

Appendix I
Prevalent Disease Variables Included in Dataset

Variable	Variable Description	Grouping
Y1PCANCR	Prevalent cancer	Cancer
Y1PCANANY	Prevalent cancer, any type (except non-melanoma skin), by self-report/meds or HCFA	Cancer
Y1PCANBRST	Prevalent breast cancer by self-report/meds or HCFA	Cancer
Y1PCANCOLN	Prevalent colon cancer by self-report/meds or HCFA	Cancer
Y1PCANLUNG	Prevalent lung cancer by self-report/meds or HCFA	Cancer
Y1PCANPRS	Prevalent prostate cancer by self-report/meds or HCFA	Cancer
Y1PCBVD	Prevalent baseline cerebrovascular disease	Cardiovascular Disease
Y1PCHD1	Prevalent coronary heart disease reported/meds	Cardiovascular Disease
Y1PCHD2	ECG evidence of myocardial infarction	Cardiovascular Disease
Y1PCHD3	Prevalent coronary heart disease reported/meds +HCFA	Cardiovascular Disease
Y1PCHF	Prevalent congestive heart failure	Cardiovascular Disease
Y1PCVD	Prevalent cardiovascular disease (by self report/meds + HCFA)	Cardiovascular Disease
Y1PPAD	Prevalent peripheral arterial disease	Cardiovascular Disease
Y1CES_D10	Year 1 Ten-item CES-D score	Depression
Y1PDEPR1	Prevalent depression reported/meds (not CES_D)	Depression
Y1PDEPR2	At risk for depression (CES-D, cutoff =16)	Depression
Y1PDEPR3	At risk for depression (CES-D, cutoff = 20)	Depression
Y1PDEPR4	At risk for depression (CES-D10)	Depression
Y1PDIAB1	Prevalent clinical diabetes reported/meds	Diabetes
Y1ADAEP1	Glucose intolerance by ADA criteria	Diabetes
Y1ADA2H	Glucose intolerance by WHO criteria	Diabetes
Y1PGALLS	Prevalent gallstones	GI Disease
Y1PHERNI	Prevalent abdominal wall hernia	GI Disease
Y1PGIBLD	Prevalent GI bleed	GI Disease
Y1PULCER	Prevalent stomach/duodenal ulcer	GI Disease
Y1ULCTYP	Location of baseline ulcer	GI Disease

Y1PHBP1	Prevalent hypertension reported/meds	Hypertension
Y1PHBP2	Prevalent hypertension physiological	Hypertension
Y1SHBP	Isolated systolic elevation	Hypertension
Y1METSAB	Met abdominal circumference criterion	Metabolic Syndrome
Y1METSBP	Met blood pressure criterion	Metabolic Syndrome
Y1METSGL	Met glucose criterion	Metabolic Syndrome
Y1METS8GL	Met fasting glucose criterion	Metabolic Syndrome
Y1METSHD	Met HDL criterion	Metabolic Syndrome
Y1METSTG	Met triglyceride criterion	Metabolic Syndrome
Y1METS8TG	Met fasting triglyceride criterion	Metabolic Syndrome
Y1METSYN	Metabolic syndrome, baseline	Metabolic Syndrome
Y1METS8YN	Metabolic fasting syndrome, baseline	Metabolic Syndrome
Y1METSNO	Number of metabolic syndrome criteria met	Metabolic Syndrome
Y1METS8NO	Number of fasting metabolic syndrome criteria met	Metabolic Syndrome
Y1POAHIP	Prevalent hip osteoarthritis	Osteoarthritis
Y1POHND	Prevalent hand osteoarthritis	Osteoarthritis
Y1POAKN	Prevalent knee osteoarthritis	Osteoarthritis
Y1POAOTH	Prevalent osteoarthritis in other joint	Osteoarthritis
Y1OSTBMD	Prevalent osteoporosis by T-score	Osteoporosis
Y1POSTP1	Prevalent clinical osteoporosis	Osteoporosis
Y1AUASI	AUASI score (urination problems questionnaire)	Prostate Disease
Y1PPROST	Prevalent benign prostatic hyperplasia	Prostate Disease
Y1PPSCAT	AUASI category (urination problems)	Prostate Disease
Y1PROST2	At risk for prostate disease	Prostate Disease
Y1PPULCD	Prevalent pulmonary disease report/meds	Pulmonary Disease
Y1PFTCAT	Prevalent obstructive/restrictive pulmonary disease (based on PFT)	Pulmonary Disease

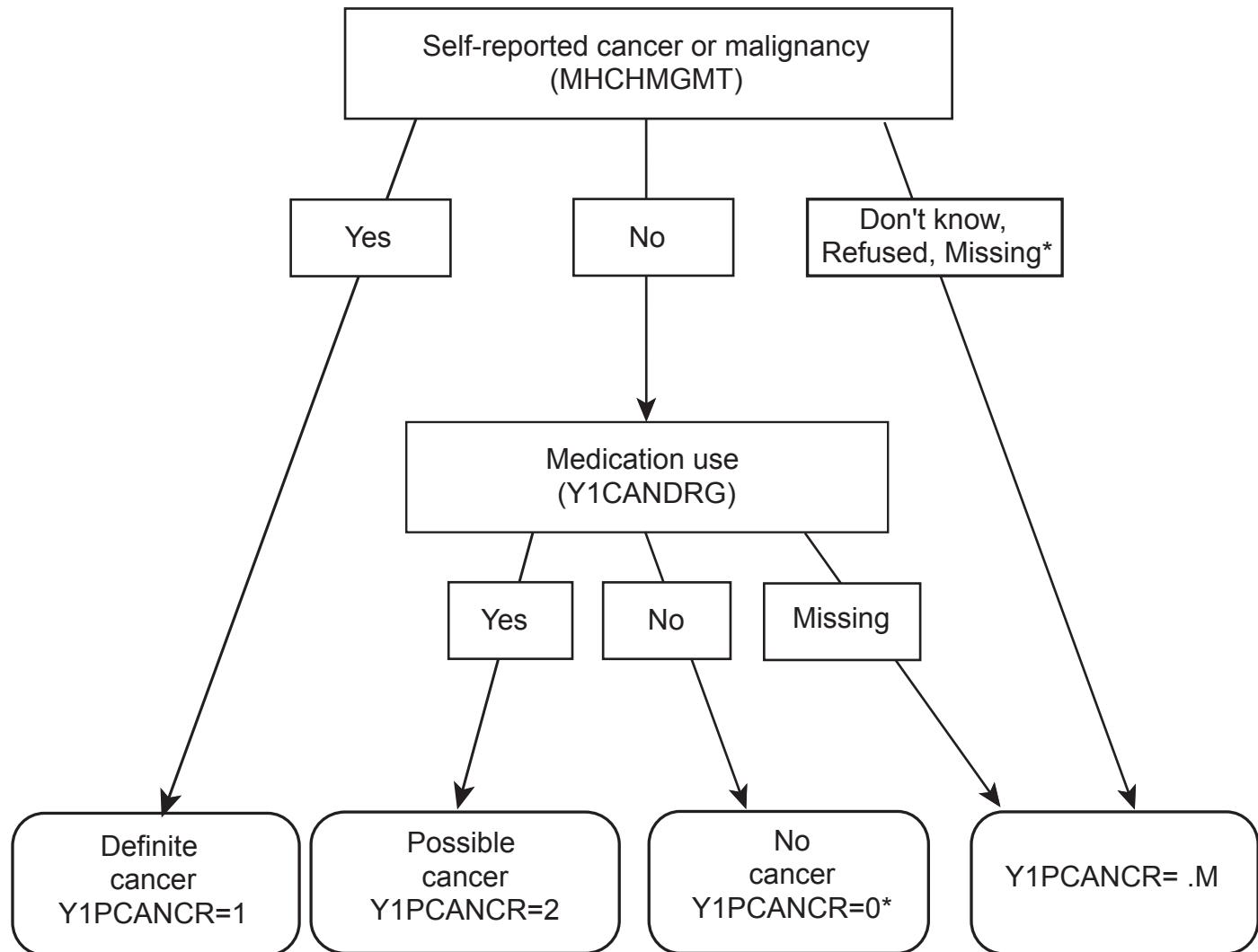
Baseline Prevalent Cancer

Prime Mover: Lisa Colbert

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
(Y1CANDRG)	Any anti-cancer medication	Indicator variable for anti-cancer med in Y1MIFCOD based on IDIS code	See medication use variables (Y1RxCalc), documentation behind tab 2	= 0 if no drug information available	0=No 1=Yes
Y1PCANCR	Prevalent cancer	Categorical variable for prevalent cancer	=0 if no self-report of cancer (MHCHMGMT ≠ 1) and no use of cancer drugs (Y1CANDRG ≠ 1) =1 if self-report of cancer (MHCHMGMT=1) =2 if no self-report of cancer (MHCHMGMT ≠ 1) but use of cancer drug (Y1CANDRG=1)	Set to missing (.M) if MHCHMGMT in (7,8) or missing and Y1CANDRG ≠1 or if Y1CANDRG is missing and MHCHMBMT≠1	0=None 1=Definite 2=Possible
Y1PCANANY	Prevalent cancer, any type (except non-melanoma skin), by self-report/meds or HCFA	Indicator variable for any cancer (except non-melanoma skin) based on self-report, meds, and HCFA data	=0 if no self-report of cancer (Y1PCANCR=0) and no HCFA data indicating cancer (bOtherCA, bProsCa, bColonCa, bLungCa, bBreaCa, bUppGICA BHMelan, pOtherCA, pProsCa, pColonCa, pLungCa, pBreaCa, pUppGICA pHMelan all 0 OR if self-report of cancer (Y1PCANCR in (1,2) but only non-melanoma skin cancer (only MHCHSC is marked) =1 if self-report of cancer or HCFA data indicate cancer	If Y1PCANCR2=.M then Y1PCANANY=.M	0=None 1=Prevalent

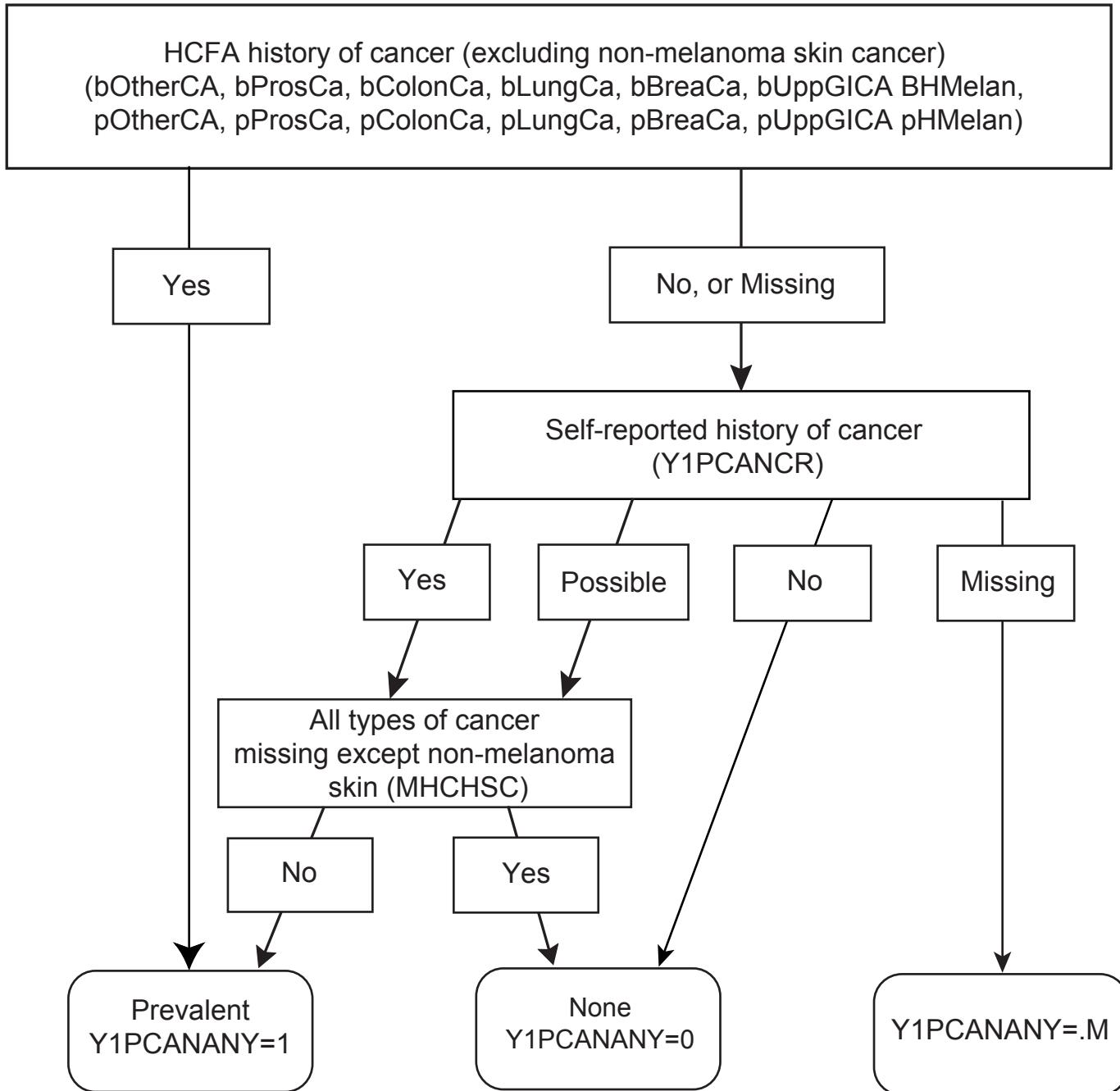
Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1PCANBRST	Prevalent breast cancer, by self-report or HCFA	Indicator variable for prevalent breast cancer by self-report or HCFA	=1 if self-report (MHCHBR=-1) or HCFA data indicate breast cancer (bBreaCa=1 or pBreaCa=1) =0 otherwise	If Y1PCANCR2=.M then Y1PCANBRST=.M	0=None 1=Definite
Y1PCANCOLN	Prevalent colon cancer, by self-report or HCFA	Indicator variable for prevalent colon cancer by self-report or HCFA	=1 if self-report (MHCHBR=-1) or HCFA data indicate colon cancer (bBreaCa=1 or pBreaCa=1) =0 otherwise	If Y1PCANCR2=.M then Y1PCANCOLN=.M	0=None 1=Definite
Y1PCANLUNG	Prevalent lung cancer, by self-report or HCFA	Indicator variable for prevalent lung cancer by self-report or HCFA	=1 if self-report (MHCHBR=-1) or HCFA data indicate lung cancer (bBreaCa=1 or pBreaCa=1) =0 otherwise	If Y1PCANCR2=.M then Y1PCANLUNG=.M	0=None 1=Definite
Y1PCANPRS	Prevalent prostate cancer, by self-report or HCFA	Indicator variable for prevalent prostate cancer by self-report or HCFA	=1 if self-report (MHCHBR=-1) or HCFA data indicate prostate cancer (bBreaCa=1 or pBreaCa=1) =0 otherwise	If Y1PCANCR2=.M then Y1PCANPRST=.M	0=None 1=Definite

