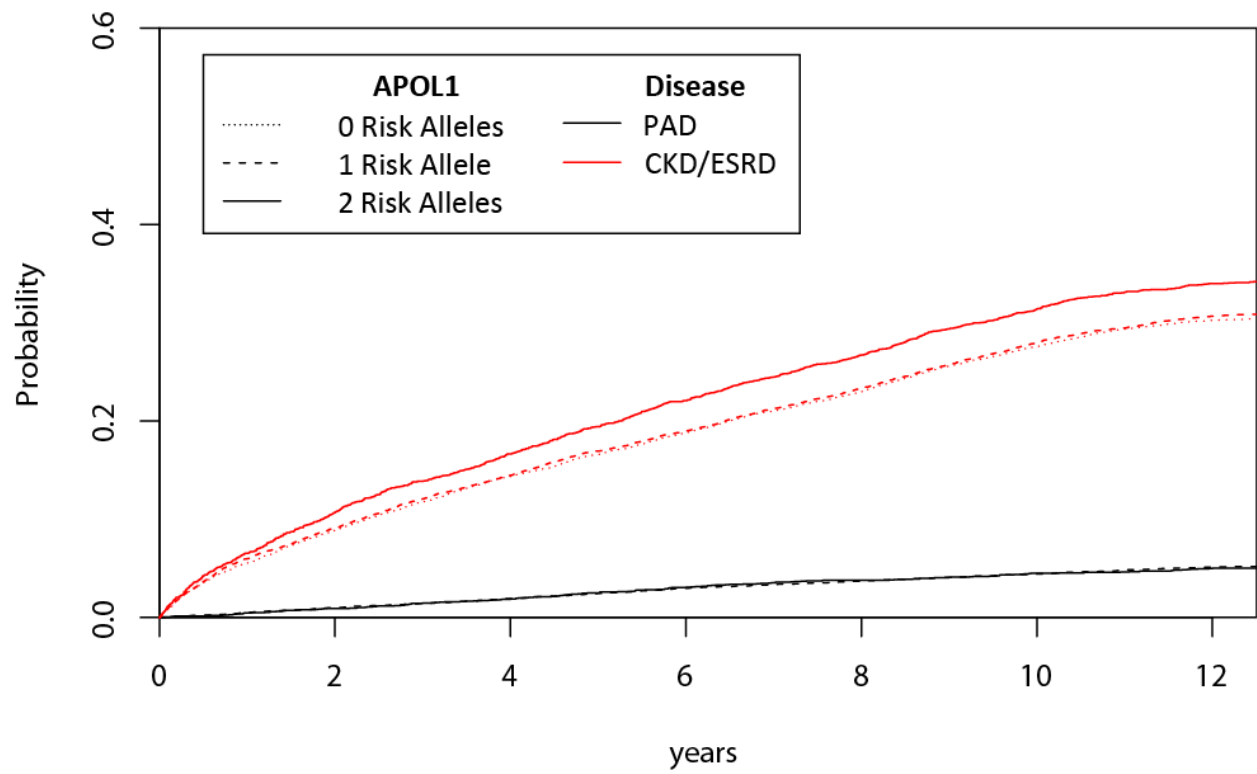
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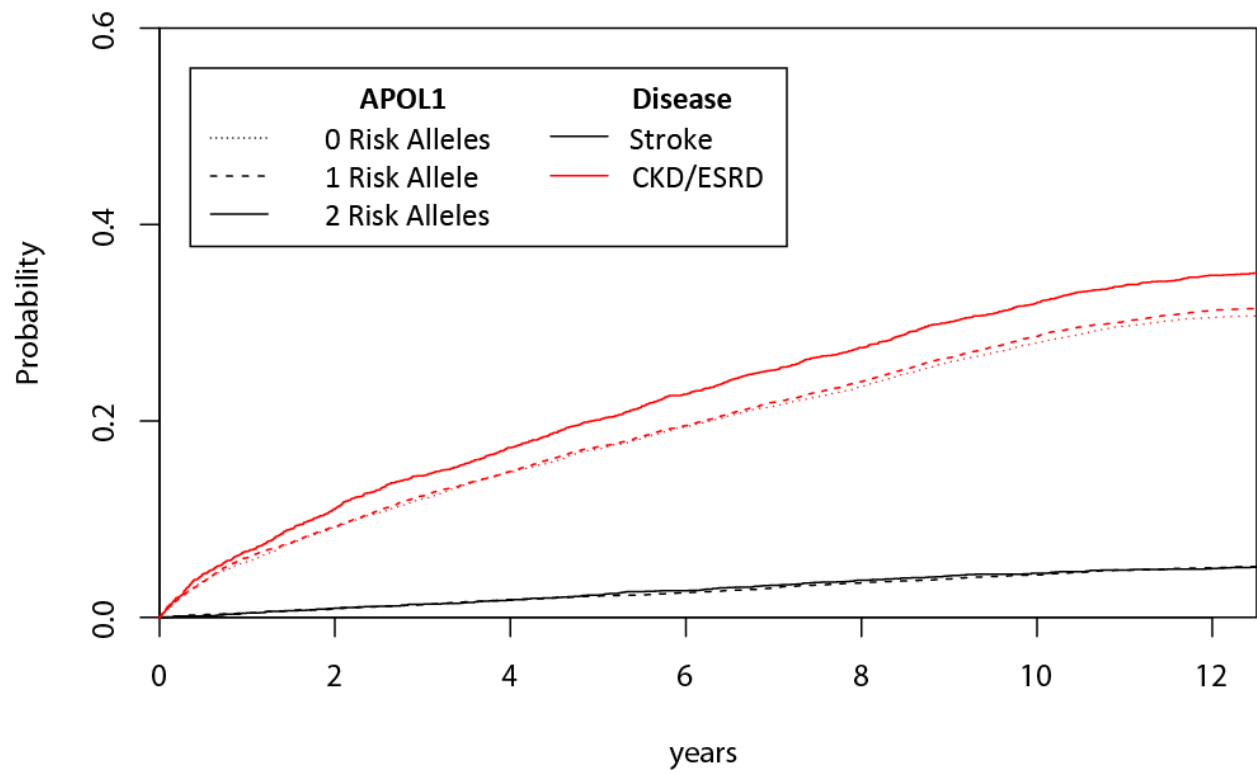
**Supplemental Figure 1. Genotype intensity clustering plots of the APOL1 risk alleles on the MVP Axiom Biobank Genotyping Array from a representative genotyping batch. The AX-13893367 probe represents G1a (rs73885319, APOL1 p.S342G). The AX-33636799 probe represents G1b (rs60910145, APOL1 p.I384M). The AX-98327605 probe represents G2 (rs71785313, APOL1 del388-389).**



**Supplemental Figure 2. Comparison of measured and imputed data distributions for LDL-cholesterol, eGFR and systolic blood pressure.**



**Supplemental Figure 3.** Cumulative incidence function estimates from competing risks modeling of PAD and CKD/ESRD outcomes.



**Supplemental Figure 4.** Cumulative incidence function estimates from competing risks modeling of Stroke and CKD/ESRD outcomes.

**Supplemental Table 1. Association of *APOL1* and cardiovascular disease previously reported in the literature**

Cohort				Reported Cardiovascular Association			Reported Cohort Characteristics			
Paper*	Cohort	N High risk (2)	N Low risk (0 or 1)	Endpoint	OR/HR	P	Diabetes	Hyper-tension	Smoking	Female
Ito, Circ Res 2013 <sup>1</sup>	JHS	284	783	MI/ Stroke/ cardiac revasc	2.2	9.00E-04	23%	70%	13%	62%
	WHI	103	646	MI/Stroke/ cardiac revasc	2	8.00E-03	20%	57%	12%	100%
Langefeld, KI 2015 <sup>2</sup>	SPRINT	361	2210	MI/coronary & carotid revasc	1.16	0.46	0%	100%	24%	46%
Mukamal, ATVB 2016 <sup>3</sup>	CHS	91	707	MI	1.8	0.02	26%	69%	14%	53%
Grams, JASN 2016 <sup>4</sup>	ARIC	470	3206	MI/cardiac revasc/ stroke/HF	1.04	-	17%	55%	30%	54%
Chen, ATVB 2017 <sup>5</sup>	AASK	160	533	MI/cardiac revasc/ stroke/HF	1.23	0.31	0%	100%	42%	40%
Chen, JAHA 2017 <sup>6</sup>	MESA	213	1533	Incident CAD (MI/angina/ death)	1	-	25%	59%	18%	55%
				Incident MI	1.24	-				
Wang, Cardiorenal med 2017 <sup>7</sup>	CATH GEN	231	1410	prevalent CAD	1.02	-	39%	75%	44%	46%
Gutiérrez, Circ GPM 2018 <sup>8</sup>	REGARDS	9259	1346	Incident CHD or ischemic stroke	1.15	-	30%	68%	18%	62%
Franceschini, JAMA Card. 2018 <sup>9</sup>	WHI	9767	1370	Incident CHD	1.13	-	13%	55%	51%	100%

JHS, Jackson Heart Study; WHI, Women's Health Initiative; SPRINT, Systolic Blood Pressure Intervention Trial; CHS, Cardiovascular Health Study; ARIC, Atherosclerotic Risk in the Community Study; AASK, African American Study of Kidney Disease and Hypertension; MESA, Multi-Ethnic Study of Atherosclerosis; CATH GEN, Duke Catheterization Genetics Study. \*Please see Supplemental References for complete citation.

**Supplemental Table 2. Diagnosis, procedure, and laboratory code components of coronary artery disease, end stage renal disease and peripheral artery disease definition in Million Veterans Project Cohort**

	<b>System</b>	<b>Code</b>	<b>Diagnosis</b>
CAD	ICD9	410	Acute myocardial infarction
CAD	ICD10	I21	Acute myocardial infarction
CAD	ICD10	I22	Subsequent ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
CAD	ICD9	0.66	Percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy
CAD	ICD9	36	Operations On Vessels Of Heart
CAD	ICD9	36.01	Single vessel percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy without mention of thrombolytic agent
CAD	ICD9	36.02	Single vessel percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy with mention of thrombolytic agent
CAD	ICD9	36.03	Open chest coronary artery angioplasty
CAD	ICD9	36.04	Intracoronary artery thrombolytic infusion
CAD	ICD9	36.05	Multiple vessel percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy performed during the same operation, with or without mention of thrombolytic agent
CAD	ICD9	36.06	Insertion of non-drug-eluting coronary artery stent(s)
CAD	ICD9	36.07	Insertion of drug-eluting coronary artery stent(s)
CAD	ICD9	36.09	Other removal of coronary artery obstruction
CAD	ICD9	36.1	Bypass Anastomosis For Heart Revascularization
CAD	ICD9	36.11	(Aorto)coronary bypass of one coronary artery
CAD	ICD9	36.12	(Aorto)coronary bypass of two coronary arteries
CAD	ICD9	36.13	(Aorto)coronary bypass of three coronary arteries
CAD	ICD9	36.14	(Aorto)coronary bypass of four or more coronary arteries
CAD	ICD9	36.15	Single internal mammary-coronary artery bypass
CAD	ICD9	36.16	Double internal mammary-coronary artery bypass
CAD	ICD9	36.17	Abdominal-coronary artery bypass
CAD	ICD9	36.19	Other bypass anastomosis for heart revascularization
CAD	ICD9	36.2	Heart revascularization by arterial implant
CAD	ICD9	99.1	Injection or infusion of thrombolytic agent
CAD	ICD10	210	Coronary Artery, Single
CAD	ICD10	211	Coronary Artery, Two Arteries
CAD	ICD10	212	Coronary Artery, Three Arteries
CAD	ICD10	213	Coronary Artery, Four or More Arteries
CAD	ICD10	270	Coronary Artery, One Artery
CAD	ICD10	271	Coronary Artery, Two Arteries
CAD	ICD10	272	Coronary Artery, Three Arteries
CAD	ICD10	273	Coronary Artery, Four or More Arteries
CAD	ICD10	02C0	Coronary Artery, One Artery
CAD	ICD10	02C1	Coronary Artery, Two Arteries
CAD	ICD10	02C3	Coronary Artery, Three Arteries
CAD	ICD10	02C4	Coronary Artery, Four or More Arteries
CAD	CPT	92928	Percutaneous transcatheter placement of intracoronary stent(s), with coronary angioplasty when performed; single major coronary artery or branch
CAD	CPT	92933	Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary angioplasty when performed; single major coronary artery or branch
CAD	CPT	92929	Percutaneous transcatheter placement of intracoronary stent(s), with coronary angioplasty when performed; each additional branch of a major coronary artery
CAD	CPT	92934	Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary angioplasty when performed; each additional branch of a major coronary artery
CAD	CPT	92937	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of intracoronary stent, atherectomy and angioplasty, including distal protection when performed; single vessel
CAD	CPT	92938	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of intracoronary stent, atherectomy and angioplasty, including distal protection when performed; each additional branch subtended by the bypass graft
CAD	CPT	92941	Percutaneous transluminal revascularization of acute total/subtotal occlusion during acute myocardial infarction, coronary artery or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty, including aspiration thrombectomy when performed, single vessel
CAD	CPT	92943	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty; single vessel
CAD	CPT	92944	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty; each additional coronary artery, coronary artery branch, or bypass graft

CAD	CPT	G0290	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; single vessel
CAD	CPT	G0291	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; each additional vessel
CAD	CPT	C9600	Percutaneous transcatheter placement of drug eluting intracoronary stent(s), with coronary angioplasty when performed; single major coronary artery or branch
CAD	CPT	C9601	Percutaneous transcatheter placement of drug-eluting intracoronary stent(s), with coronary angioplasty when performed; each additional branch of a major coronary artery (list separately in addition to code for primary procedure)
CAD	CPT	C9602	Percutaneous transluminal coronary atherectomy, with drug eluting intracoronary stent, with coronary angioplasty when performed; single major coronary artery or branch
CAD	CPT	C9603	Percutaneous transluminal coronary atherectomy, with drug-eluting intracoronary stent, with coronary angioplasty when performed; each additional branch of a major coronary artery (list separately in addition to code for primary procedure)
CAD	CPT	C9604	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including distal protection when performed
CAD	CPT	C9605	Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial, venous), any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including distal protection when performed
CAD	CPT	C9606	Percutaneous transluminal revascularization of acute total/subtotal occlusion during acute myocardial infarction, coronary artery or coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including
CAD	CPT	C9607	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty; single vessel
CAD	CPT	C9608	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty; each additional coronary ar
CAD	CPT	92973	Percutaneous transluminal coronary thrombectomy mechanical
CAD	CPT	92974	Transcatheter placement of radiation delivery device for subsequent coronary intravascular brachytherapy
CAD	CPT	92975	Thrombolysis, coronary; by intracoronary infusion, including selective coronary angiography
CAD	CPT	92977	Thrombolysis, coronary; by intravenous infusion
CAD	CPT	92980	Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; single vessel
CAD	CPT	92981	(Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any method; each additional vessel
CAD	CPT	92982	Percutaneous transluminal coronary balloon angioplasty, single vessel
CAD	CPT	92984	Percutaneous transluminal coronary balloon angioplasty, each additional vessel
CAD	CPT	92995	Percutaneous transluminal coronary atherectomy, with or without balloon angioplasty, initial vessel
CAD	CPT	92996	Percutaneous transluminal coronary atherectomy, each additional vessel
CAD	CPT	33510	Coronary artery bypass, vein only; single coronary venous graft
CAD	CPT	33511	Coronary artery bypass, vein only; two coronary venous grafts
CAD	CPT	33512	Coronary artery bypass, vein only; three coronary venous grafts
CAD	CPT	33513	Coronary artery bypass, vein only; four coronary venous grafts
CAD	CPT	33514	Coronary artery bypass, vein only; five coronary venous grafts
CAD	CPT	33516	Coronary artery bypass, vein only; six or more coronary venous grafts
CAD	CPT	33517	Coronary artery bypass, using venous graft(s) and arterial graft(s); single vein graft
CAD	CPT	33518	Coronary artery bypass, using venous graft(s) and arterial graft(s); two venous grafts
CAD	CPT	33519	Coronary artery bypass, using venous graft(s) and arterial graft(s); three venous grafts
CAD	CPT	33521	Coronary artery bypass, using venous graft(s) and arterial graft(s); four venous grafts
CAD	CPT	33522	Coronary artery bypass, using venous graft(s) and arterial graft(s); five venous grafts
CAD	CPT	33523	Coronary artery bypass, using venous graft(s) and arterial graft(s); six or more venous grafts
CAD	CPT	33530	Reoperation, coronary artery bypass procedure or valve procedure, more than one month after original operation
CAD	CPT	33533	Coronary artery bypass, using arterial graft(s); single arterial graft
CAD	CPT	33534	Coronary artery bypass, using arterial graft(s); two coronary arterial grafts
CAD	CPT	33535	Coronary artery bypass, using arterial graft(s); three coronary arterial grafts
CAD	CPT	33536	Coronary artery bypass, using arterial graft(s); four or more coronary arterial grafts
CAD	CPT	33572	Coronary endarterectomy, open, any method, of left anterior descending, circumflex, or right coronary artery performed in conjunction with coronary artery bypass graft procedure, each vessel
CAD	ICD9	410	Acute myocardial infarction
CAD	ICD9	411	Other acute and subacute forms of ischemic heart disease
CAD	ICD9	411.1	Intermediate coronary syndrome
CAD	ICD9	411.81	Acute coronary occlusion without myocardial infarction
CAD	ICD9	411.89	Other acute and subacute forms of ischemic heart disease, other
CAD	ICD9	412	Old myocardial infarction
CAD	ICD9	414	Other forms of chronic ischemic heart disease
CAD	ICD9	414.01	Coronary atherosclerosis of native coronary artery