Prevalent Cancer

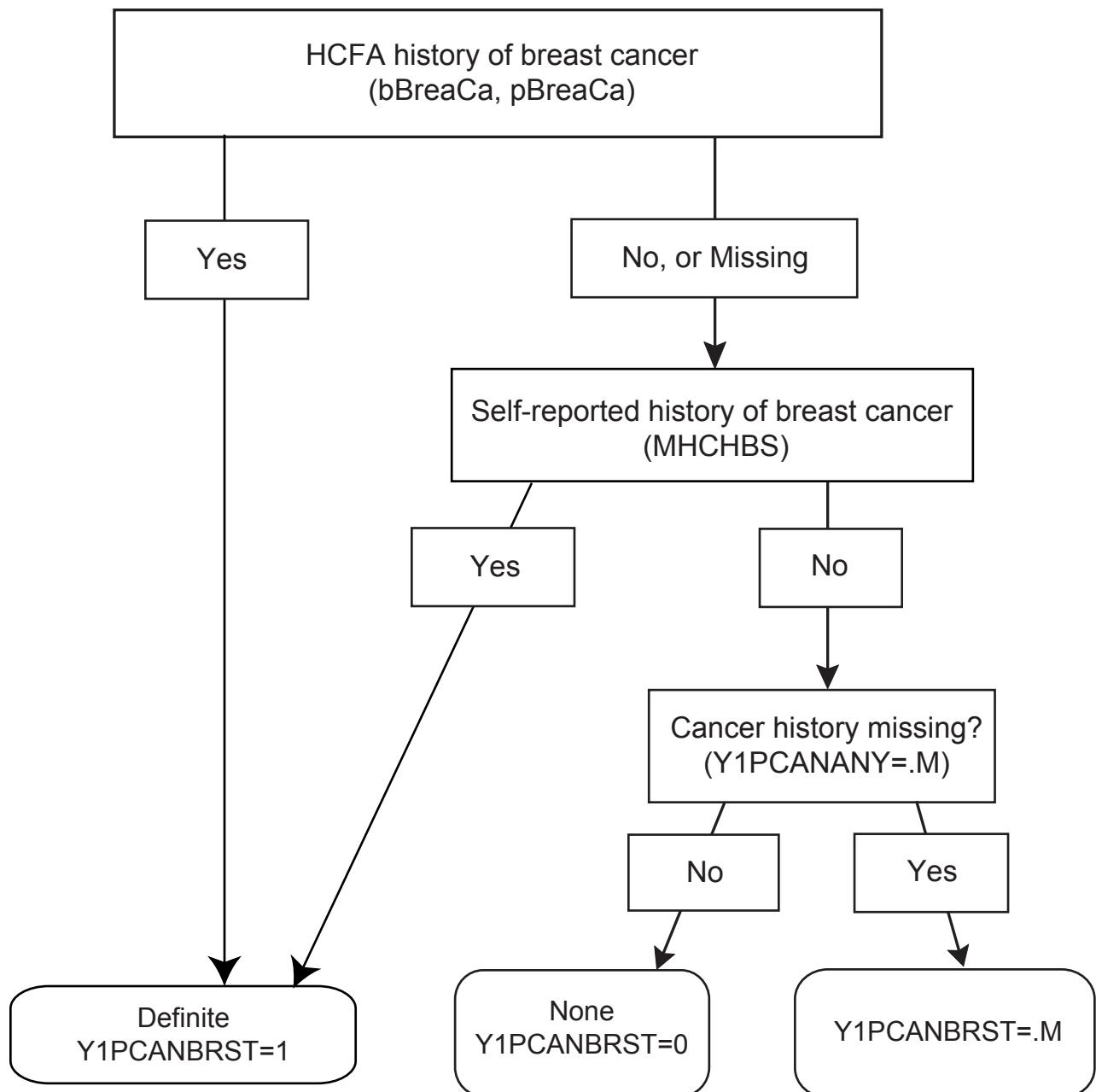


*If MHCHMGMG in (7,8) or missing and Y1CANDRG ≠ 1, Y1PCANCR is set to missing (.M)

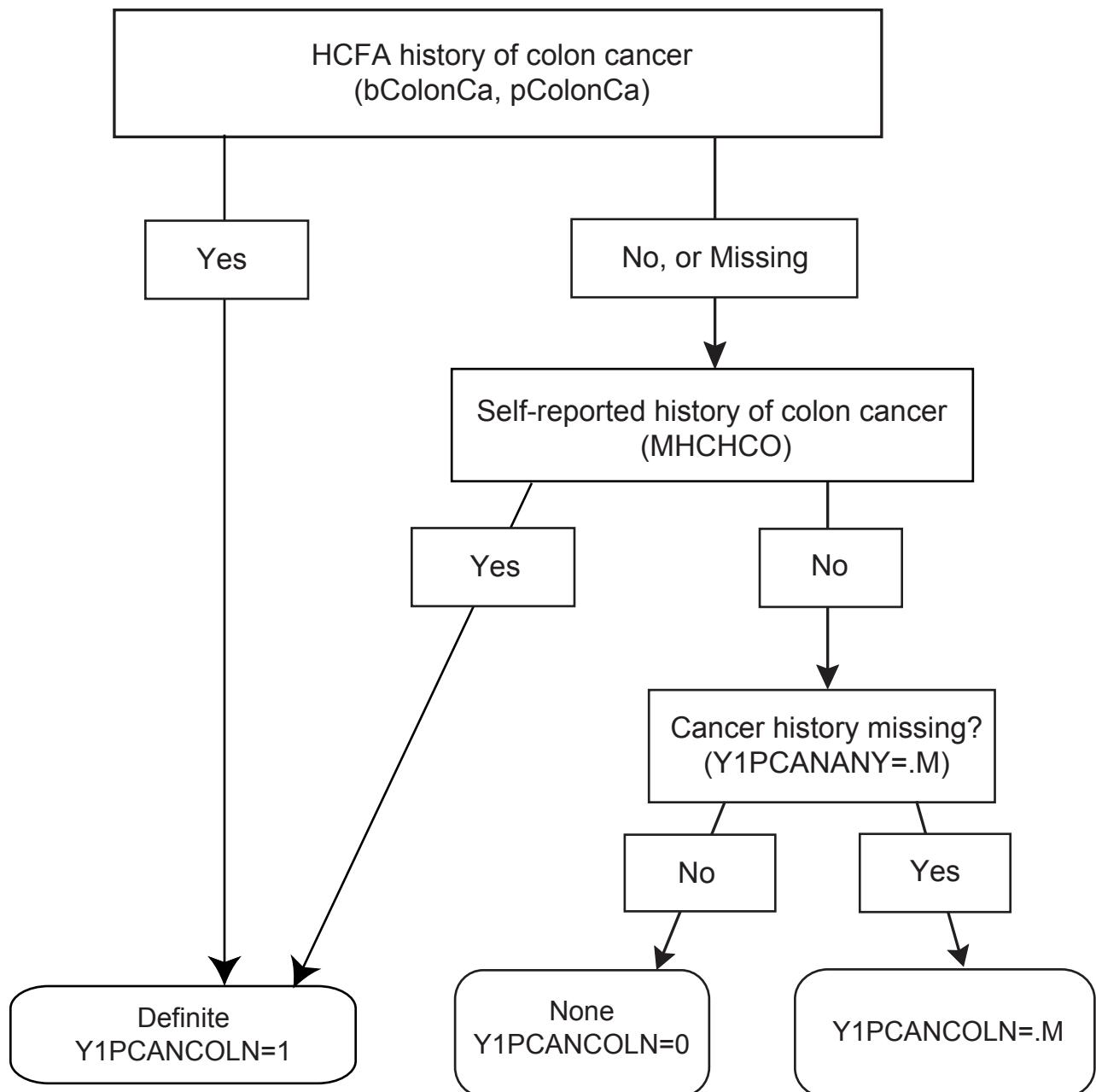
Prevalent Cancer (Except Non-Melanoma Skin Cancer) By Self-Report or HCFA



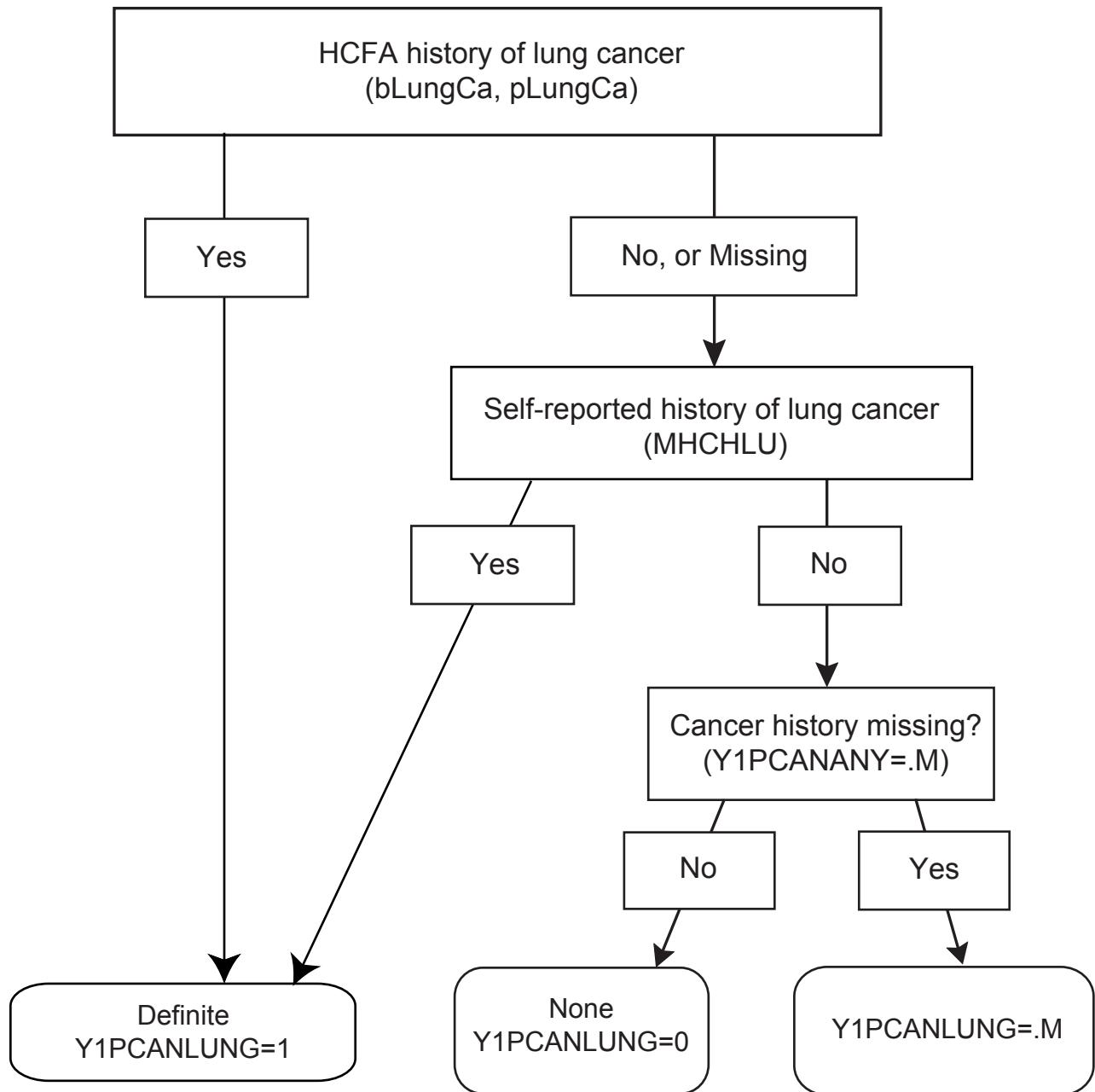
Prevalent Breast Cancer By Self-Report or HCFA



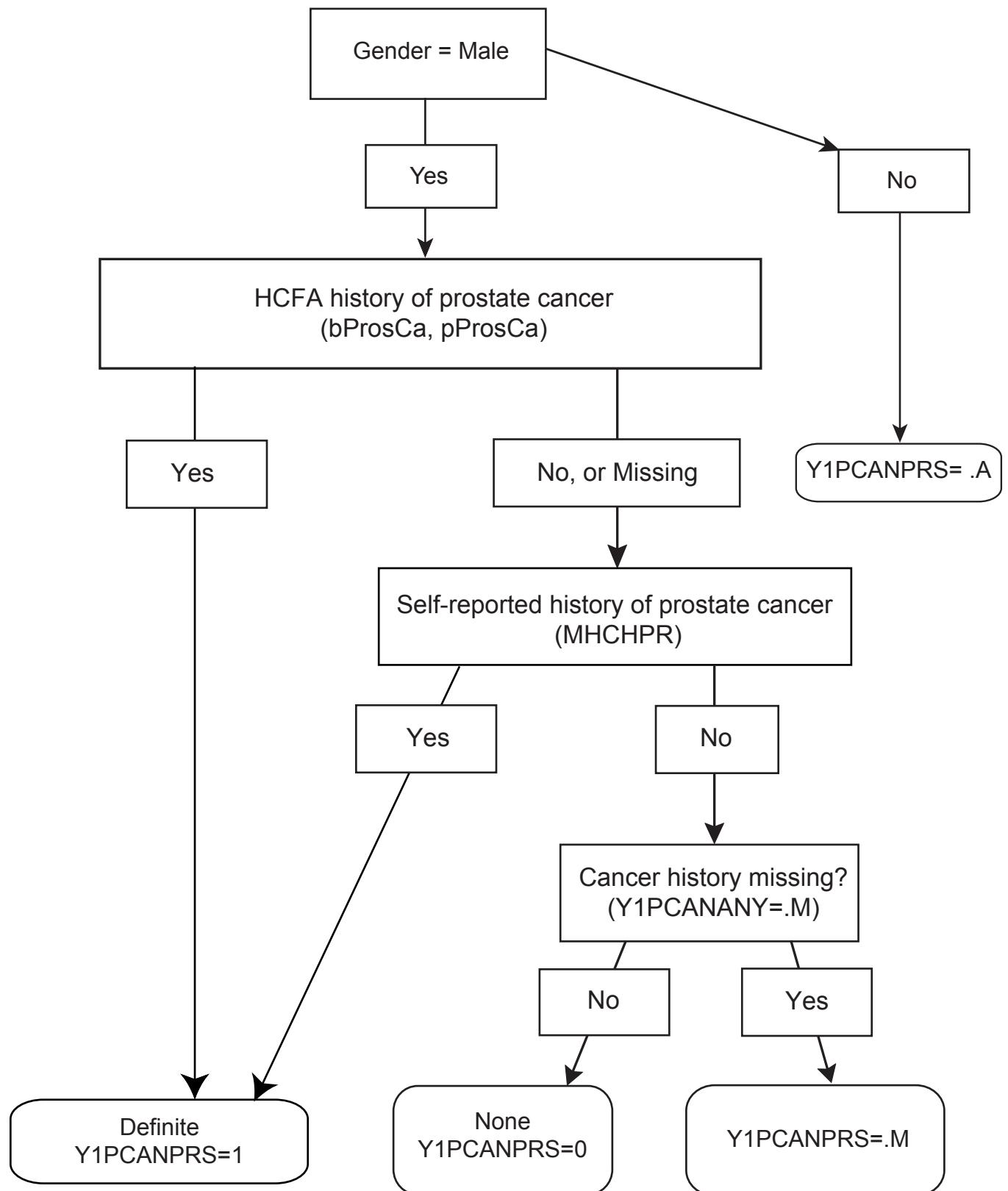
Prevalent Colon Cancer By Self-Report or HCFA