CAD	ICD9	414.02	Coronary atherosclerosis of autologous vein bypass graft
CAD	ICD9	414.03	Coronary atherosclerosis of nonautologous biological bypass graft
CAD	ICD9	414.04	Coronary atherosclerosis of artery bypass graft
CAD	ICD9	414.05	Coronary atherosclerosis of unspecified bypass graft
CAD	ICD9	414.2	Chronic total occlusion of coronary artery
CAD	ICD9	414.3	Coronary atherosclerosis due to lipid rich plaque
CAD	ICD9	414.4	Coronary atherosclerosis due to calcified coronary lesion
CAD	ICD9	414.8	Other specified forms of chronic ischemic heart disease
CAD	ICD9	414.9	Chronic ischemic heart disease, unspecified
CAD	ICD9	V45.81	Aortocoronary bypass status
CAD	ICD9	V45.82	Percutaneous transluminal coronary angioplasty status
CAD	ICD10	I21	ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
CAD	ICD10	I22	Subsequent ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
CAD	ICD10	I23	Certain current complications following ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction (within the 28 day period)
CAD	ICD10	I24	Other acute ischemic heart diseases
CAD	ICD10	I25.1	Atherosclerotic heart disease of native coronary artery
CAD	ICD10	I25.2	Old myocardial infarction
CAD	ICD10	I25.5	Ischemic cardiomyopathy
CAD	ICD10	I25.6	Silent myocardial ischemia
CAD	ICD10	I25.70	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris
CAD	ICD10	I25.71	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris
CAD	ICD10	I25.72	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris
CAD	ICD10	I25.73	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris
CAD	ICD10	I25.79	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris
CAD	ICD10	I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
CAD	ICD10	I25.82	Chronic total occlusion of coronary artery
CAD	ICD10	I25.83	Coronary atherosclerosis due to lipid rich plaque
CAD	ICD10	I25.84	Coronary atherosclerosis due to calcified coronary lesion
CAD	ICD10	I25.89	Other forms of chronic ischemic heart disease
CAD	ICD10	I25.9	Chronic ischemic heart disease, unspecified
CAD	ICD10	Z95.1	Presence of aortocoronary bypass graft
CAD	ICD10	Z98.61	Coronary angioplasty status
CAD	ICD10	I20.0	Unstable angina
ESRD	ICD10	T86.10	UNSPECIFIED COMPLICATION OF KIDNEY TRANSPLANT
ESRD	ICD10	T86.12	KIDNEY TRANSPLANT FAILURE
ESRD	ICD10	Z94.0	KIDNEY TRANSPLANT STATUS
ESRD	ICD10	T86.11	KIDNEY TRANSPLANT REJECTION
ESRD	ICD9	996.81	COMPLICATIONS OF TRANSPLANTED KIDNEY
ESRD	ICD9	V42.0	KIDNEY REPLACED BY TRANSPLANT
ESRD	CPT	50360	RENAL ALLOTRANSPLANTATION, IMPLANTATION OF GRAFT; WITHOUT RECIPIENT NEPHRECTOMY
ESRD	CPT	50365	RENAL ALLOTRANSPLANTATION, IMPLANTATION OF GRAFT; WITH RECIPIENT NEPHRECTOMY
ESRD	CPT	50380	RENAL AUTOTRANSPLANTATION, REIMPLANTATION OF KIDNEY
ESRD	ICD9	55.61	RENAL AUTOTRANSPLANTATION
ESRD	ICD9	55.69	OTHER KIDNEY TRANSPLANTATION
ESRD	ICD10	OTS00ZZ	REPOSITION RIGHT KIDNEY, OPEN APPROACH
ESRD	ICD10	OTS10ZZ	REPOSITION LEFT KIDNEY, OPEN APPROACH
ESRD	ICD10	Z49.31	ENCOUNTER FOR ADEQUACY TESTING FOR HEMODIALYSIS
ESRD	ICD10	Z99.2	DEPENDENCE ON RENAL DIALYSIS
ESRD	ICD9	V45.11	RENAL DIALYSIS STATUS
ESRD	ICD9	V56.0	AFTERCARE INVOLVING EXTRACORPOREAL DIALYSIS
ESRD	CPT	90920	END STAGE RENAL DISEASE (ESRD) RELATED SERVICES PER FULL MONTH; FOR PATIENTS BETWEEN TWELVE AND NINETEEN YEARS OF AGE TO INCLUDE MONITORING FOR THE ADEQUACY OF NUTRITION, ASSESSMENT OF GROWTH AND DEVELOPMENT, AND COUNSELING OF PARENTS
ESRD	CPT	90921	END STAGE RENAL DISEASE (ESRD) RELATED SERVICES PER FULL MONTH; FOR PATIENTS TWENTY YEARS OF AGE AND OVER
ESRD	CPT	90924	END STAGE RENAL DISEASE (ESRD) RELATED SERVICES (LESS THAN FULL MONTH), PER DAY; FOR PATIENTS BETWEEN TWELVE AND NINETEEN YEARS OF AGE
ESRD	CPT	90925	END STAGE RENAL DISEASE (ESRD) RELATED SERVICES (LESS THAN FULL MONTH), PER DAY; FOR PATIENTS TWENTY YEARS OF AGE AND OVER
ESRD	CPT	90935	HEMODIALYSIS PROCEDURE WITH SINGLE PHYSICIAN EVALUATION
ESRD	CPT	90937	HEMODIALYSIS PROCEDURE REQUIRING REPEATED EVALUATION(S) WITH OR WITHOUT SUBSTANTIAL REVISION OF DIALYSIS PRESCRIPTION
ESRD	CPT	90945	DIALYSIS PROCEDURE OTHER THAN HEMODIALYSIS (EG, PERITONEAL DIALYSIS, HEMOFILTRATION, OR OTHER CONTINUOUS RENAL REPLACEMENT THERAPIES), WITH SINGLE PHYSICIAN EVALUATION

ESRD	CPT	90947	DIALYSIS PROCEDURE OTHER THAN HEMODIALYSIS (EG, PERITONEAL DIALYSIS, HEMOFILTRATION, OR OTHER CONTINUOUS RENAL REPLACEMENT THERAPIES) REQUIRING REPEATED PHYSICIAN EVALUATIONS, WITH OR WITHOUT SUBSTANTIAL REVISION OF DIALYSIS PRESCRIPTION
ESRD	CPT	90960	END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES MONTHLY, FOR PATIENTS 20 YEARS OF AGE AND OLDER; WITH 4 OR MORE FACE-TO-FACE PHYSICIAN VISITS PER MONTH
ESRD	CPT	90961	END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES MONTHLY, FOR PATIENTS 20 YEARS OF AGE AND OLDER; WITH 2-3 FACE-TO-FACE PHYSICIAN VISITS PER MONTH
ESRD	CPT	90962	END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES MONTHLY, FOR PATIENTS 20 YEARS OF AGE AND OLDER; WITH 1 FACE-TO-FACE PHYSICIAN VISIT PER MONTH
ESRD	CPT	90966	END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES FOR HOME DIALYSIS PER FULL MONTH, FOR PATIENTS 20 YEARS OF AGE AND OLDER
ESRD	CPT	90970	END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES FOR DIALYSIS LESS THAN A FULL MONTH OF SERVICE, PER DAY; FOR PATIENTS 20 YEARS OF AGE AND OLDER
ESRD	CPT	90989	DIALYSIS TRAINING, PATIENT, INCLUDING HELPER WHERE APPLICABLE, ANY MODE, COMPLETED COURSE
ESRD	CPT	90993	DIALYSIS TRAINING, PATIENT, INCLUDING HELPER WHERE APPLICABLE, ANY MODE, COURSE NOT COMPLETED, PER TRAINING SESSION
ESRD	CPT	90999	UNLISTED DIALYSIS PROCEDURE, INPATIENT OR OUTPATIENT
ESRD	CPT	99512	HOME VISIT FOR HEMODIALYSIS
ESRD	ICD9	39.93	INSERTION OF VESSEL-TO-VESSEL CANNULA
ESRD	ICD9	39.95	HEMODIALYSIS
ESRD	ICD9	54.98	PERITONEAL DIALYSIS
ESRD	ICD10	03170JD	BYPASS RIGHT BRACHIAL ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	031C0JF	BYPASS LEFT RADIAL ARTERY TO LOWER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	031A0JF	BYPASS LEFT ULNAR ARTERY TO LOWER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03130JD	BYPASS RIGHT SUBCLAVIAN ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	031B0JF	BYPASS RIGHT RADIAL ARTERY TO LOWER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03140JD	BYPASS LEFT SUBCLAVIAN ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03150JD	BYPASS RIGHT AXILLARY ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03160JD	BYPASS LEFT AXILLARY ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03180JD	BYPASS LEFT BRACHIAL ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03190JF	BYPASS RIGHT ULNAR ARTERY TO LOWER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
PAD	CPT	35302	Thromboendarterectomy, including patch graft, if performed; superficial femoral artery
PAD	CPT	35303	Thromboendarterectomy, including patch graft, if performed; popliteal artery
PAD	CPT	35304	Thromboendarterectomy, including patch graft, if performed; tibioperoneal trunk artery
PAD	CPT	35305	Thromboendarterectomy, including patch graft, if performed; tibial or peroneal artery, initial vessel
PAD	CPT	35306	Thromboendarterectomy, including patch graft, if performed; each additional tibial or peroneal artery (List separately in addition to code for primary procedure)
PAD	CPT	35331	Thromboendarterectomy, including patch graft, if performed; abdominal aorta
PAD	CPT	35351	Thromboendarterectomy, including patch graft, if performed; iliac
PAD	CPT	35355	Thromboendarterectomy, including patch graft, if performed; iliofemoral
PAD	CPT	35361	Thromboendarterectomy, including patch graft, if performed; combined aortoiliac
PAD	CPT	35363	Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral
PAD	CPT	35371	Thromboendarterectomy, including patch graft, if performed; common femoral
PAD	CPT	35372	Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral
PAD	CPT	35452	Transluminal balloon angioplasty, open; aortic
PAD	CPT	35454	Transluminal balloon angioplasty, open; iliac
PAD	CPT	35456	Transluminal balloon angioplasty, open; femoral-popliteal
PAD	CPT	35459	Transluminal balloon angioplasty, open; tibioperoneal trunk and branches
PAD	CPT	35470	Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel
PAD	CPT	35472	Transluminal balloon angioplasty, percutaneous; aortic
PAD	CPT	35473	Transluminal balloon angioplasty, percutaneous; iliac
PAD	CPT	35474	Transluminal balloon angioplasty, percutaneous; femoral-popliteal
PAD	CPT	35481	Transluminal peripheral atherectomy, open; aortic
PAD	CPT	35482	Transluminal peripheral atherectomy, open; iliac
PAD	CPT	35483	Transluminal peripheral atherectomy, open; femoral-popliteal
PAD	CPT	35485	Transluminal peripheral atherectomy, open; tibioperoneal trunk and branches
PAD	CPT	35491	Transluminal peripheral atherectomy, percutaneous; aortic
PAD	CPT	35492	Transluminal peripheral atherectomy, percutaneous; iliac
PAD	CPT	35493	Transluminal peripheral atherectomy, percutaneous; femoral-popliteal
PAD	CPT	35495	Transluminal peripheral atherectomy, percutaneous; tibioperoneal trunk and branches
PAD	CPT	35521	Bypass graft, with vein; axillary-femoral
PAD	CPT	35533	Bypass graft, with vein; axillary-femoral-femoral
PAD	CPT	35537	Bypass graft, with vein; aortoiliac
PAD	CPT	35538	Bypass graft, with vein; aortobi-iliac
PAD	CPT	35539	Bypass graft, with vein; aortofemoral
PAD	CPT	35540	Bypass graft, with vein; aortobifemoral