Prevalent Lung Cancer By Self-Report or HCFA



Prevalent Prostate Cancer By Self-Report or HCFA



Baseline Prevalent Cardiovascular Disease

Prime Movers: Anne Newman, Diane Ives, and Steve Kritchevsky

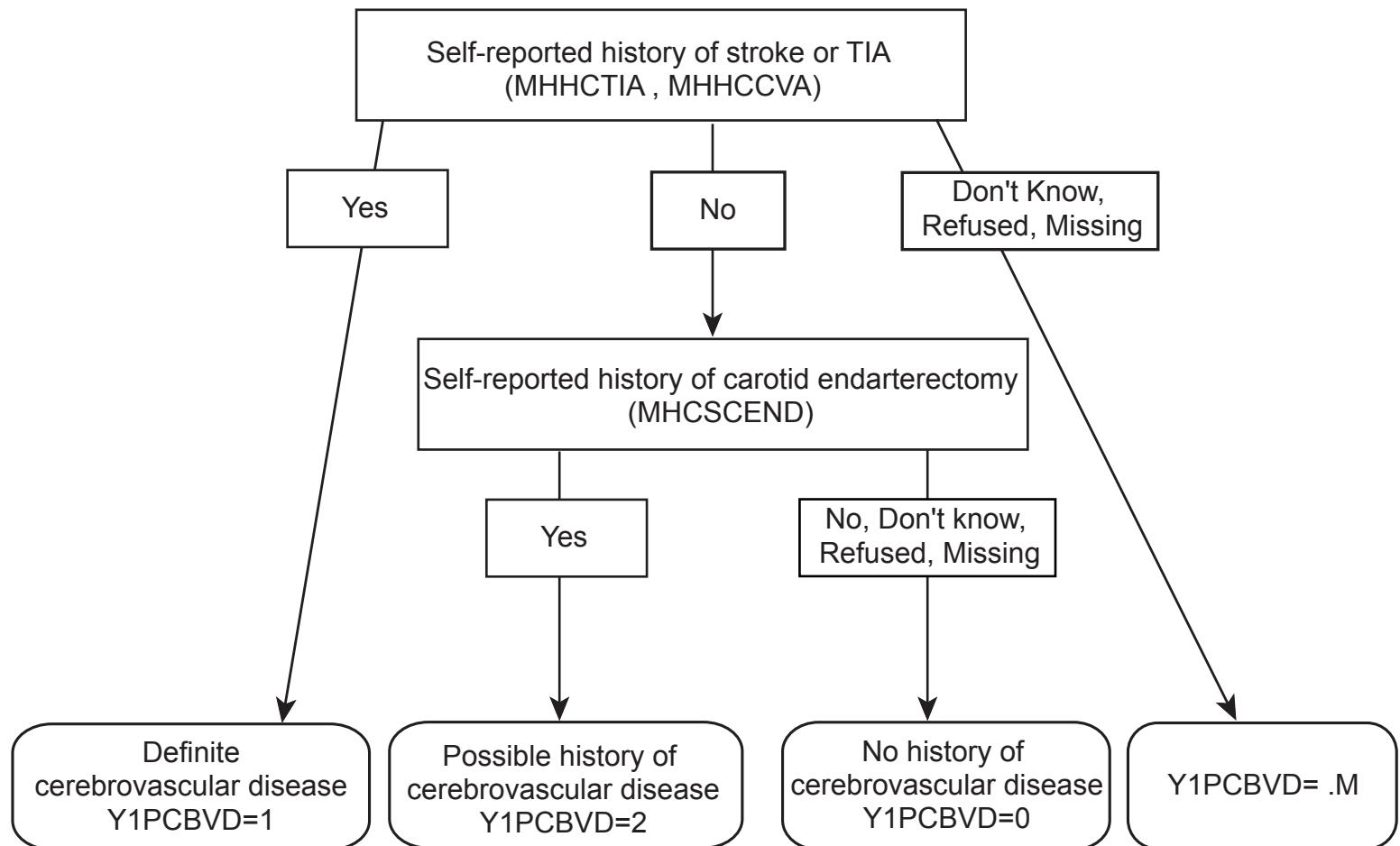
Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
(Y1ANTANG)	Yr1:CV Drug #1:Antiangina 1	Indicator variable for antianginal meds	See medication use variables (Y1RxCalc), documentation	= 0 if no drug information available	0=No 1=Yes
Y1PCBVD	Prevalent baseline cerebrovascular disease	Categorical variable for prevalent baseline cerebrovascular disease	=0 if no self-reported TIA, stroke, or carotid endarterectomy =1 if self-reported TIA (MHHCTIA=1) or stroke (MHHCVA=1) =2 if self-report of carotid endarterectomy (MHCSCEND=1)	If MHHCTIA or MHHCVA in (7,8) or missing and the other ≠1, Y1PCBVD is set to missing (.M) MHCSCEND in (7,8) or missing is treated as No.	0=None 1=Definite 2=Possible
Y1PCHD1	Prevalent coronary heart disease reported/meds	Categorical variable for prevalent coronary heart disease based on self-report and meds	=1 if self-report of bypass/CABG or angioplasty (MHCSCABG=1 or MHCSACA=1) =1 if self-report of MI or angina (MHHCHAMI=1 or MHHCAPCP=1) <u>and</u> use of anti-anginal med (Y1ANTANG=1) =2 if self-report of MI or angina (MHHCHAMI=1 or MHHCAPCP=1) <u>and</u> <u>no</u> use of anti-anginal med (Y1ANTANG≠1) =0 if above conditions not met	Set to missing (.M) if none of the conditions met and MHCSSURG MHHCHAMI or MHHCAPCP in (7,8) or missing)	0=None 1=Definite 2=Possible
Y1PCHD2	ECG evidence of myocardial infarction	Categorical variable for ECG evidence of major Q/QS abnormalities	=0 if QWVAB in (0,2) (none or minor Q-wave abnormality) =1 if QWVAB=1 (major Q-wave abnormality) =2 if VENT_DEF='11' (complete left bundle branch block)	Missing (.M) if ECG data are missing	0=No major Q/QS abnormalities 1=Major Q/QS 2=Indeterminate

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1PCHD3	History of CHD by self-report, meds, or HCFA data	Indicator variable for prevalent CHD based on Y1PCHD1 and inpatient and outpatient HCFA data	=1 if bHPCTA=1 or bHbypass=1 or bMInf=1 or bAngina=1 or oHPCTA=1 or oHbypass=1 or oMI=1 or oAngina=1 or Y1PCHD1=1 =2 if Y1PCHD1=2 =0 otherwise	If Y1PCHD1=0 and there are no HCFA data*, then Y1PCHD3=0 If Y1PCHD1=.M and no positive HCFA data, then Y1PCHD3=.M	0=No 1=Yes
Y1PCHF	Prevalent congestive heart failure	Indicator variable for prevalent congestive heart failure	=0 if no self-report of congestive heart failure (MHCCCHF≠1) =1 if self-report of congestive heart failure (MHCCCHF=1) and use of diuretic [Y1CHFDIU=1] and use of vasodilator or cardiac glycoside (Y1CHFVAS=1 or Y1CARGLY=1)] =2 if self-report of congestive heart failure (MHCCCHF=1) and does not meet the definition above for use of medications	Set to missing (.M) if MHCCCHF in (7,8) or missing	0=No 1=Yes
Y1PCVD	Prevalent cardiovascular disease by self report, meds or HCFA data	Indicator variable for prevalent CHD based on Y1PCHD3, Y1PCBVD, and inpatient and outpatient HCFA data	=0 if no self-report of CHD (Y1PCHD3=0) or CBVD (Y1PCBVD=0) or HCFA report of stroke (pSTROKE=0 and bSTROKE=0) =1 if self-report of CHD (Y1PCHD3=1) OR CBVD (Y1PCBVD=1) or HCFA report of stroke (pSTROKE=1 or bSTROKE=1) =2 if either (Y1PCHD=2 and Y1PCBVD≠1) or (Y1PCBVD=2 and Y1PCVD≠1)	Set to missing (.M) if either (Y1PCHD3 is missing and Y1PCBVD≤0) or (Y1PCBVD is missing and Y1PCHD3≤0) and bStroke ≠ 1 and pStroke ≠ 1 If Y1PCVD1=0 and there are no HCFA data*, then Y1PCVD3=0 If Y1PCVD1=.M and no positive HCFA data, then Y1PCVD3=.M	0=None 1=Definite 2=Possible

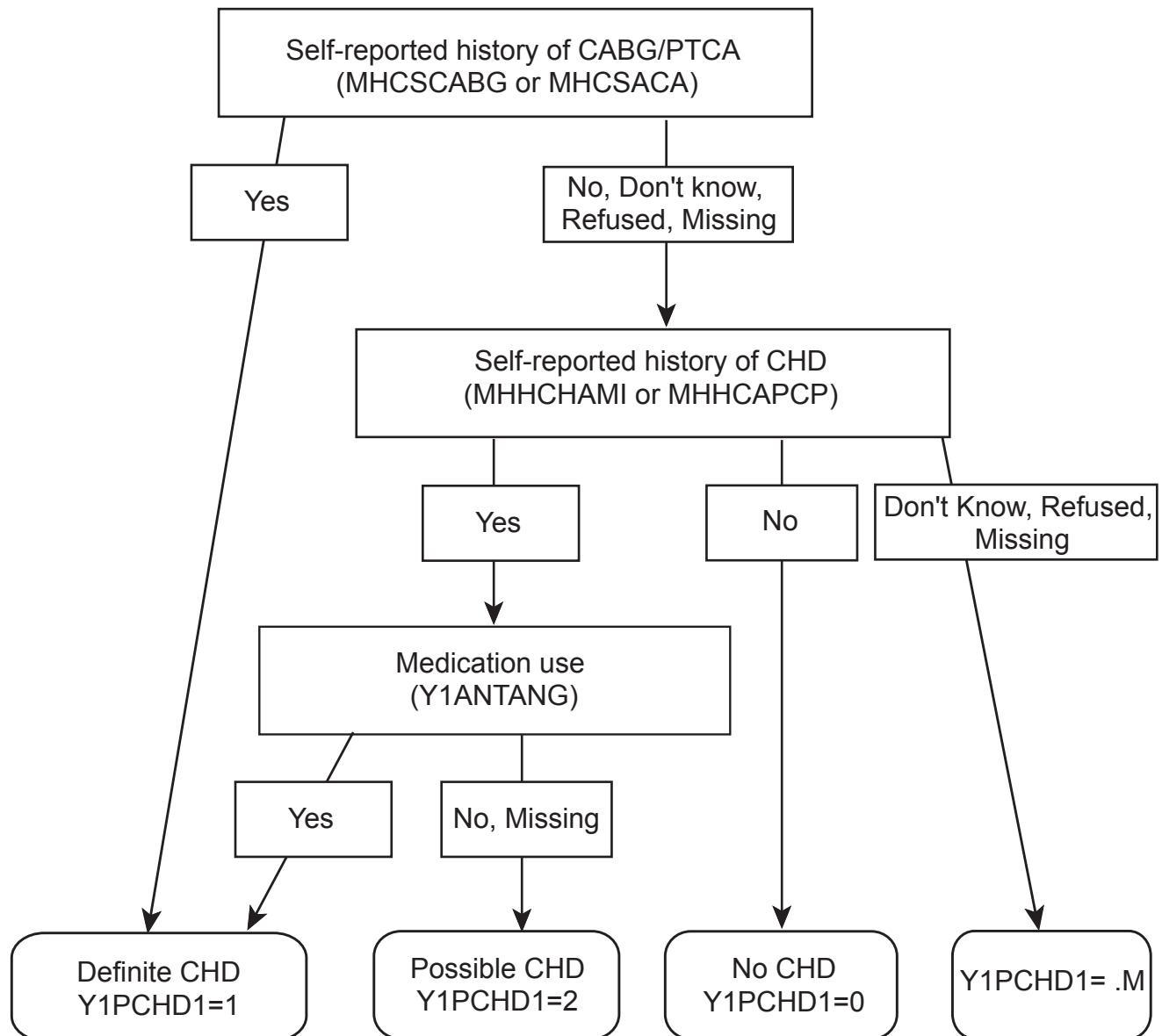
*11 participants could not be reliably linked to HCFA data

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1PPAD	Prevalent peripheral arterial disease	Indicator variable for prevalent peripheral arterial disease	=1 if self-report of intermittent claudication or pain in legs (MHHCICPL=1) or self-report of bypass or angioplasty in leg arteries (MHCSBPAL=1 or MHCSALEA=1) else =0	Set to missing (.M) if none of the conditions met and MHHCICPL or MHCSBPAL or MHCSSURG or MHCSALEA in (7,8) or missing	0=No 1=Yes

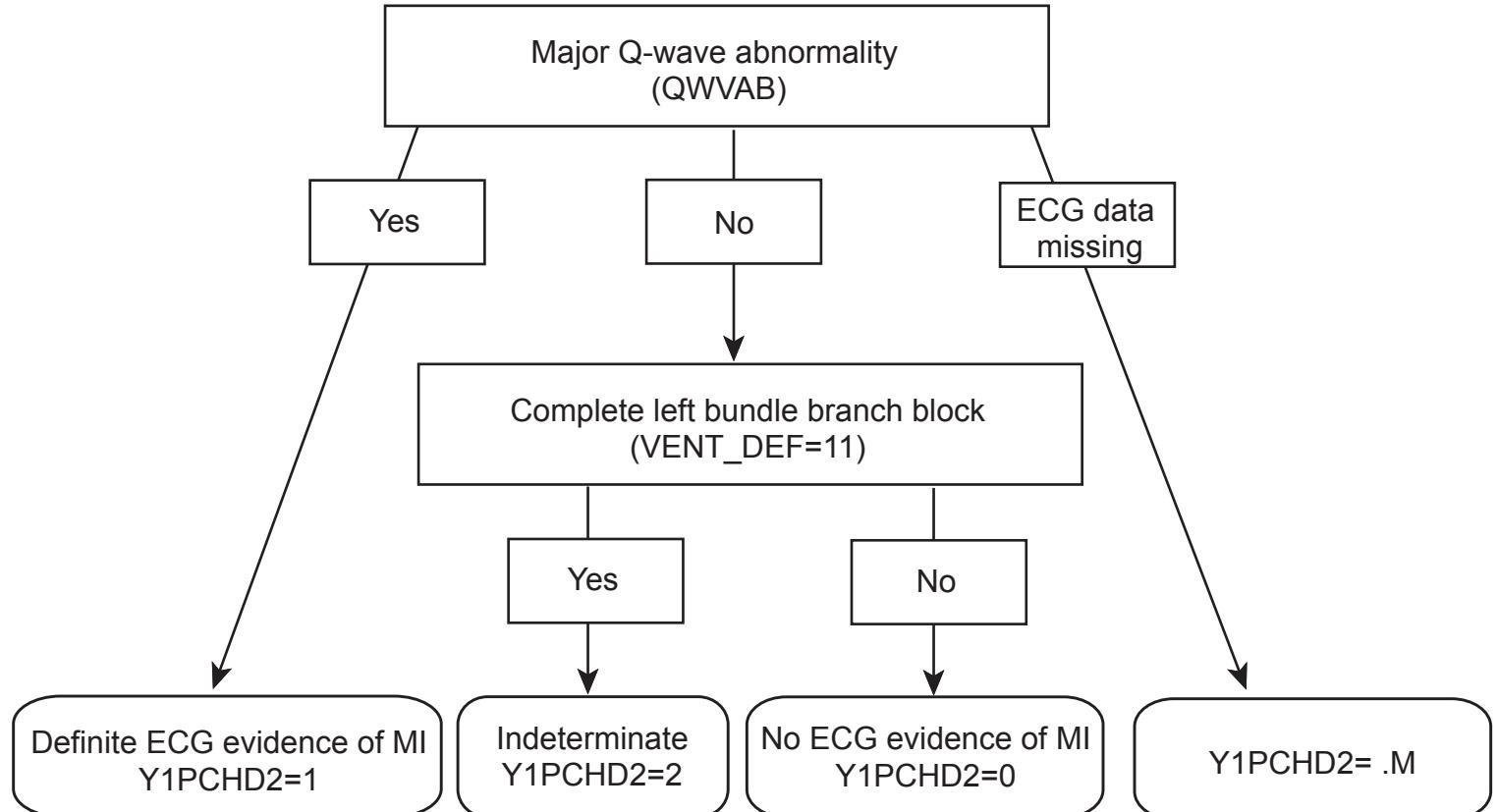
Prevalent Cerebrovascular Disease



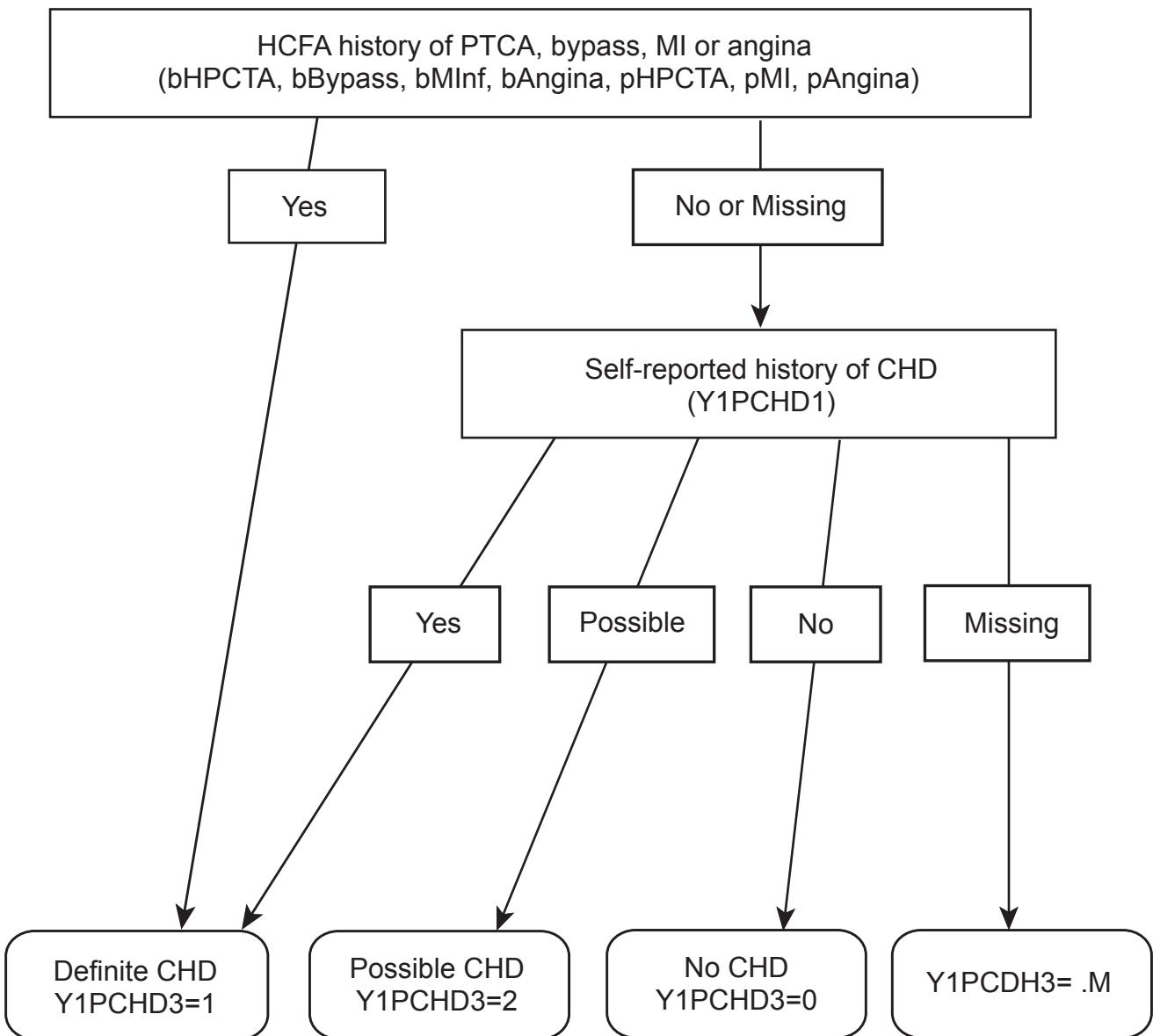
Prevalent Coronary Heart Disease



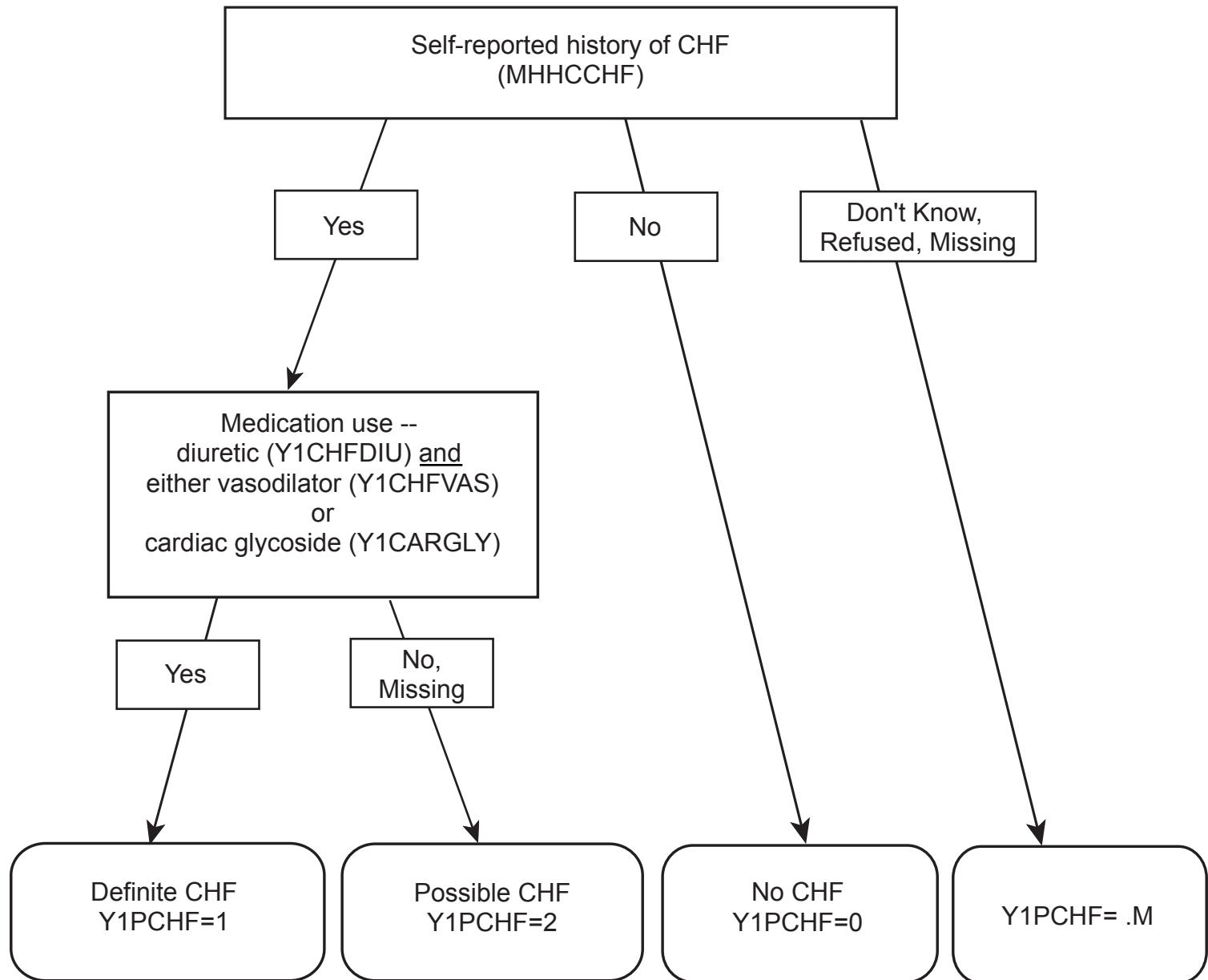
Prevalent MI by ECG



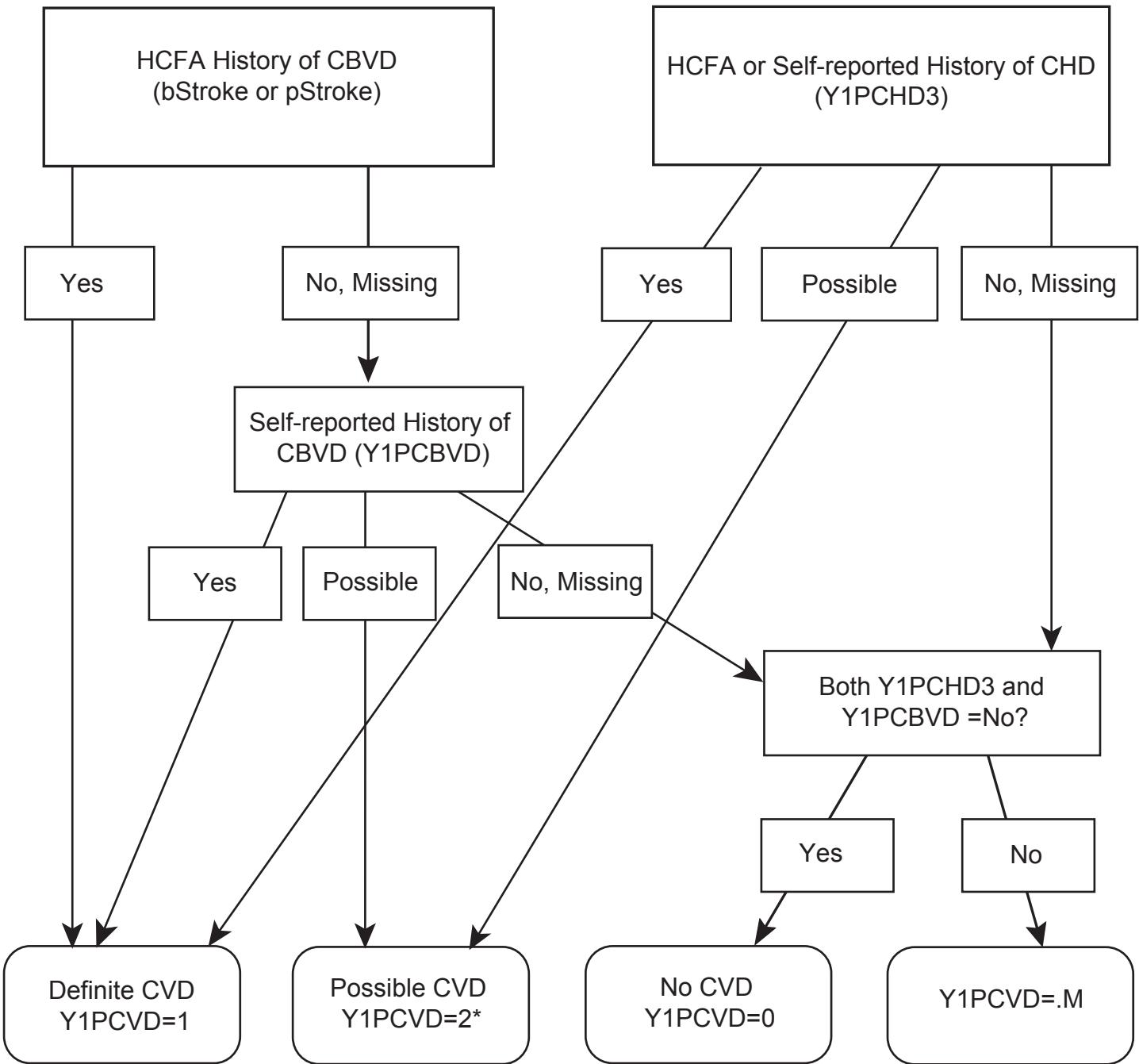
Prevalent Coronary Heart Disease (HCFA history or self report)



Prevalent Congestive Heart Failure

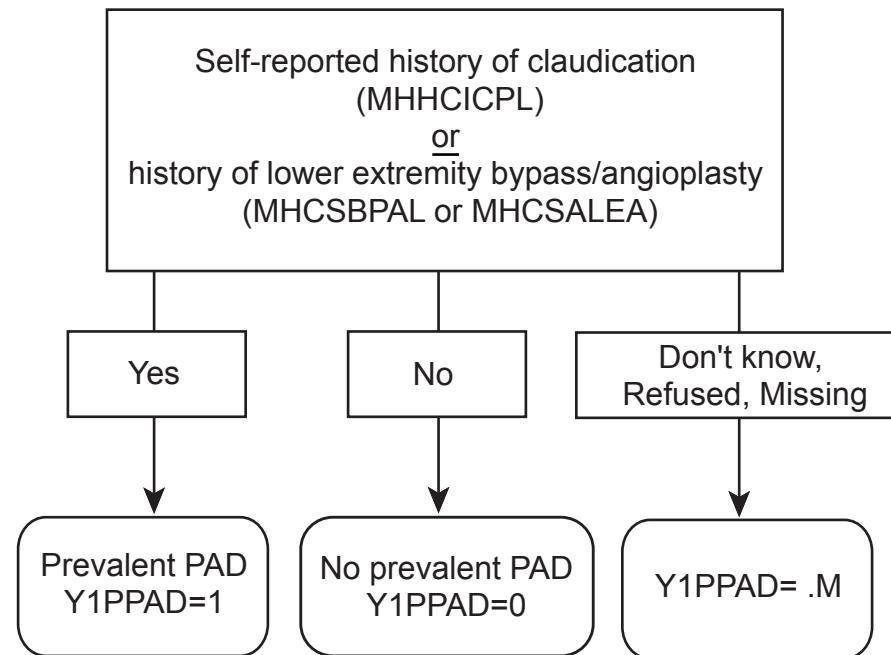


Prevalent Cardiovascular Disease By Self-Report or HCFA



* If $(Y1PCBVD=2 \text{ and } Y1PCHD3=1)$ or if $(Y1PCHD3=2 \text{ and } Y1PCBVD=1)$, then $Y1PCVD=1$

Prevalent Peripheral Arterial Disease (PAD, Intermittent Claudication)