PAD	CPT	35548	Bypass graft, with vein; aortoiliofemoral, unilateral
PAD	CPT	35549	Bypass graft, with vein; aortoiliofemoral, bilateral
PAD	CPT	35551	Bypass graft, with vein; aortofemoral-popliteal
PAD	CPT	35556	Bypass graft, with vein; femoral-popliteal
PAD	CPT	35558	Bypass graft, with vein; femoral-femoral
PAD	CPT	35563	Bypass graft, with vein; ilioiliac
PAD	CPT	35565	Bypass graft, with vein; iliofemoral
PAD	CPT	35566	Bypass graft, with vein; femoral-anterior tibial, posterior tibial, peroneal artery or other distal vessels
PAD	CPT	35571	Bypass graft, with vein; popliteal-tibial, -peroneal artery or other distal vessels
PAD	CPT	35583	In-situ vein bypass; femoral-popliteal
PAD	CPT	35585	In-situ vein bypass; femoral-anterior tibial, posterior tibial, or peroneal artery
PAD	CPT	35587	In-situ vein bypass; popliteal-tibial, peroneal
PAD	CPT	35621	Bypass graft, with other than vein; axillary-femoral
PAD	CPT	35623	Bypass graft, with other than vein; axillary-popliteal or -tibial
PAD	CPT	35637	Bypass graft, with other than vein; aortoiliac
PAD	CPT	35638	Bypass graft, with other than vein; aortobi-iliac
PAD	CPT	35646	Bypass graft, with other than vein; aortobifemoral
PAD	CPT	35647	Bypass graft, with other than vein; aortofemoral
PAD	CPT	35654	Bypass graft, with other than vein; axillary-femoral-femoral
PAD	CPT	35656	Bypass graft, with other than vein; femoral-popliteal
PAD	CPT	35661	Bypass graft, with other than vein; femoral-femoral
PAD	CPT	35663	Bypass graft, with other than vein; ilioiliac
PAD	CPT	35665	Bypass graft, with other than vein; iliofemoral
PAD	CPT	35666	Bypass graft, with other than vein; femoral-anterior tibial, posterior tibial, or peroneal artery
PAD	CPT	35671	Bypass graft, with other than vein; popliteal-tibial or -peroneal artery
PAD	CPT	35876	Thrombectomy of arterial or venous graft (other than hemodialysis graft or fistula); with revision of arterial or venous graft
PAD	CPT	35879	Revision, lower extremity arterial bypass, without thrombectomy, open; with vein patch angioplasty
PAD	CPT	35881	Revision, lower extremity arterial bypass, without thrombectomy, open; with segmental vein interposition
PAD	CPT	35883	Revision, femoral anastomosis of synthetic arterial bypass graft in groin, open; with nonautogenous patch graft (eg, Dacron, ePTFE, bovine pericardium)
PAD	CPT	35884	Revision, femoral anastomosis of synthetic arterial bypass graft in groin, open; with autogenous vein patch graft
PAD	CPT	37220	Iliac PTA-open or percutaneous initial vessel
PAD	CPT	37221	Iliac stent w PTA
PAD	CPT	37222	Iliac PTA each additional iliac vessel
PAD	CPT	37223	Iliac stent w PTA each additional iliac vessel
PAD	CPT	37224	Fem-pop PTA- open or percut No add on codes
PAD	CPT	37225	Fem-pop w atherectomy includes PTA
PAD	CPT	37226	Fem-pop stent includes PTA
PAD	CPT	37227	Fem-pop stent w atherectomy includes PTA
PAD	CPT	37228	Tib-peroneal PTA- open or percut initial vessel
PAD	CPT	37229	Tib-peroneal atherectomy includes PTA
PAD	CPT	37230	Tib-peroneal stent includes PTA
PAD	CPT	37231	Tib-peroneal stent w atherectomy includes PTA
PAD	CPT	37232	Tib-peroneal PTA each additional vessel
PAD	CPT	37233	Tib-peroneal atherectomy each additional vessel
PAD	CPT	37234	Tib-peroneal stent includes PTA each additional vessel
PAD	CPT	37235	Tib-peroneal stent w atherectomy includes PTA each additional vessel
PAD	CPT	37205#	Transcatheter placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac, and lower extremity arteries), percutaneous; initial vessel
PAD	CPT	35381	Femoral / popliteal / tibioperoneal endarterectomy
PAD	CPT	35541	Bypass graft, with vein; aorto-iliac
PAD	CPT	35546	Bypass graft, with vein; aorto-femoral
PAD	CPT	35582	In-situ venin bypass
PAD	CPT	35651	Bypass graft, other than vein; aortofemoral-popliteal
PAD	CPT	35226	Repair of blood vessel, direct; lower extremity
PAD	CPT	35256	Repair of blood vessel with vein graft; lower extremity
PAD	CPT	35286	Repair of blood vessel with other than vein graft; lower extremity
PAD	CPT	35641	Bypass graft, other than vein; aortoiliac
PAD	CPT	37184#	Percutaneous mechanical thrombectomy, arterial bypass graft, noncoronary
PAD	CPT	37185#	Percutaneous mechanical thrombectomy, arterial bypass graft, noncoronary; second vessel
PAD	CPT	37186#	Percutaneous mechanical thrombectomy, arterial bypass graft, noncoronary; non-primary
PAD	CPT	37206#	Transcatheter placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac, and lower extremity arteries), percutaneous; second vessel
PAD	CPT	37207#	Open placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac, and lower extremity arteries)