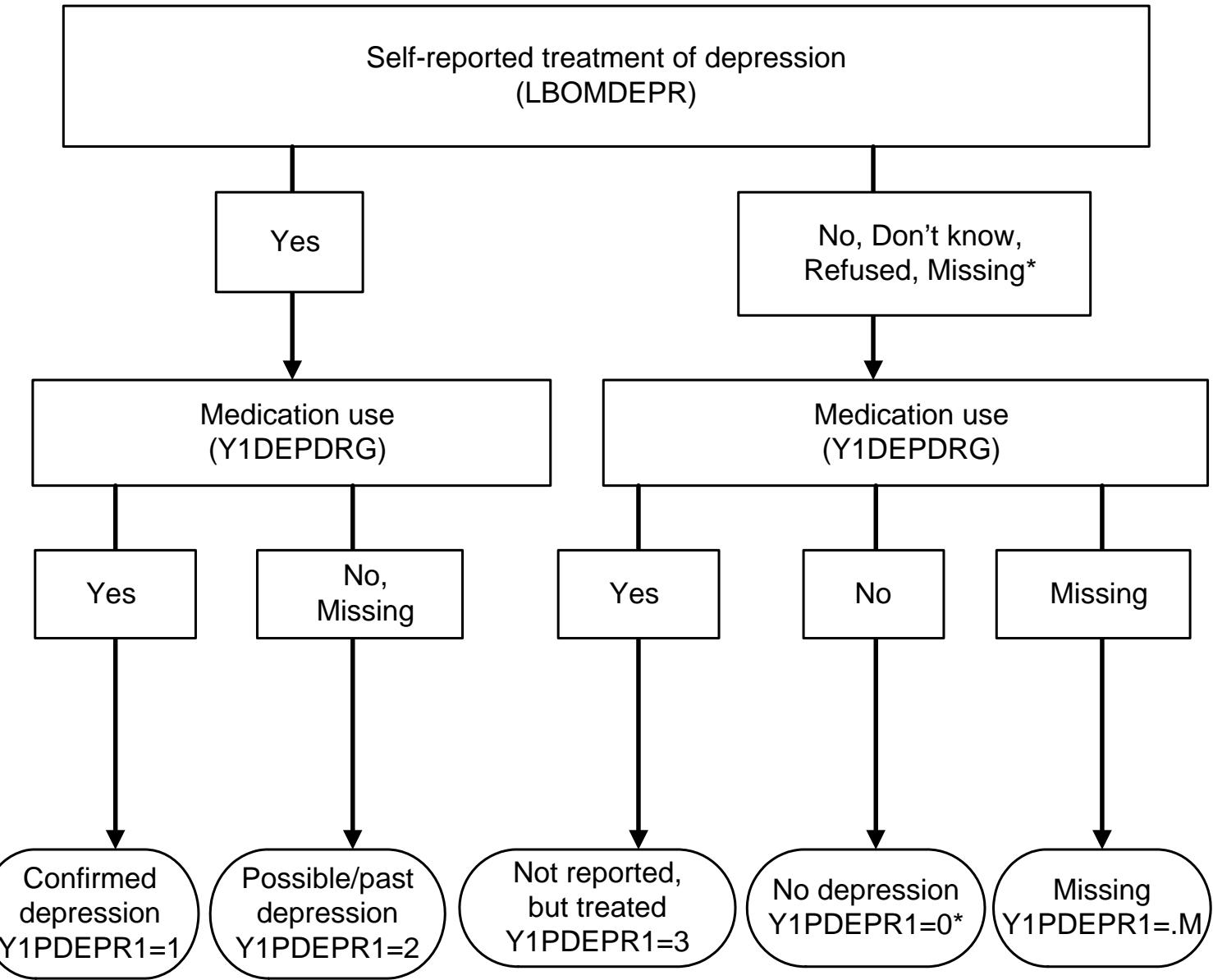
Baseline Prevalent Depression

Prime mover: Suzanne Satterfield

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
(Y1DEPDRG)	Yr1:Any antidepressant medication used	Indicator variable for use of any antidepressant med	See medication use variables (Y1RxCalc), documentation	= .A if no drug information available	0=No 1=Yes
Y1PDEPR1	Prevalent depression reported/meds (not CES_D)	Categorical variable for prevalent depression based on self-report/meds	=0 if no self-report of treatment for depression (LBOMDEPR ≠ 1) <u>and</u> no use of anti-depressant (Y1DEPDRG ≠ 1) =1 if self-report of treatment for depression (LBOMDEPR=1) <u>and</u> use of anti-depressant (Y1DEPDRG=1) =2 if self-report of treatment for depression (LBOMDEPR=1) and <u>no</u> use of antidepressant (Y1DEPDRG ≠ 1) =3 if no self-report of treatment for depression (LBOMDEPR ≠ 1) but use of anti-depressant (Y1DEPDRG=1)	Set to missing (.M) if LBOMDEPR in (7,8) or missing and Y1DEPDRG ≠ 1. If LBOMDEPR in (7,8) or missing and Y1DEPDRG=1 then Y1PDEPR1=3 If LBOMDEPR=1 and Y1DEPDRG is missing, Y1PDEPR1=2.	0=None 1=Confirmed depression 2=Possible past depression 3=Not reported but treated
Y1PDEPR2	At risk for depression (CES-D, cutoff=16)	Indicator variable for CES-D score above threshold of 16 for risk of depression	=0 if ($0 \leq \text{CES_D} < 16$) =1 if $\text{CES_D} \geq 16$	Missing if CES_D is missing	0 = Not at risk 1 = At risk
Y1PDEPR3	At risk for depression (CES-D, cutoff=20)	Indicator variable for CES-D score above threshold of 20 for risk of depression	=0 if ($0 \leq \text{CES_D} < 20$) =1 if $\text{CES_D} \geq 20$	Missing if CES_D is missing	0 = Not at risk 1 = At risk

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1PDEPR4	At risk for depression (CES-D10, cutoff=10)	Indicator variable for CES-D10 (short form CES-D) score above threshold of 10 for risk of depression	=0 if ($0 \leq \text{CES_D10} < 10$) =1 if $\text{CES_D10} \geq 10$	Missing if CES_D10 is missing	0 = Not at risk 1 = At risk

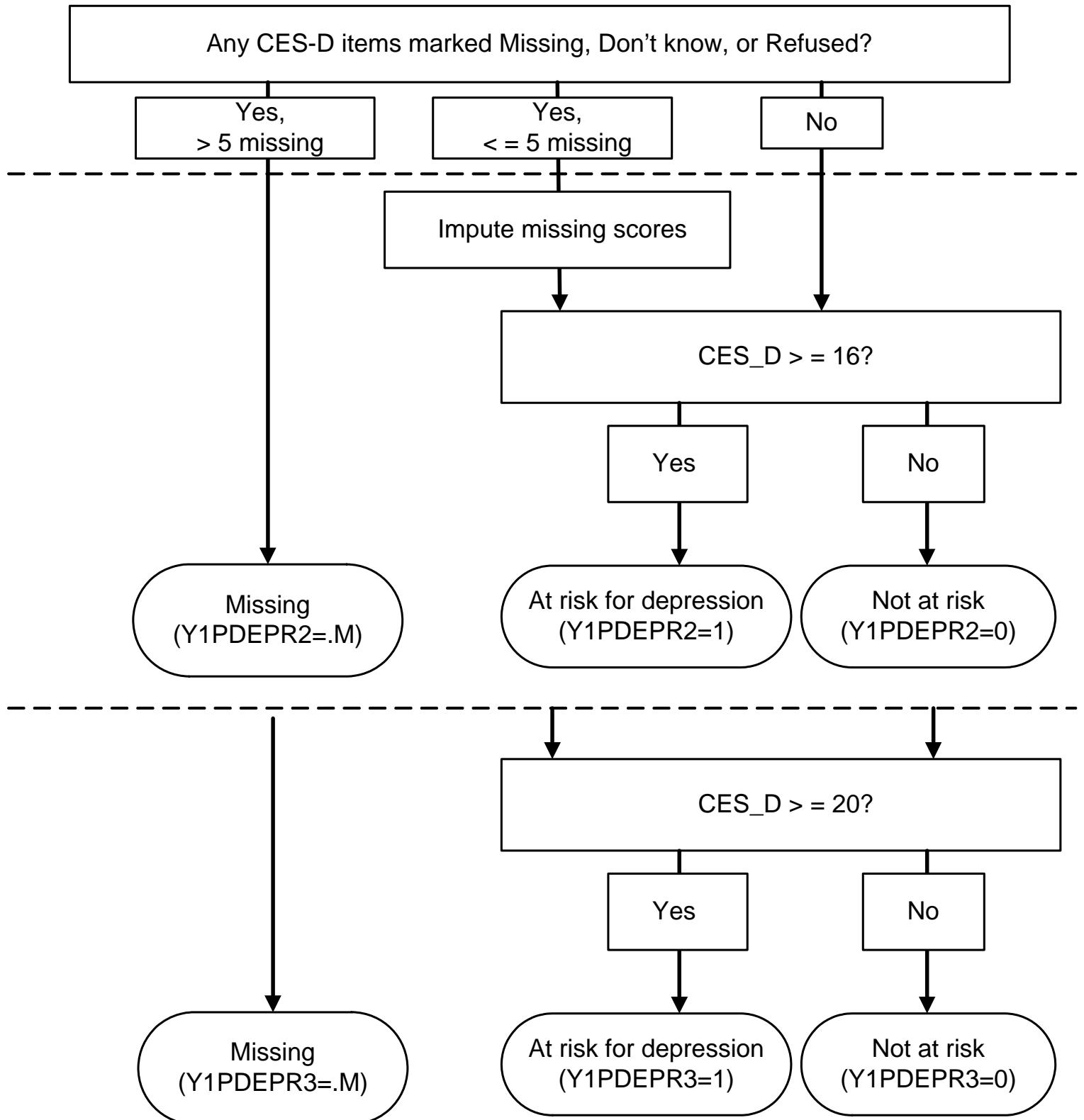
Prevalent Depression



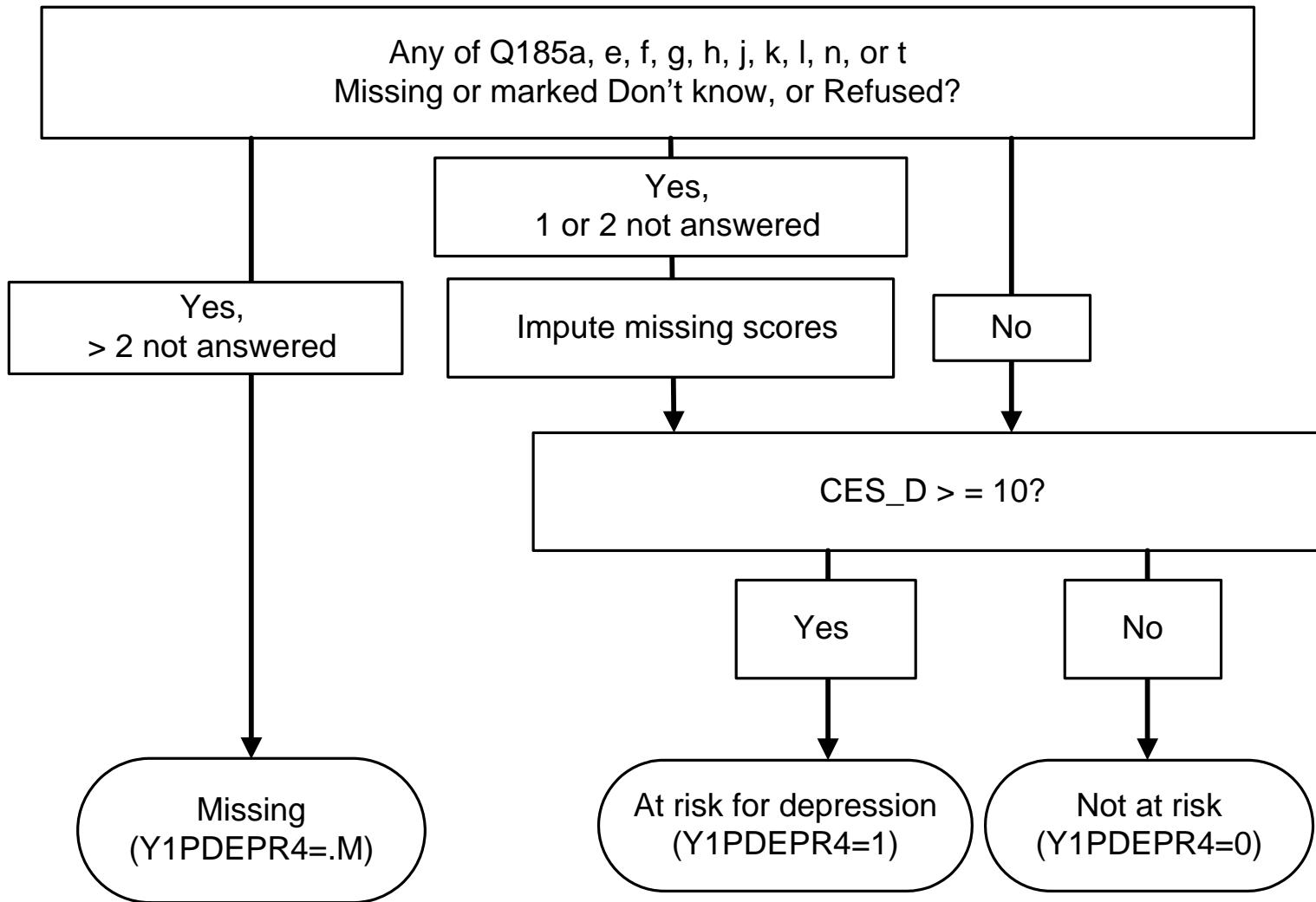
*If LBOMDEPR is missing and Y1DEPDRG is not equal to 1, Y1PDEPR1 is set to missing (.M)

At Risk for Depression

Two different cutoffs for the CES-D have been proposed, > 20 and > 16, so two variables have been created:



**At Risk for Depression
(CES_D short form)**



Baseline Prevalent Diabetes

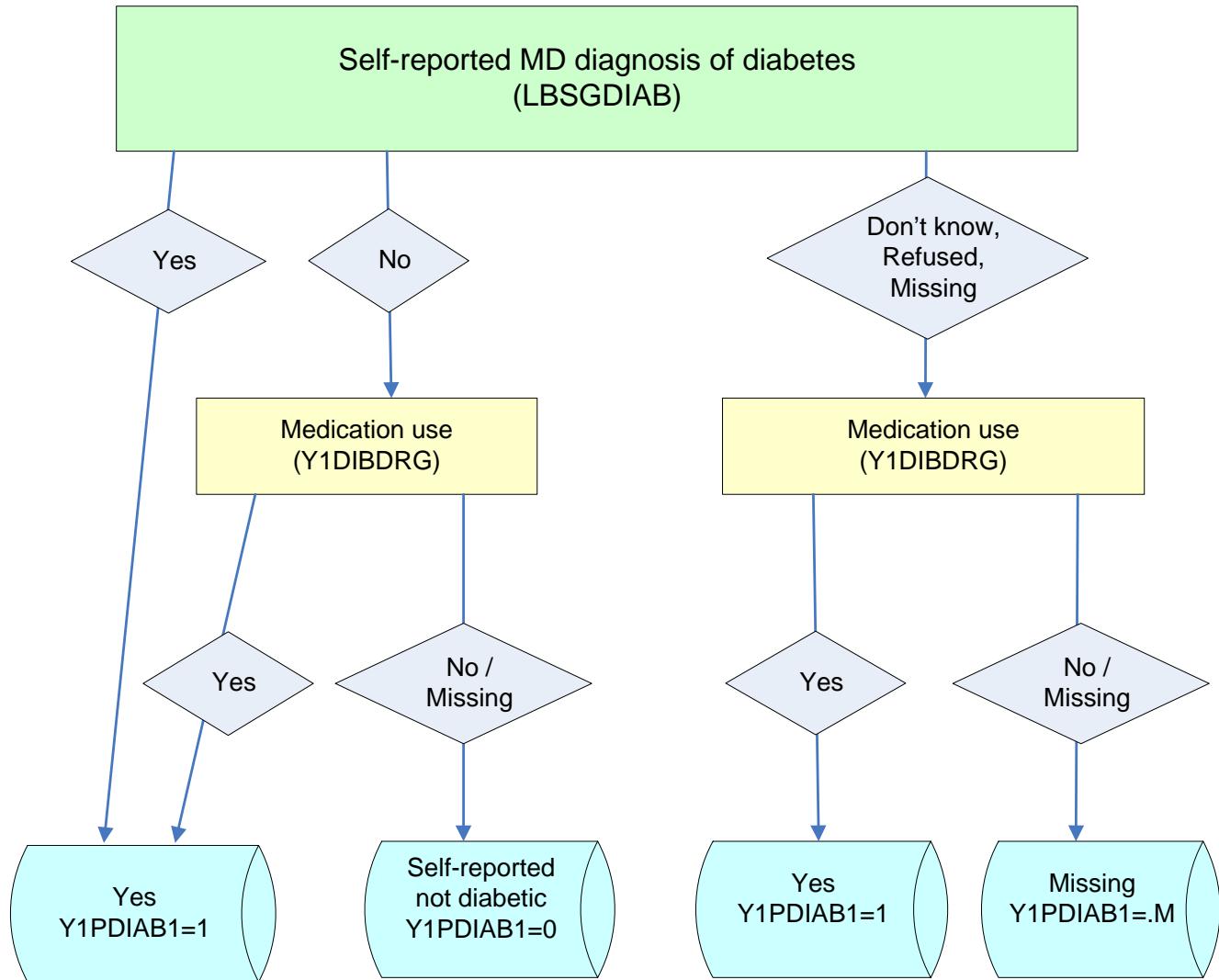
Prime Movers: Tammy Harris, Helaine Resnick, Ann Schwartz, Alka Kanaya, Nathalie Rekeneire