PAD	CPT	37208#	Open placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac, and lower extremity arteries); second vessel
PAD	CPT	27290	Interpelviabdominal amputation (hindquarter amputation)
PAD	CPT	27295	Disarticulation of hip
PAD	CPT	27590	Amputation, thigh, through femur, any level;
PAD	CPT	27591	Amputation, thigh, through femur, any level; immediate fitting technique including first cast
PAD	CPT	27592	Amputation, thigh, through femur, any level; open, circular (guillotine)
PAD	CPT	27594	Amputation, thigh, through femur, any level; secondary closure or scar revision
PAD	CPT	27596	Amputation, thigh, through femur, any level; re-amputation
PAD	CPT	27598	Disarticulation at knee
PAD	CPT	27880	Amputation, leg, through tibia and fibula;
PAD	CPT	27881	Amputation, leg, through tibia and fibula; with immediate fitting technique including application of first cast
PAD	CPT	27882	Amputation, leg, through tibia and fibula; open, circular (guillotine)
PAD	CPT	27884	Amputation, leg, through tibia and fibula; secondary closure or scar revision
PAD	CPT	27886	Amputation, leg, through tibia and fibula; re-amputation
PAD	CPT	27888	Amputation, ankle, through malleoli of tibia and fibula (eg, Syme, Pirogoff type procedures), with plastic closure and resection of nerves
PAD	CPT	93923	Noninvasive physiologic studies of upper or lower extremity arteries, multiple levels or with provocative functional maneuvers, complete bilateral study
PAD	CPT	93924	non-invasive physiologic studies of lower extremity arteries, at rest and following treadmill stress testing, complete bilateral study
PAD	ICD10	I70.0**	Atherosclerosis of aorta
PAD	ICD10	I70.2**	Atherosclerosis of native arteries of the extremities
PAD	ICD10	I70.3**	Atherosclerosis of unspecified type of bypass graft(s) of the extremities
PAD	ICD10	I70.4**	Atherosclerosis of autologous vein bypass graft(s) of the extremities
PAD	ICD10	I70.5**	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities
PAD	ICD10	I70.6**	Atherosclerosis of nonbiological bypass graft(s) of the extremities
PAD	ICD10	I70.7**	Atherosclerosis of other type of bypass graft(s) of the extremities
PAD	ICD10	I70.9**	Other and unspecified atherosclerosis
PAD	ICD10	I73.9**	Peripheral vascular disease, unspecified
PAD	ICD10	0470***	Dilation of Abdominal Aorta
PAD	ICD10	312090	Bypass Innominate Artery to Right Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	312091	Bypass Innominate Artery to Left Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009B	Bypass Abdominal Aorta to Left Internal Iliac Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009C	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009D	Bypass Abdominal Aorta to Right External Iliac Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009F	Bypass Abdominal Aorta to Left External Iliac Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009G	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009H	Bypass Abdominal Aorta to Right Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009J	Bypass Abdominal Aorta to Left Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009K	Bypass Abdominal Aorta to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009Q	Bypass Abdominal Aorta to Lower Extremity Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009R	Bypass Abdominal Aorta to Lower Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	04100A6	Bypass Abdominal Aorta to Right Common Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100A7	Bypass Abdominal Aorta to Left Common Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100A8	Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100A9	Bypass Abdominal Aorta to Right Internal Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AB	Bypass Abdominal Aorta to Left Internal Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AC	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AD	Bypass Abdominal Aorta to Right External Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AF	Bypass Abdominal Aorta to Left External Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AG	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AH	Bypass Abdominal Aorta to Right Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AJ	Bypass Abdominal Aorta to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AK	Bypass Abdominal Aorta to Bilateral Femoral Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AQ	Bypass Abdominal Aorta to Lower Extremity Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AR	Bypass Abdominal Aorta to Lower Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100J6	Bypass Abdominal Aorta to Right Common Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100J7	Bypass Abdominal Aorta to Left Common Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100J8	Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	04100J9	Bypass Abdominal Aorta to Right Internal Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JB	Bypass Abdominal Aorta to Left Internal Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JC	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	04100JD	Bypass Abdominal Aorta to Right External Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JF	Bypass Abdominal Aorta to Left External Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JG	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Synthetic Substitute, Open Approach

























PAD	ICD10	041N4JM	Bypass Left Popliteal Artery to Peroneal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4JP	Bypass Left Popliteal Artery to Foot Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4JQ	Bypass Left Popliteal Artery to Lower Extremity Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4JS	Bypass Left Popliteal Artery to Lower Extremity Vein with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4KL	Bypass Left Popliteal Artery to Popliteal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4KM	Bypass Left Popliteal Artery to Peroneal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4KP	Bypass Left Popliteal Artery to Foot Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4KQ	Bypass Left Popliteal Artery to Lower Extremity Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4KS	Bypass Left Popliteal Artery to Lower Extremity Vein with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4ZL	Bypass Left Popliteal Artery to Popliteal Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041N4ZM	Bypass Left Popliteal Artery to Peroneal Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041N4ZP	Bypass Left Popliteal Artery to Foot Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041N4ZQ	Bypass Left Popliteal Artery to Lower Extremity Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041N4ZS	Bypass Left Popliteal Artery to Lower Extremity Vein, Percutaneous Endoscopic Approach
PAD	ICD10	0470***	Dilation of Aotra
PAD	ICD10	047C***	Dilation of Common Iliac Artery, Right
PAD	ICD10	047D***	Dilation of Common Iliac Artery, Left
PAD	ICD10	047E***	Dilation of Internal Iliac Artery, Right
PAD	ICD10	047F***	Dilation of Internal Iliac Artery, Left
PAD	ICD10	047H***	Dilation of External Iliac Artery, Right
PAD	ICD10	047J***	Dilation of External Iliac Artery, Left
PAD	ICD10	047K***	Dilation of Femoral Artery, Right
PAD	ICD10	047L***	Dilation of Femoral Artery, Left
PAD	ICD10	047M***	Dilation of Popliteal Artery, Right
PAD	ICD10	047N***	Dilation of Popliteal Artery, Left
PAD	ICD10	047P***	Dilation of Anterior Tibial Artery, Right
PAD	ICD10	047Q***	Dilation of Anterior Tibial Artery, Left
PAD	ICD10	047R***	Dilation of Posterior Tibial Artery, Right
PAD	ICD10	047S***	Dilation of Posterior Tibial Artery, Left
PAD	ICD10	047T***	Dilation of Perneal Artery, Right
PAD	ICD10	047U***	Dilation of Peroneal Artery, Left
PAD	ICD10	047V***	Dilation of Foot Artery, Right
PAD	ICD10	047W***	Dilation of Foot Artery, Left
PAD	ICD10	047Y***	Dilation of Lower Artery
PAD	ICD10	04C0***	Extirpation of Aotra
PAD	ICD10	04CC***	Extirpation of Common Iliac Artery, Right
PAD	ICD10	04CD***	Extirpation of Common Iliac Artery, Left
PAD	ICD10	04CE***	Extirpation of Internal Iliac Artery, Right
PAD	ICD10	04CF***	Extirpation of Internal Iliac Artery, Left
PAD	ICD10	04CH***	Extirpation of External Iliac Artery, Right
PAD	ICD10	04CJ***	Extirpation of External Iliac Artery, Left
PAD	ICD10	04CK***	Extirpation of Femoral Artery, Right
PAD	ICD10	04CL***	Extirpation of Femoral Artery, Left
PAD	ICD10	04CM***	Extirpation of Popliteal Artery, Right
PAD	ICD10	04CN***	Extirpation of Popliteal Artery, Left
PAD	ICD10	04CP***	Extirpation of Anterior Tibial Artery, Right
PAD	ICD10	04CQ***	Extirpation of Anterior Tibial Artery, Left
PAD	ICD10	04CR***	Extirpation of Posterior Tibial Artery, Right
PAD	ICD10	04CS***	Extirpation of Posterior Tibial Artery, Left
PAD	ICD10	04CT***	Extirpation of Perneal Artery, Right
PAD	ICD10	04CU***	Extirpation of Peroneal Artery, Left
PAD	ICD10	04CV***	Extirpation of Foot Artery, Right
PAD	ICD10	04CW***	Extirpation of Foot Artery, Left
PAD	ICD10	04CY***	Extirpation of Lower Artery
PAD	ICD10	0Y62***	Detachment at Right Hindquarter, Open Approach
PAD	ICD10	0Y63***	Detachment at Left Hindquarter, Open Approach
PAD	ICD10	0Y64***	Detachment at Bilateral Hindquarters, Open Approach
PAD	ICD10	0Y67***	Detachment at Right Femoral Region, Open Approach
PAD	ICD10	0Y68***	Detachment at Left Femoral Region, Open Approach
PAD	ICD10	0Y6C***	Detachment at Right Upper Leg, Open Approach
PAD	ICD10	0Y6D***	Detachment at Left Upper Leg, Open Approach
PAD	ICD10	0Y6F***	Detachment at Right Knee Region, Open Approach
PAD	ICD10	0Y6G***	Detachment at Left Knee Region, Open Approach