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1PDIAB1	Prevalent clinical diabetes reported/meds	Indicator variable for prevalent diabetes based on self-report/meds	=1 if self-report of diabetes (LBSGDIAB=1) or use of diabetes drug (Y1DIBDRG=1) =1 if LBSGDIAB in (7,8) and Y1DIBDRG=1 else =0	Set to missing (.M) if LBSGDIAB is missing, Don't Know or refused and Y1DIBDRG is not Yes.	0=No 1=Yes
Y1ADAEPI	Prevalent glucose intolerance (ADA/EPI criteria)	Categorical variable for glucose intolerance using ADA (epidemiological) criteria	=3 if Y1PDIAB1=1 Otherwise, =0 if FAST8GLU1<100 or GLUCOSE1<100 =1 if 100≤FAST8GLU1 <126 =2 if FAST8GLU1≥126 Otherwise, =0.5 if Y1ADAEPI=0	Set to missing (.M) if Y1PDIAB1 is missing and FAST8GLU1 is missing or GLUCOSE1>=100	0=Not impaired 0.5=Self report not diabetic, no fasting glucose 1=Impaired fasting glucose 2=Diabetic fasting glucose 3=Known diabetic
Y1ADA2H	Prevalent glucose intolerance (ADA + OGTT criteria)	Categorical variable for glucose intolerance using ADA + oral glucose tolerance test criteria	=4 if Y1PDIAB1=1 , Otherwise, =0 if (0<FAST8GLU1 or GLUCOSE1<100) AND (0<HR8GLUC1 or HR_GLUC1<140) =1 if (0<FAST8GLU1 or GLUCOSE1<100) AND 140 ≤HR8GLUC1<200 =2 if 100≤FAST8GLU1<126 and HR8GLUC1<200 =3 if FAST8GLU1≥126 or HR8GLUC1≥200 Otherwise, =0.5 if Y1ADA2H=0	Set to missing (.M) if Y1PDIAB1 is missing AND Any one of the following is true: (FAST8GLU1 is missing or GLUCOSE1>=100) (0<FAST8GLU1 or GLUCOSE1<100) AND (HR8GLUC1 is missing or HR_GLUC1>=140) 100<FAST8GLU1<126) AND HR8GLUC1 is missing	0=Not impaired 0.5=Self report not diabetic, no fasting glucose 1=Impaired glucose tolerance 2=Impaired fasting glucose 3=Diabetic by FG or OGTT criteria 4=Known diabetic

Issues to consider in use of diabetes algorithm data:

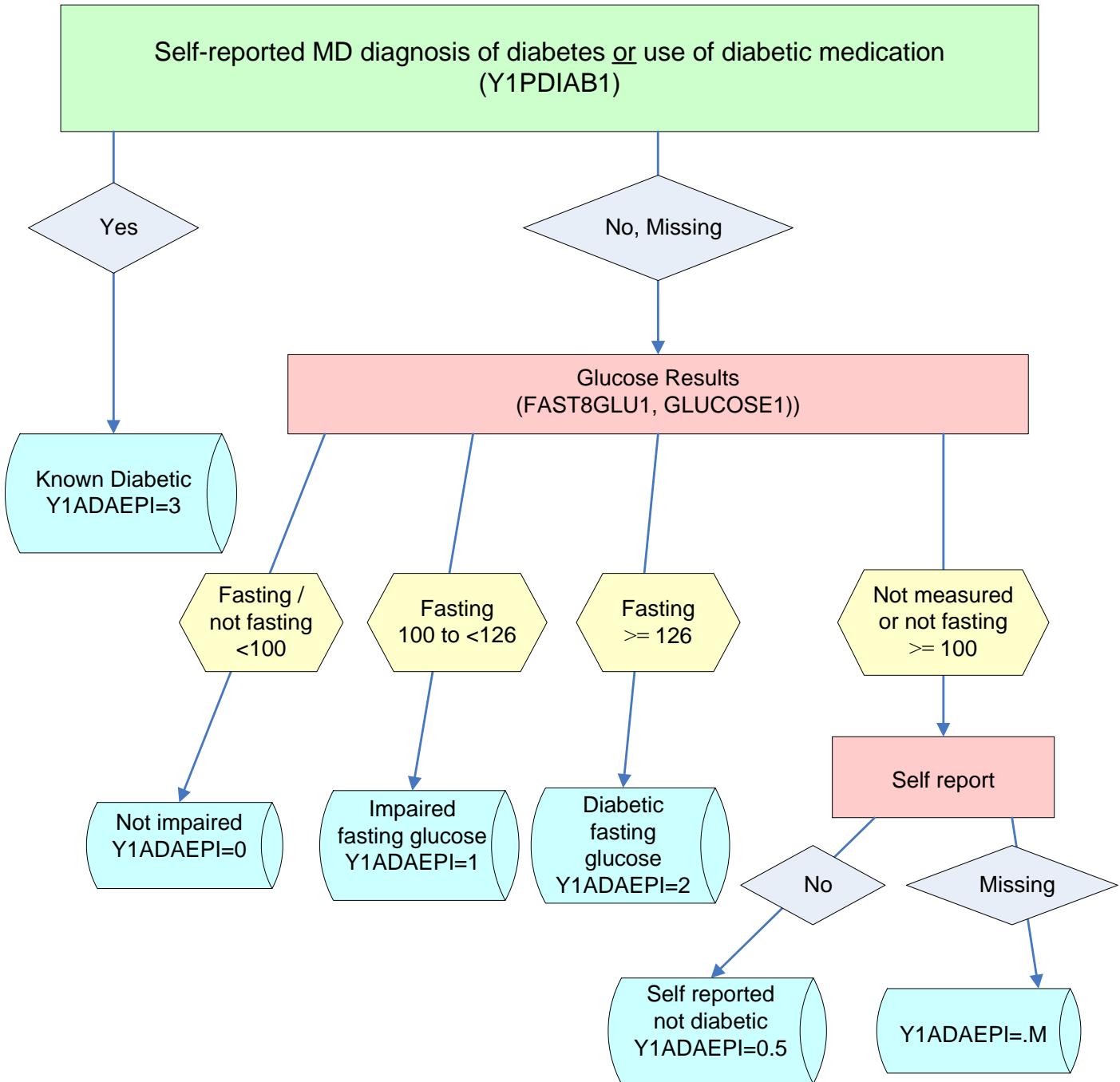
- Because of the controversy over which standard should be applied for diagnosis of diabetes, we included classification both by ADA (epidemiological) criteria and ADA+OGTT criteria.
- All diabetics using insulin or hypoglycemic agents should not have received glucose tolerance tests at baseline. These individuals are considered diabetic on the basis of history primarily and secondarily on the basis of medication use.
- Those individuals who did not fast for at least 8 hours are considered to have completed the glucose tolerance test or to have a valid fasting glucose as long as their results were in the normal range. If the results were abnormal, FAST8GLU1 or HR8GLUC1 is set to missing and the value is not used in the determination of diabetes status.

Prevalent Diabetes



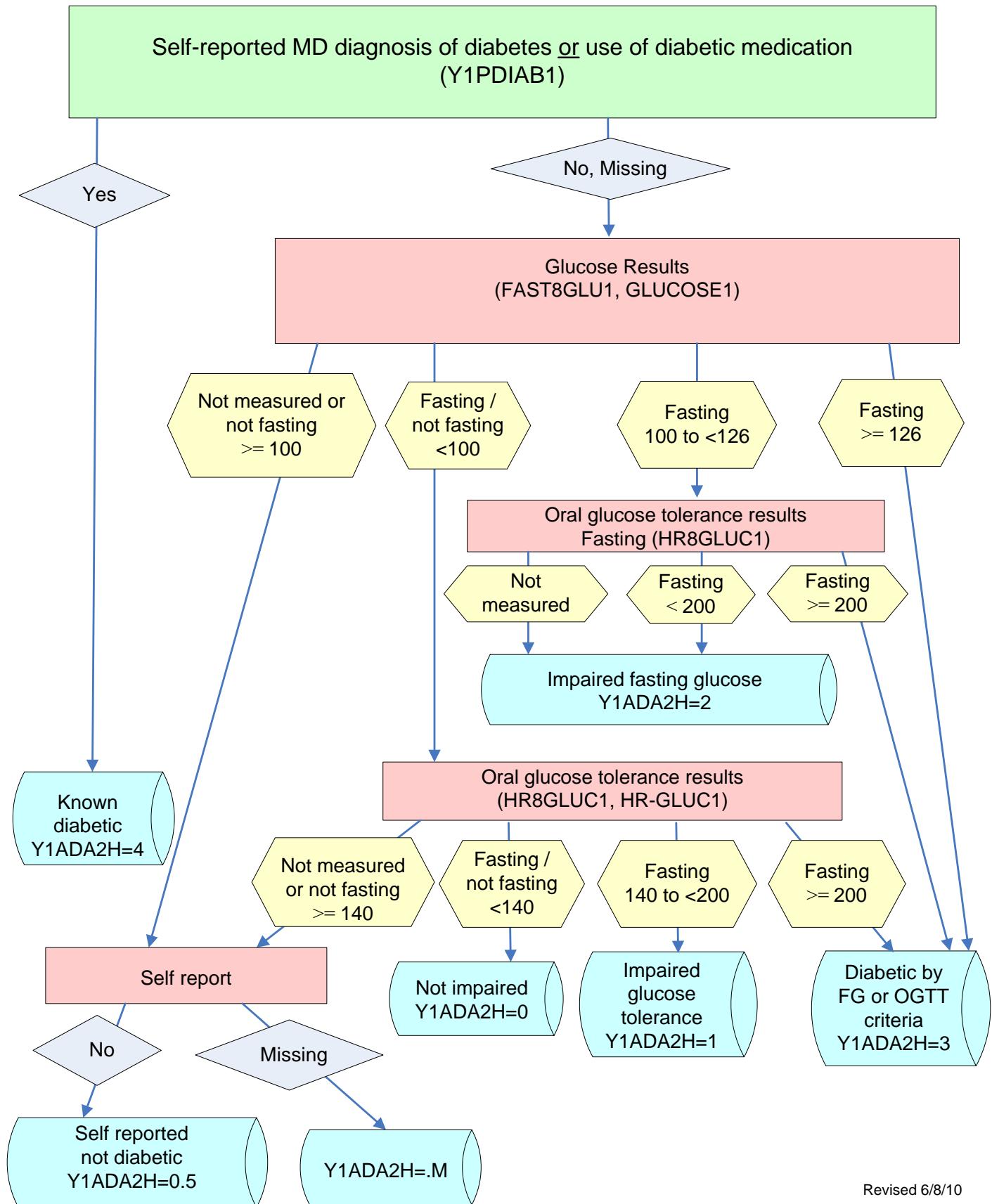
Revised 5/14/10

Prevalent Glucose Intolerance (ADA/EPI Criteria)



Revised 6/2/10

Prevalent Glucose Intolerance (ADA + OGTT Criteria)



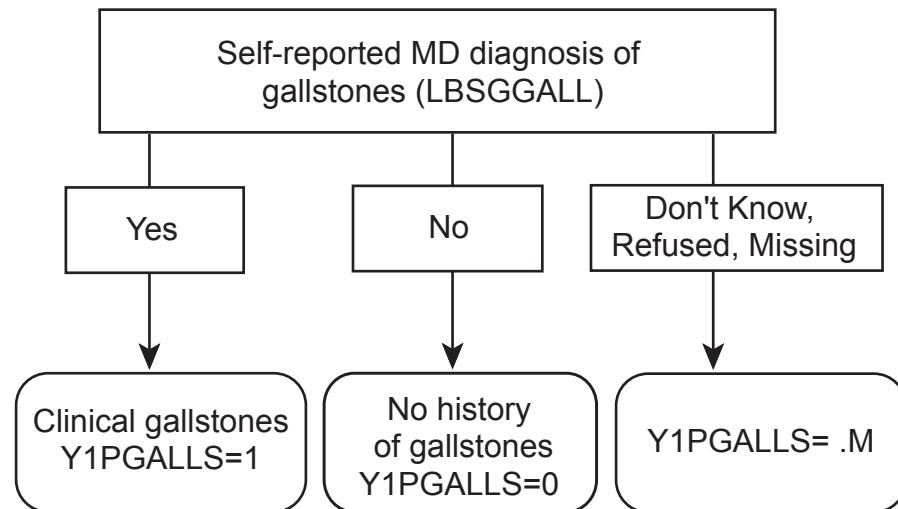
Revised 6/8/10

Baseline Prevalent GI Disease

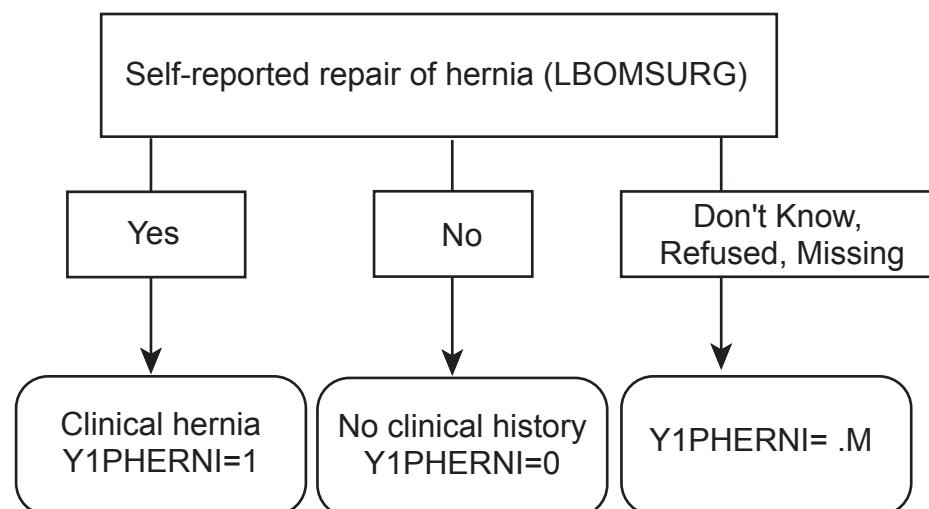
Prime mover: Jay Everhart

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1PGALLS	Prevalent gallstones	Indicator variable for prevalent gallstones	=1 if self-reported MD diagnosis of gallstones (LBSGGALL=1) =0 otherwise	Set to missing (.M) if LBSGGALL is missing	0=No 1=Yes
Y1PHERNI	Prevalent abdominal wall hernia	Indicator variable for prevalent abdominal wall hernia	=1 if self-reported history of surgery to repair hernia in groin or abdomen (LBOMSURG=1) =0 otherwise	Set to missing (.M) if LBOMSURGL is missing	0=No 1=Yes
Y1PGIBLD	Prevalent GI bleed	Indicator variable for prevalent GI bleed	=1 if self-report of seeing Dr. for bleeding in stomach or intestines (LBSGBLSI=1) =0 otherwise	Set to missing (.M) if LBSGBLSI is missing	0=No 1=Yes
Y1PULCER	Prevalent stomach/duodenal ulcer	Indicator variable for prevalent stomach/duodenal ulcer	=1 if self-reported MD diagnosis of stomach or duodenal ulcer (LBSGULCR=1) <u>and</u> had upper GI series or upper endoscopy (LBSGUGI=1 or LBSGUPE=1) =2 if self-reported MD diagnosis of stomach or duodenal ulcer (LBSGULCR=1) and <u>no</u> upper GI series or upper endoscopy (LBSGUGI≠1 and LBSGUPE≠1) =0 otherwise	Set to missing (.M) if LBSGULCR in (7,8) or missing. If LBSGUGI or LBSGUPE in (7,8) or missing, ulcer is unconfirmed (2).	0=None 1=Definite 2=Possible
Y1ULCTYP	Location of baseline ulcer	Classification of ulcer location, regardless of confirmed or unconfirmed	=1 if stomach (LBSGULOC=1) =2 if duodenum (LBSGULOC=2) =3 if unknown (LBSGULOC=3 or 8, or missing)	Missing if Y1PULCER is missing or No	1=Stomach 2=Duodenum 3=Unknown

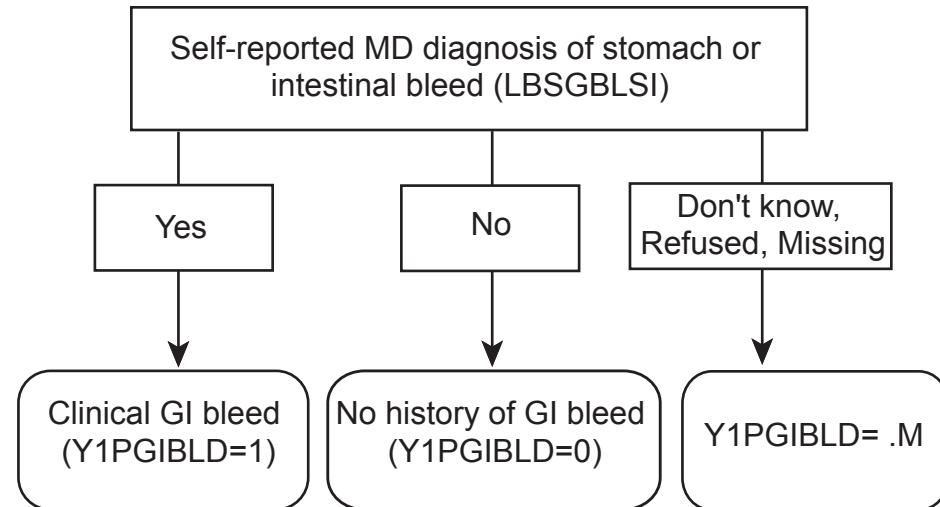
Prevalent Gallstones



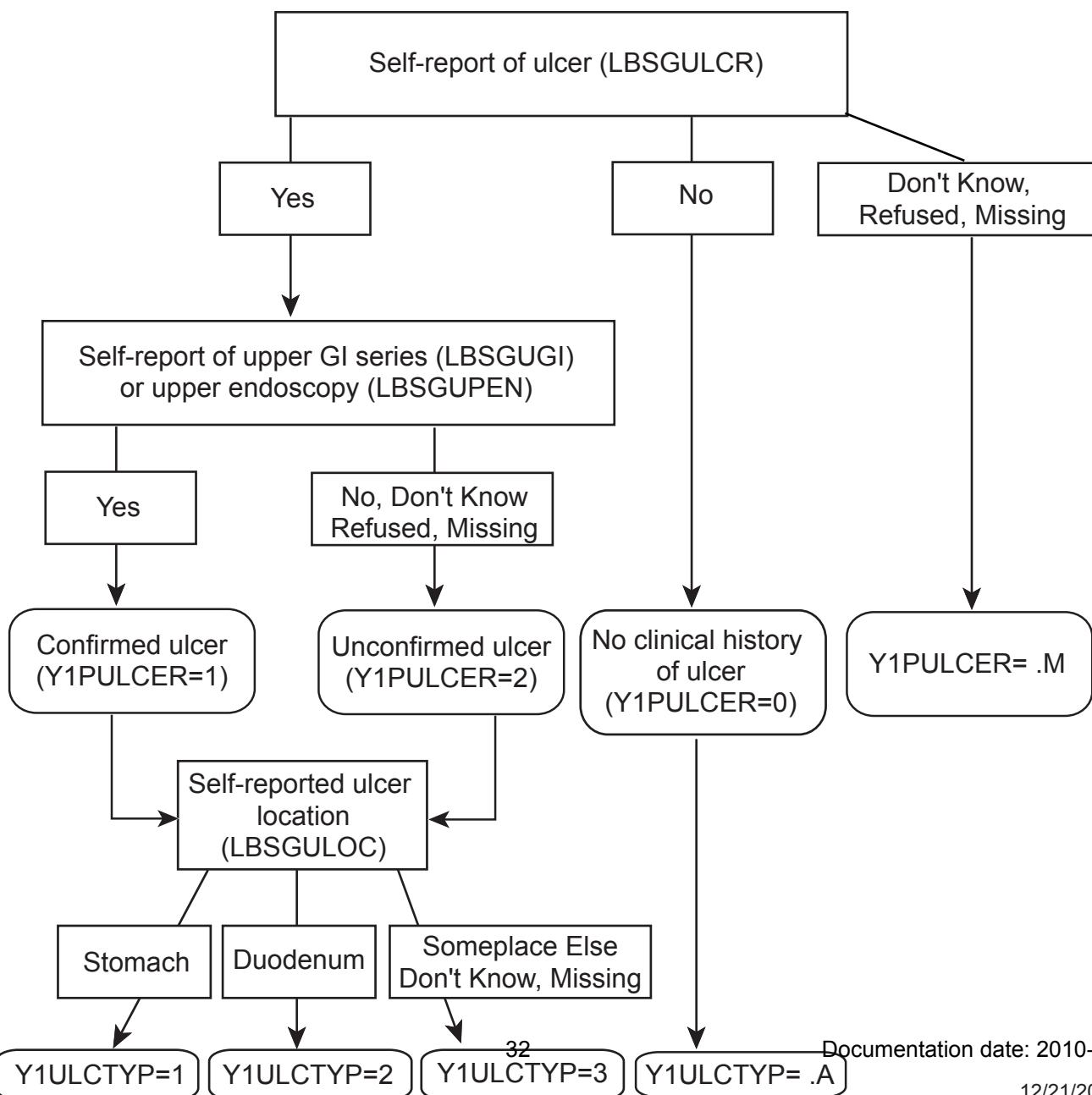
Prevalent Abdominal Wall Hernia



Prevalent GI Bleed



Prevalent Ulcer

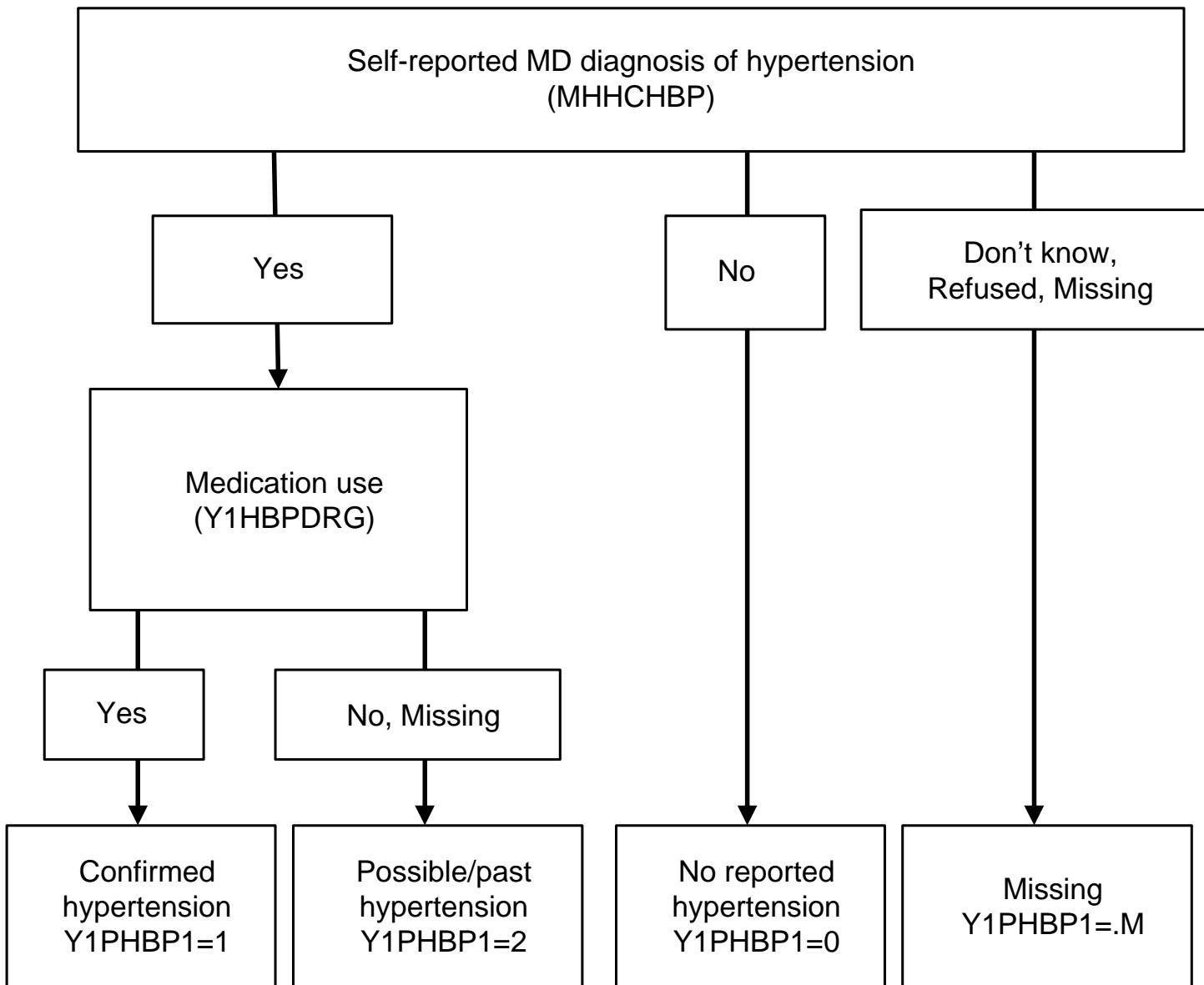


Baseline Prevalent Hypertension

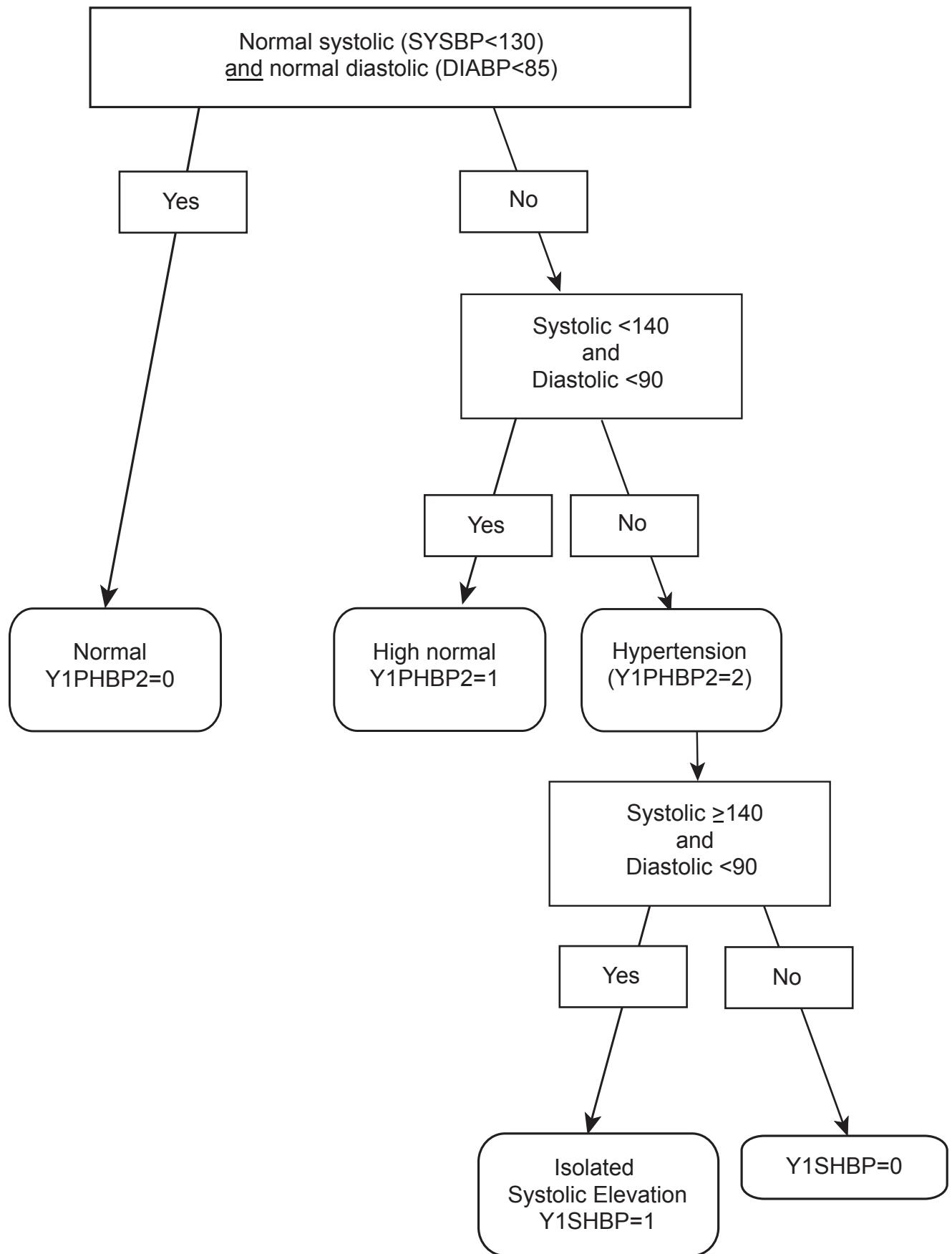
Prime Mover: Suzanne Satterfield

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
(Y1HBPDRG)	Yr1: CV drug #3: HBP med/ antihyper-tensive	Indicator variable for any antihypertensives	See medication use variables (Y1RxCalc) in Year 1 documentation	= .A if no drug information available	0=No 1=Yes
Y1PHBP1	Prevalent hypertension reported/meds	Categorical variable for prevalent hypertension based on self-report/meds	=1 if self-report of hypertension (MHHCHBP=1) and use of anti-hypertensive med (Y1HBPDRG=1) =2 if self-report of hypertension (MHHCHBP=1) and no use of anti-hypertensive med (Y1HBPDRG ≠ 1) =0 if above conditions not met	If MHHCHBP is missing, Don't know, or Refused and Y1HBPDRG≠1 then Y1PHBP1=.M	0=None 1=Definite 2=Possible/past
Y1PHBP2	Prevalent hypertension physiological	Categorical variable for prevalent hypertension based on blood pressure measurement	=0 if (SYSBP < 130) and (DIABP < 85) =1 if [(130≤SYSBP<140) <u>and</u> (DIABP<90)] or [(SYSBP<140) <u>and</u> (85≤DIABP<90)] =2 if SYSBP ≥ 140 or DIABP ≥ 90	=2 if SYSBP is missing and DIABP≥90 <u>or</u> DIABP is missing and SYSBP≥140 =Missing (.M) if other combinations of missing SYSBP and DIABP	0=Normal 1=High normal 2=HTN
Y1SHBP	Isolated systolic elevation	Flag for isolated systolic elevation (systolic bp≥140 with normal diastolic)	=0 if Y1PHBP=2 and DIABP≥90 =1 if Y1PHBP2=2 and SYSBP≥140 and DIABP<90	=Missing (.A) if Y1PHBP2≠2	0=No 1=Yes

Prevalent Hypertension



Prevalent Hypertension (Physiological)



Year 1 Metabolic Syndrome

Investigator Name: Stephen B. Kritchevsky, Ph.D.