PAD	ICD10	0Y6H***	Detachment at Right Lower Leg, Open Approach
PAD	ICD10	0Y6J***	Detachment at Left Lower Leg, Open Approach
PAD	ICD10	0Y6M***	Detachment at Right Foot, Open Approach
PAD	ICD10	0Y6N***	Detachment at Left Foot, Open Approach
PAD	ICD9	440	Atherosclerosis of the aorta
PAD	ICD9	440.2	Atherosclerosis of the native arteries of the extremities, unspecified
PAD	ICD9	440.21	Atherosclerosis of the native arteries of the extremities, with intermittent claudication
PAD	ICD9	440.22	Atherosclerosis of the native arteries of the extremities, with rest pain
PAD	ICD9	440.23	Atherosclerosis of native arteries of the extremities with ulceration
PAD	ICD9	440.24	Atherosclerosis of the native arteries of the extremities, with gangrene
PAD	ICD9	440.29	Atherosclerosis of the native arteries of the extremities, other
PAD	ICD9	440.3	Atherosclerosis of bypass graft of the extremities, unspecified
PAD	ICD9	440.31	Atherosclerosis of bypass graft of the extremities, autogenous vein
PAD	ICD9	440.32	Atherosclerosis of bypass graft of the extremities, non-autogenous vein
PAD	ICD9	440.4	Chronic total occlusion of the artery of the extremities
PAD	ICD9	440.8	Atherosclerosis of other specified arteries
PAD	ICD9	443.9	Peripheral vascular disease, unspecified
PAD	ICD9	38.14	Endarterectomy, Aorta
PAD	ICD9	38.18	Endarterectomy, Lower limb arteries
PAD	ICD9	39.25	Aorto-iliac-femoral bypass
PAD	ICD9	39.29	Peripheral vascular bypass
PAD	ICD9	39.5	Angioplasty or atherectomy of non-coronary vessels
PAD	ICD9	39.9	Insertion of non-drug-eluting peripheral vessel stents
PAD	ICD9	84.1	Amputation of the lower limb, not otherwise specified
PAD	ICD9	84.12	Amputation through foot
PAD	ICD9	84.13	Disarticulation of ankle
PAD	ICD9	84.14	Amputation through ankle
PAD	ICD9	84.15	Other amputation below knee
PAD	ICD9	84.16	Disarticulation of knee
PAD	ICD9	84.17	Amputation above knee
PAD	ICD9	84.18	Disarticulation of hip
PAD	ICD9	84.19	Abdominopelvic amputation
PAD	ICD9	84.3	Revision of amputation stump

**Supplemental Table 3. Proportion of individuals with missing data for baseline variables with missingness and the variance inflation factor for these variables due to imputation**

<b>Variable</b>	<b>Proportion of participants with missing data at baseline</b>	<b>Variance Inflation Factor</b>
Systolic BP	0.06	1.06
Diastolic BP	0.18	1.23
Body mass index	0.09	1.10
LDL-C	0.24	1.32
HDL-C	0.23	1.29
Triglyceride-C	0.25	1.34
eGFR	0.13	1.15

BP, blood pressure; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol; Triglyceride-C, Triglyceride cholesterol eGFR, estimated Glomerular Filtration Rate

**Supplemental Table 4. Association of *APOL1* genotype and Incident CAD, Stroke and PAD**

	CAD				Stroke				PAD			
	N	events	HR (95% CI)	P	N	events	HR (95% CI)	P	N	events	HR (95% CI)	P
<b>Number of <i>APOL1</i> risk alleles</b>												
2 Risk alleles	3254	539	1.11 (1.01, 1.21)	0.039	3542	289	1.2 (1.05, 1.36)	0.007	3525	307	1.15 (1.01, 1.29)	0.031
1 Risk Allele	12396	2027	1.04 (0.97, 1.1)	0.25	13514	1015	1.03 (0.94, 1.12)	0.476	13407	1107	1.02 (0.93, 1.1)	0.684
0 Risk alleles	10836	1707	Ref	-	11732	857	Ref	-	11677	943	Ref	-
<b><i>APOL1</i> genotype composition</b>												
G1/G1	1145	194	1.13 (0.97, 1.29)	0.11	1252	120	1.42 (1.17, 1.67)	0.0003	1246	111	1.18 (0.97, 1.39)	0.1
G2/G2	519	72	0.89 (0.7, 1.08)	0.33	564	46	1.19 (0.89, 1.5)	0.25	553	43	1.02 (0.75, 1.29)	0.88
G1/G2	1590	273	1.16 (1.02, 1.3)	0.02	1726	123	1.03 (0.86, 1.2)	0.69	1726	153	1.17 (0.98, 1.35)	0.09
G1/Ref	7712	1251	1.03 (0.96, 1.11)	0.36	8378	634	1.04 (0.94, 1.14)	0.43	8314	653	0.98 (0.88, 1.07)	0.65
G2/Ref	4684	776	1.05 (0.96, 1.13)	0.31	5136	381	1.02 (0.9, 1.13)	0.8	5093	454	1.1 (0.99, 1.22)	0.09
Ref/Ref	10836	1707	Ref	-	11732	857	Ref	-	11677	943	Ref	-

P for fully adjusted cox proportional model with analysis covariates age, gender, LDL, diabetes, smoking, systolic blood pressure.

**Supplemental Table 5. Progressive covariate adjustment for association of *APOL1* genotype and incident CAD in individuals without kidney disease at baseline and censoring for CKD/ESRD in the follow up period**

		Covariates		Basic Model		CAD risk adjusted model		Fully adjusted model	
				+		+		+	
		Age/sex / PCs		+		+		+	
		CAD *		+		+		+	
		eGFR		+		+		+	
	N	events	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P	
2 Risk alleles	3254	539	1.1 (1, 1.2)	0.06	1.11 (1.01, 1.21)	0.04	1.11 (1.01, 1.21)	0.04	
1 Risk Allele	12396	2027	1.04 (0.98, 1.11)	0.51	1.03 (0.97, 1.1)	0.37	1.04 (0.97, 1.1)	0.25	
0 Risk alleles	10836	1707	Ref	-	Ref	-	Ref	-	

\* CAD covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

**Supplemental Table 6. Progressive covariate adjustment for association of *APOL1* genotype and incident PAD in individuals without kidney disease at baseline and censoring for CKD/ESRD in the follow up period**

		Covariates		Basic Model		PAD risk adjusted model		PAD & kidney risk adjusted model	
				+		+		+	
		Age/sex / PCs		+		+		+	
		PAD *		+		+		+	
		eGFR		+		+		+	
	N	events	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P	
2 Risk alleles	3525	307	1.13 (0.99, 1.28)	0.07	1.15 (1.01, 1.29)	0.03	1.17 (1.01, 1.32)	0.04	
1 Risk Allele	13407	1107	1.03 (0.94, 1.12)	0.54	1.02 (0.93, 1.1)	0.68	1.03 (0.94, 1.12)	0.63	
0 Risk alleles	11677	943	Ref	-	Ref	-	Ref	-	

\* PAD covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

**Supplemental Table 7. Progressive covariate adjustment for association of *APOL1* genotype and incident Stroke in individuals without kidney disease at baseline and censoring for CKD/ESRD in the follow up period**

	Covariates Age/sex / PCs Stroke * eGFR		Basic Model		Stroke risk adjusted model		Stroke & kidney risk adjusted model	
			+		+		+	
					+		+	
							+	
	N	events	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P
2 Risk alleles	3542	289	1.19 (1.03, 1.35)	0.01	1.2 (1.05, 1.36)	0.01	1.21 (1.05, 1.37)	0.01
1 Risk Allele	13514	1015	1.04 (0.95, 1.14)	0.41	1.03 (0.94, 1.12)	0.48	1.04 (0.94, 1.13)	0.52
0 Risk alleles	11732	857	Ref	-	Ref	-	Ref	-

\* Stroke covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

**Supplemental Table 8. Progressive covariate adjustment for association of *APOL1* genotype and incident CAD in all individuals irrespective of kidney disease status**

Covariates Age/sex / PCs CAD covariates* eGFR Incident CKD in follow up <b>APOL1</b>	Basic Model		CAD risk adjusted imputed model		CAD and eGFR risk adjusted imputed model		CAD, eGFR and CKD risk adjusted imputed model	
	+		+		+		+	
			+		+		+	
							+	
	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P
2 Risk alleles	1.09 (1, 1.19)	0.058	1.09 (0.99, 1.19)	0.064	1.06 (0.97, 1.16)	0.18	1.07 (0.98, 1.17)	0.15
1 Risk Allele	1.04 (0.98, 1.1)	0.20	1.03 (0.97, 1.1)	0.30	1.03 (0.97, 1.09)	0.33	1.03 (0.97, 1.09)	0.36
0 Risk alleles	Ref	-	Ref	-	Ref	-	Ref	-

\* CAD covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

**Supplemental Table 9. Progressive covariate adjustment for association of *APOL1* genotype and incident PAD in all individuals irrespective of kidney disease status**

Covariates	Basic Model		PAD risk adjusted imputed model		PAD, eGFR and CKD risk adjusted imputed model	
Age/sex / PCs	+		+		+	
PAD covariates*			+		+	
eGFR					+	
Incident CKD in follow up					+	
<b>APOL1</b>	<b>HR (95% CI)</b>	<b>P</b>	<b>HR (95% CI)</b>	<b>P</b>	<b>HR (95% CI)</b>	<b>P</b>
2 Risk alleles	1.16 (1.02, 1.3)	0.02	1.17 (1.03, 1.31)	0.02	1.02 (0.93, 1.1)	0.07
1 Risk Allele	1.03 (0.95, 1.12)	0.49	1.02 (0.94, 1.11)	0.63	1.13 (0.99, 1.26)	0.71
0 Risk alleles	Ref	-	Ref	-	Ref	-

\* PAD covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

**Supplemental Table 10. Progressive covariate adjustment for association of *APOL1* genotype and incident Stroke in all individuals irrespective of kidney disease status**

Covariates	Basic Model		Stroke risk adjusted imputed model		Stroke, eGFR and CKD risk adjusted imputed model	
Age/sex / PCs	+		+		+	
Stroke covariates*			+		+	
eGFR					+	
Incident CKD in follow up					+	
<b>APOL1</b>	<b>HR (95% CI)</b>	<b>P</b>	<b>HR (95% CI)</b>	<b>P</b>	<b>HR (95% CI)</b>	<b>P</b>
2 Risk alleles	1.16 (1.01, 1.30)	0.04	1.16 (1.01, 1.31)	0.04	1.17 (1.02, 1.32)	0.03
1 Risk Allele	1.03 (0.94, 1.12)	0.52	1.03 (0.94, 1.12)	0.63	1.03 (0.93, 1.12)	0.64
0 Risk alleles	Ref	-	Ref	-	Ref	-

\* Stroke covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

**Supplemental Table 11. Competing Risks Analysis of APOL1 association with CAD, PAD and Stroke**

	Minimally adjusted Fine-Grey SDH analysis*		Fully adjusted Fine-Grey SDH analysis**	
	HR	P	HR	P
<b>CAD</b>				
<b>Fine-Grey SDH</b>				
CAD	1.02 (0.97, 1.08)	0.41	1.05 (0.97, 1.14)	0.19
<b>Cause specific Cox</b>				
Main outcome: CAD	1.02 (0.97, 1.08)	0.40	1.05 (0.97, 1.14)	0.48
Main outcome and competing event (CAD or CKD/ESRD)	1.04 (1.01, 1.07)	0.01	1.05 (1, 1.09)	0.03
<b>PAD</b>				
<b>Fine-Grey SDH</b>				
PAD	0.99 (0.92, 1.06)	0.76	0.99 (0.88, 1.11)	0.89
<b>Cause specific Cox</b>				
Main outcome: PAD	0.99 (0.91, 1.07)	0.86	1.01 (0.90, 1.13)	0.90
Main outcome and competing event (PAD or CKD/ESRD)	1.04 (1.01, 1.07)	0.01	1.03 (0.99, 1.08)	0.10
<b>Stroke</b>				
<b>Fine-Grey SDH</b>				
Stroke	1.03 (0.95, 1.11)	0.53	1.01 (0.90, 1.13)	0.83
<b>Cause specific Cox</b>				
Main outcome: Stroke	0.99 (0.92, 1.07)	0.86	0.99 (0.89, 1.11)	0.89
Main outcome and competing event (Stroke or CKD/ESRD)	1.04 (1.01, 1.07)	0.01	1.03 (0.99, 1.08)	0.10

\* covariates age, sex, PC1-5; \*\* covariates: age, sex, PC1-5, diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use, eGFR

**Supplemental Table 12. Association of APOL1 genotype and Incident CAD stratified by Sex**

APOL1	Male				Female			
	N	events	HR (95% CI)	P	N	events	HR (95% CI)	P
2 Risk alleles	2818	506	1.11 (1, 1.21)	0.051	436	33	1.09 (0.73, 1.45)	0.67
1 Risk Allele	10857	1931	1.05 (0.98, 1.12)	0.16	1539	96	0.9 (0.68, 1.13)	0.48
0 Risk alleles	9489	1614	Ref	-	1347	93	Ref	-

**Supplemental Table 13. Association of *APOL1* genotype and Incident CAD stratified by baseline diabetes status**

<i>APOL1</i>	No Diabetes				Diabetes			
	N	events	HR (95% CI)	P	N	events	HR (95% CI)	P
2 Risk alleles	2558	352	1.06 (0.94, 1.18)	0.34	696	187	1.19 (1, 1.37)	0.05
1 Risk Allele	9688	1354	1.03 (0.95, 1.11)	0.43	2708	673	1.06 (0.94, 1.17)	0.34
0 Risk alleles	8546	1167	Ref	-	2290	540	Ref	-

**Supplemental Table 14. Association of *APOL1* risk alleles with prevalent lipid traits**

	Log2[HDL-C] (mg/dL)		Log2[LDL-C] (mg/dL)		Log2[Triglycerides] (mg/dL)	
	Beta (95% CI)	P	Beta (95% CI)	P	Beta (95% CI)	P
<b>Number of <i>APOL1</i> risk alleles</b>						
2 Risk alleles	0.021 (0.005, 0.038)	0.012	0.020 (0.005, 0.035)	0.008	0.01 (-0.01, 0.03)	0.56
1 Risk Allele	0.01 (-0.01, 0.02)	0.31	0 (0, 0.01)	0.6	0.0 (-0.02, 0.04)	0.54
0 Risk alleles	Ref	-	Ref	-	Ref	-
<b><i>APOL1</i> genotype composition</b>						
G1/G1	0.02 (0.00, 0.05)	0.11	0.03 (0.01, 0.05)	0.02	0.01 (-0.04, 0.06)	0.64
G2/G2	0.03 (0.01, 0.09)	0.009	-0.01 (-0.04, 0.03)	0.10	-0.02 (-0.08, 0.05)	0.67
G1/G2	0.02 (-0.01, 0.04)	0.17	0.02 (0.003, 0.04)	0.03	0.01 (-0.03, 0.04)	0.72
G1/Ref	0.01 (0, 0.02)	0.14	0 (-0.01, 0.01)	0.84	0.00 (-0.02, 0.03)	0.88
G2/Ref	0.01 (-0.01, 0.02)	0.97	0.01 (-0.01, 0.02)	0.21	0.01 (-0.02, 0.04)	0.38
0 risk alleles	Ref	-	Ref	-	Ref	-

Analysis covariates include age, gender, diabetes, smoking, and chronic kidney disease. HDL-C, high-density lipoprotein cholesterol. LDL-C, low-density lipoprotein cholesterol.

**Supplemental Table 15. Nominally significant cardiovascular phenome wide association of *APOL1* 2-risk allele status adjusted for age, gender, baseline eGFR and ancestry principal components**

PheWAS pcode	Phenotype Description	N Cases	OR	p
444	Arterial embolism and thrombosis	47	2.27	0.02
396	Abnormal heart sounds	405	0.70	0.05
451	Phlebitis and thrombophlebitis	178	0.53	0.04
454	Varicose Veins	537	0.72	0.04



**Supplemental Table 16. Phenome wide association of APOL1 2-risk allele status on CVD phenotypes**

<b>phecode</b>	<b>Phenotype Description</b>	<b>N Cases</b>	<b>OR</b>	<b>P</b>
394	Rheumatic disease of the heart valves	126	1.26	0.37
395	Heart valve disorders	516	0.97	0.82
395.1	Nonrheumatic mitral valve disorders	242	1.00	0.99
395.2	Nonrheumatic aortic valve disorders	181	0.85	0.52
395.6	Heart valve replaced	63	0.79	0.58
396	Abnormal heart sounds	405	0.70	0.05
401	Hypertension	12265	1.00	0.97
401.1	Essential hypertension	12247	1.00	0.98
401.2	Hypertensive heart and/or renal disease	754	0.84	0.22
401.21	Hypertensive heart disease	564	0.82	0.22
401.22	Hypertensive chronic kidney disease	147	0.85	0.57
401.3	Other hypertensive complications	111	0.94	0.83
411	Ischemic Heart Disease	2980	0.95	0.45
411.1	Unstable angina (intermediate coronary syndrome)	307	0.70	0.10
411.2	Myocardial infarction	611	1.01	0.96
411.3	Angina pectoris	638	0.98	0.86
411.4	Coronary atherosclerosis	2146	0.95	0.51
411.8	Other chronic ischemic heart disease, unspecified	1306	0.99	0.88
414	Other forms of chronic heart disease	456	1.19	0.22
414.2	ASCVD	46	1.76	0.15
415	Pulmonary heart disease	505	0.74	0.06
415.1	Acute pulmonary heart disease	317	0.77	0.20
415.11	Pulmonary embolism and infarction, acute	317	0.77	0.20
415.2	Chronic pulmonary heart disease	187	0.64	0.11
415.21	Primary pulmonary hypertension	51	0.88	0.80
416	Cardiomegaly	272	0.82	0.35
418	Nonspecific chest pain	5852	1.03	0.61
418.1	Precordial pain	46	0.72	0.54
420	Carditis	196	1.05	0.84
420.2	Pericarditis	120	1.14	0.63
420.3	Endocarditis	69	0.98	0.97
425	Cardiomyopathy	512	0.83	0.22
425.1	Primary/intrinsic cardiomyopathies	473	0.80	0.18
425.2	Secondary/extrinsic cardiomyopathies	78	0.65	0.31
426	Cardiac conduction disorders	1622	1.05	0.54
426.2	Atrioventricular [AV] block	227	1.16	0.48
426.21	First degree AV block	97	1.53	0.13
426.24	Atrioventricular block, complete	79	1.42	0.27
426.3	Bundle branch block	144	1.30	0.30
426.31	Right bundle branch block	82	1.65	0.11

426.32	Left bundle branch block	46	0.78	0.64
426.7	Abnormal electrocardiogram [ECG] [EKG]	1060	1.05	0.62
426.9	Cardiac pacemaker/device in situ	285	1.00	0.99
426.91	Cardiac pacemaker in situ	157	1.04	0.89
426.92	Cardiac defibrillator in situ	174	0.96	0.87
427	Cardiac dysrhythmias	3619	0.98	0.81
427.1	Paroxysmal tachycardia, unspecified	283	0.91	0.63
427.11	Paroxysmal supraventricular tachycardia	138	0.94	0.83
427.12	Paroxysmal ventricular tachycardia	137	0.93	0.80
427.2	Atrial fibrillation and flutter	699	0.94	0.65
427.21	Atrial fibrillation	632	1.00	0.98
427.22	Atrial flutter	218	0.74	0.24
427.3	Other specified cardiac dysrhythmias	986	1.03	0.81
427.4	Cardiac arrest and ventricular fibrillation	40	0.73	0.60
427.5	Arrhythmia (cardiac) NOS	1054	0.97	0.76
427.6	Premature beats	176	1.34	0.18
427.7	Tachycardia NOS	442	1.01	0.92
427.8	Sinoatrial node dysfunction (Bradycardia)	50	1.09	0.84
427.9	Palpitations	709	1.01	0.97
428	Congestive heart failure; nonhypertensive	1074	0.82	0.07
428.1	Congestive heart failure (CHF) NOS	769	0.89	0.35
428.2	Heart failure NOS	242	0.74	0.20
428.3	Heart failure with reduced EF [Systolic or combined heart failure]	409	0.87	0.41
428.4	Heart failure with preserved EF [Diastolic heart failure]	215	0.66	0.10
429	Ill-defined descriptions and complications of heart disease	251	1.01	0.96
429.1	Heart transplant/surgery	42	0.62	0.42
429.2	Abnormal function study of cardiovascular system	116	0.92	0.79
429.3	Symptoms involving cardiovascular system	93	1.22	0.52
430	Intracranial hemorrhage	127	0.51	0.07
430.2	Intracerebral hemorrhage	48	0.48	0.22
430.3	Subdural hemorrhage	46	0.74	0.57
433	Cerebrovascular disease	1675	1.03	0.73
433.1	Occlusion and stenosis of precerebral arteries	308	0.84	0.38
433.12	Cerebral atherosclerosis	42	0.61	0.41
433.2	Occlusion of cerebral arteries	608	1.05	0.73
433.21	Cerebral artery occlusion, with cerebral infarction	595	1.07	0.60
433.3	Cerebral ischemia	671	0.96	0.76
433.31	Transient cerebral ischemia	656	0.93	0.57
433.5	Cerebral aneurysm	51	0.67	0.44
433.6	Acute, but ill-defined cerebrovascular disease	631	1.02	0.89
433.8	Late effects of cerebrovascular disease	539	0.86	0.31
440	Atherosclerosis	445	0.83	0.26
440.2	Atherosclerosis of the extremities	381	0.83	0.29

440.21	Atherosclerosis of native arteries of the extremities with ulceration or gangrene	59	0.74	0.53
440.22	Atherosclerosis of native arteries of the extremities with intermittent claudication	284	0.77	0.21
442	Other aneurysm	308	1.13	0.48
442.1	Aortic aneurysm	238	1.18	0.41
442.11	Abdominal aortic aneurysm	150	0.94	0.83
443	Peripheral vascular disease	998	0.82	0.08
443.1	Raynaud's syndrome	52	0.80	0.63
443.8	Other specified peripheral vascular diseases	58	0.40	0.13
443.9	Peripheral vascular disease, unspecified	912	0.80	0.07
444	Arterial embolism and thrombosis	82	1.66	0.09
444.1	Arterial embolism and thrombosis of lower extremity artery	47	2.27	0.02
446	Polyarteritis nodosa and allied conditions	43	0.79	0.66
447	Other disorders of arteries and arterioles	46	1.17	0.72
450	Noninfectious disorders of lymphatic channels	106	1.05	0.87
451	Phlebitis and thrombophlebitis	178	0.53	0.04
451.2	Phlebitis and thrombophlebitis of lower extremities	69	0.61	0.29
452	Other venous embolism and thrombosis	684	0.95	0.72
452.2	Deep vein thrombosis [DVT]	364	0.97	0.86
453	Chronic venous hypertension	49	0.34	0.13
454	Varicose veins	537	0.72	0.04
454.1	Varicose veins of lower extremity	424	0.73	0.08
454.11	Varicose veins of lower extremity, symptomatic	209	0.60	0.06
455	Hemorrhoids	2834	1.06	0.40
456	Chronic venous insufficiency [CVI]	555	0.92	0.58
457	Encounter for long-term (current) use of anticoagulants, antithrombotics, aspirin	429	0.89	0.47
457.2	Encounter for long-term (current) use of antiplatelets/antithrombotics	74	0.70	0.41
457.3	Encounter for long-term (current) use of aspirin	346	0.98	0.92
458	Hypotension	736	1.19	0.13
458.1	Orthostatic hypotension	224	1.12	0.58
458.9	Hypotension NOS	403	1.21	0.22
459	Other disorders of circulatory system	375	1.11	0.51
459.9	Circulatory disease NEC	326	1.14	0.45

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## Appendix: VA Million Veteran Program

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1970 Roanoke Blvd., Salem, VA 24153
- San Francisco VA Health Care System (Mary Whooley)  
4150 Clement Street, San Francisco, CA 94121
- South Texas Veterans Health Care System (Sunil Ahuja)  
7400 Merton Minter Boulevard, San Antonio, TX 78229
- Southeast Louisiana Veterans Health Care System (Amparo Gutierrez)  
2400 Canal Street, New Orleans, LA 70119
- Southern Arizona VA Health Care System (Ronald Schifman)  
3601 S 6th Ave, Tucson, AZ 85723
- Sioux Falls VA Health Care System (Jennifer Greco)  
2501 W 22nd St, Sioux Falls, SD 57105
- St. Louis VA Health Care System (Michael Rauchman)  
915 North Grand Blvd., St. Louis, MO 63106
- Syracuse VA Medical Center (Richard Servatius)  
800 Irving Avenue, Syracuse, NY 13210
- VA Eastern Kansas Health Care System (Mary Oehlert)  
4101 S 4th Street Trafficway, Leavenworth, KS 66048
- VA Greater Los Angeles Health Care System (Agnes Wallbom)  
11301 Wilshire Blvd Los Angeles, CA 90073
- VA Loma Linda Healthcare System (Ronald Fernando)  
11201 Benton Street, Loma Linda, CA 92357
- VA Long Beach Healthcare System (Timothy Morgan)

- 5901 East 7th Street Long Beach CA 90822
- VA Maine Healthcare System (Todd Stapley)  
1 VA Center, Augusta, ME 04330
  - VA New York Harbor Healthcare System (Scott Sherman)  
423 East 23rd Street New York, NY 10010
  - VA Pacific Islands Health Care System (Gwenevere Anderson)  
459 Patterson Rd, Honolulu, HI 96819
  - VA Palo Alto Health Care System (Philip Tsao)  
3801 Miranda Avenue Palo Alto, CA 94304-1290
  - VA Pittsburgh Health Care System (Elif Sonel)  
University Drive, Pittsburgh, PA 15240
  - VA Puget Sound Health Care System (Edward Boyko)  
1660 S. Columbian Way Seattle, WA 98108-1597
  - VA Salt Lake City Health Care System (Laurence Meyer)  
500 Foothill Drive Salt Lake City, UT 84148
  - VA San Diego Healthcare System (Samir Gupta)  
3350 La Jolla Village Drive, San Diego, CA 92161
  - VA Southern Nevada Healthcare System (Joseph Fayad)  
6900 North Pecos Road, North Las Vegas, NV 89086
  - VA Tennessee Valley Healthcare System (Adriana Hung)  
1310 24th Ave. South Nashville, TN 37212
  - Washington DC VA Medical Center (Jack Lichy)  
50 Irving St, Washington, D. C. 20422
  - W.G. (Bill) Hefner VA Medical Center (Robin Hurley)  
1601 Brenner Ave, Salisbury, NC 28144
  - White River Junction VA Medical Center (Brooks Robey)  
163 Veterans Drive, White River Junction, VT 05009
  - William S. Middleton Memorial Veterans Hospital (Robert Striker)  
2500 Overlook Terrace, Madison, WI 53705