E-mail Address: skritchovsky@utmem.edu

Unit: Memphis Field Center

Analysis Plan Reference Number:

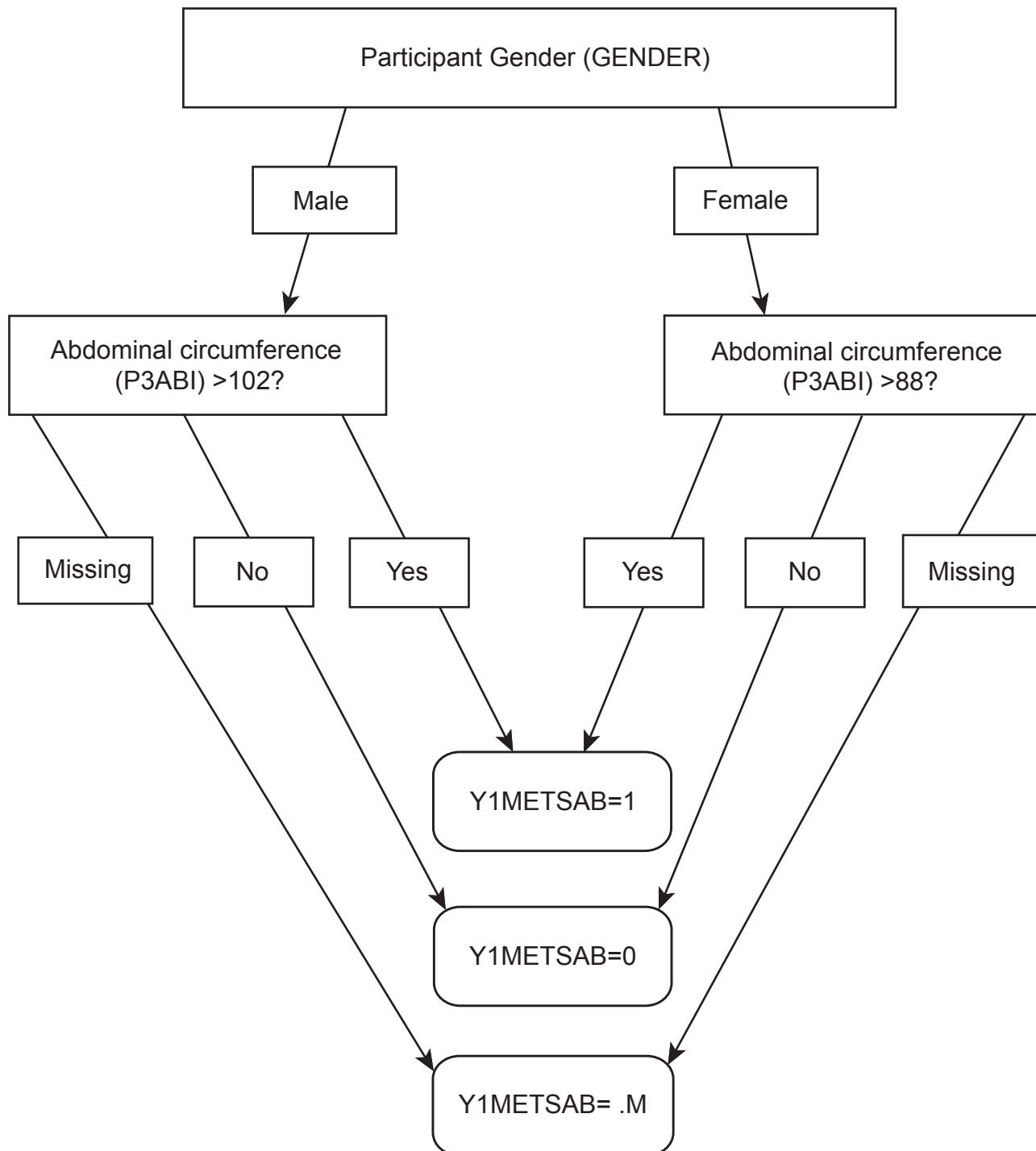
Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1METSAB	Abdominal circumference criterion met	Adapted from Ford et al (JAMA 2002;287:356-9) For men: waist circumference > 102 cm For women: waist circumference > 88 cm	If P3ABI>0 then Y1METSAB=0; If gender=1 and P3ABI>102 then Y1METSAB=1; If gender=2 and P3ABI>88 then Y1METSAB=1;	If P3ABI is missing, then Y1METSAB=missing.	0=No 1=Yes
Y1METSBP	Blood pressure criterion met	Adapted from Ford et al (JAMA 2002;287:356-9) Blood pressure \geq 130/85 or taking anti-hypertensive medication	If SYSBP>0 and DIABP>0 then Y1METSBP=0; If SYSBP \geq 130 then Y1METSBP=1; If DIABP \geq 85 then Y1METSBP=1; If (Y1HBPDRG=1 and MIFREAS indicates drug is used for hypertension) then Y1METSBP=1;	If SYSBP or DIABP is missing then Y1METSBP=missing unless (Y1HBPDRG=1 and MIFREAS indicates drug is used for hypertension)	0=No 1=Yes
Y1METSGL	High glucose criterion met	Adapted from Ford et al (JAMA 2002;287:356-9) Glucose \geq 110 or taking antidiabetic medication (Ford definition is only insulin drugs)	If 0<GLUCOSE1<110 then Y1METSGL=0 If GLUCOSE1 \geq 110 then Y1METSGL=1 If Y1DIBDRG=1 then Y1METSGL=1;	If GLUCOSE1 is missing, then Y1METSGL=missing unless Y1dibdrg=1	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1METS8GL	High glucose criterion met	Adapted from Ford et al (JAMA 2002;287:356-9) FAST8GLU1 \geq 110 or taking antidiabetic medication (Ford definition is only insulin drugs)	If 0<(GLUCOSE1<110) then Y1METS8GL=0 If FAST8GLU1 \geq 110 then Y1METS8GL=1 If Y1DIBDRG=1 then Y1METS8GL=1;	If FAST8GLU1 is missing, then Y1METS8GL=missing unless Y1DIBDRG=1	0=No 1=Yes
Y1METSHD	Low HDL criterion met	Adapted from Ford et al (JAMA 2002;287:356-9) For men: HDL < 40 For women: HDL < 50	If HDL>0 then Y1METSHD=0; If GENDER=1 and 0 \leq HDL<40 then Y1METSHD=1; If GENDER=2 and 0 \leq HDL<50 then Y1METSHD=1;	If HDL value is missing then Y1METSHD=missing.	0=No 1=Yes
Y1METSTG	High TRIGeride criterion met	Adapted from Ford et al (JAMA 2002;287:356-9) TRIGerides \geq 150	If TRIGLYC1>0 then Y1METSTG=0; If TRIGLYC1 \geq =150 then Y1METSTG=1;	If TRIGLYC1 value is missing, then Y1METSTG=missing.	0=No 1=Yes
Y1METS8TG	High TRIGeride criterion met	Adapted from Ford et al (JAMA 2002;287:356-9) TRIGerides \geq 150	If (TRIGLYC1 or FAST8TRIG1)>0 then Y1METSTG=0; If FAST8TRIG1 \geq =150 then Y1METSTG=1;	If FAST8TRIG1 is missing, then Y1METS8TG=missing.	0=No 1=Yes
Y1METSYN	Metabolic syndrome at year 1	Adapted from Ford et al (JAMA 2002;287:356-9)	If the sum of the missing values (Y1METSHD, Y1METSTG, Y1METSGL, Y1METSAB, Y1METSAB) is greater than 0 then Y1METSYN=-; If the sum of the nonmissing values (Y1METSHD, Y1METSTG, Y1METSGL, Y1METSAB, Y1METSAB) is greater than 2 then Y1METSYN=1;	If a person has a missing value then they are not scored for metabolic syndrome, unless they are positive on 3 or more non-missing criteria, in which case they do have metabolic syndrome	0=No 1=Yes

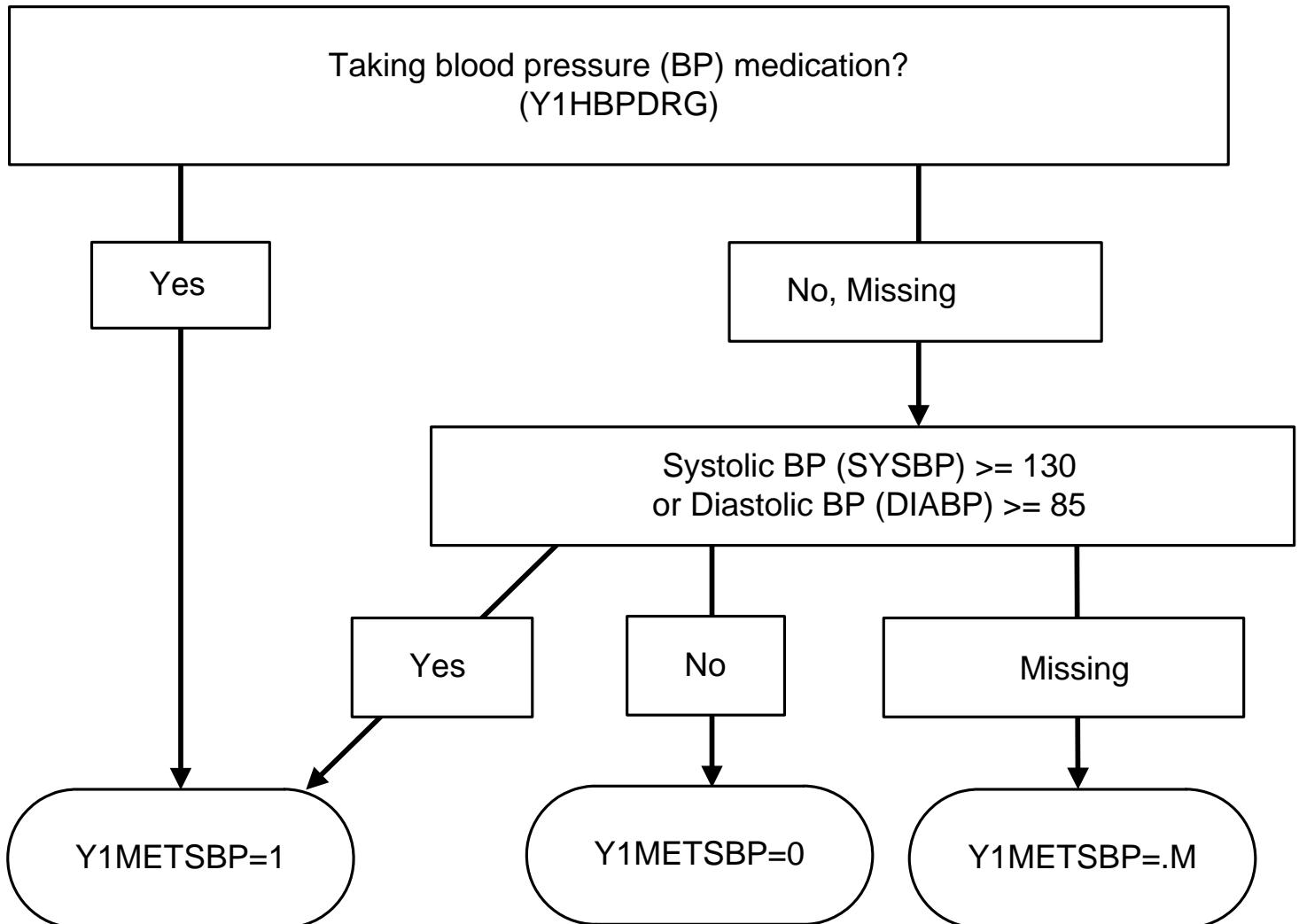
Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1METS8YN	Metabolic syndrome at year 1	Adapted from Ford et al (JAMA 2002;287:356-9)	If the sum of the missing values (Y1METSHD, Y1METS8TG, Y1METS8GL, Y1METS8BP, Y1METSAB) is greater than 0 then Y1METS8YN=.; If the sum of the nonmissing values (Y1METSHD, Y1METS8TG, Y1METS8GL, Y1METS8BP, Y1METSAB) is greater than 2 then Y1METS8YN=1;	If a person has a missing value then they are not scored for metabolic syndrome, unless they are positive on 3 or more non-missing criteria, in which case they do have metabolic syndrome	
Y1METSNO	Number of metabolic syndrome criteria met	Adapted from Ford et al (JAMA 2002;287:356-9)	If the sum of the missing values (Y1METSHD, Y1METSTG, Y1METSGL, Y1METS8BP, Y1METSAB) equals zero, then Y1METSNO= sum(Y1METSHD, Y1METSTG, Y1METSGL, Y1METS8BP, Y1METSAB); To give a number to those with a missing component but still qualify for the syndrome: If the sum of the missing values (Y1METSHD, Y1METSTG, Y1METSGL, Y1METS8BP, Y1METSAB) > 0 and Y1METSYN=1 then Y1METSNO=[5-(sum of missing values)];	If Y1METSYN is missing then Y1METSNO is missing	Range: zero to 5

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1METS8NO	Number of metabolic syndrome criteria met	Adapted from Ford et al (JAMA 2002;287:356-9)	If the sum of the missing values (Y1METSHD, Y1METS8TG, Y1METS8GL, Y1METS8BP, Y1METSAB) equals zero, then Y1METSNO= sum(Y1METSHD, Y1METS8TG, Y1METS8GL, Y1METS8BP, Y1METSAB); To give a number to those with a missing component but still qualify for the syndrome: If the sum of the missing values (Y1METSHD, Y1METS8TG, Y1METS8GL, Y1METS8BP, Y1METSAB) > 0 and Y1METS8YN=1 then Y1METS8NO=[5-(sum of missing values)];	If Y1METS8YN is missing then Y1METS8NO is missing	Range: zero to 5

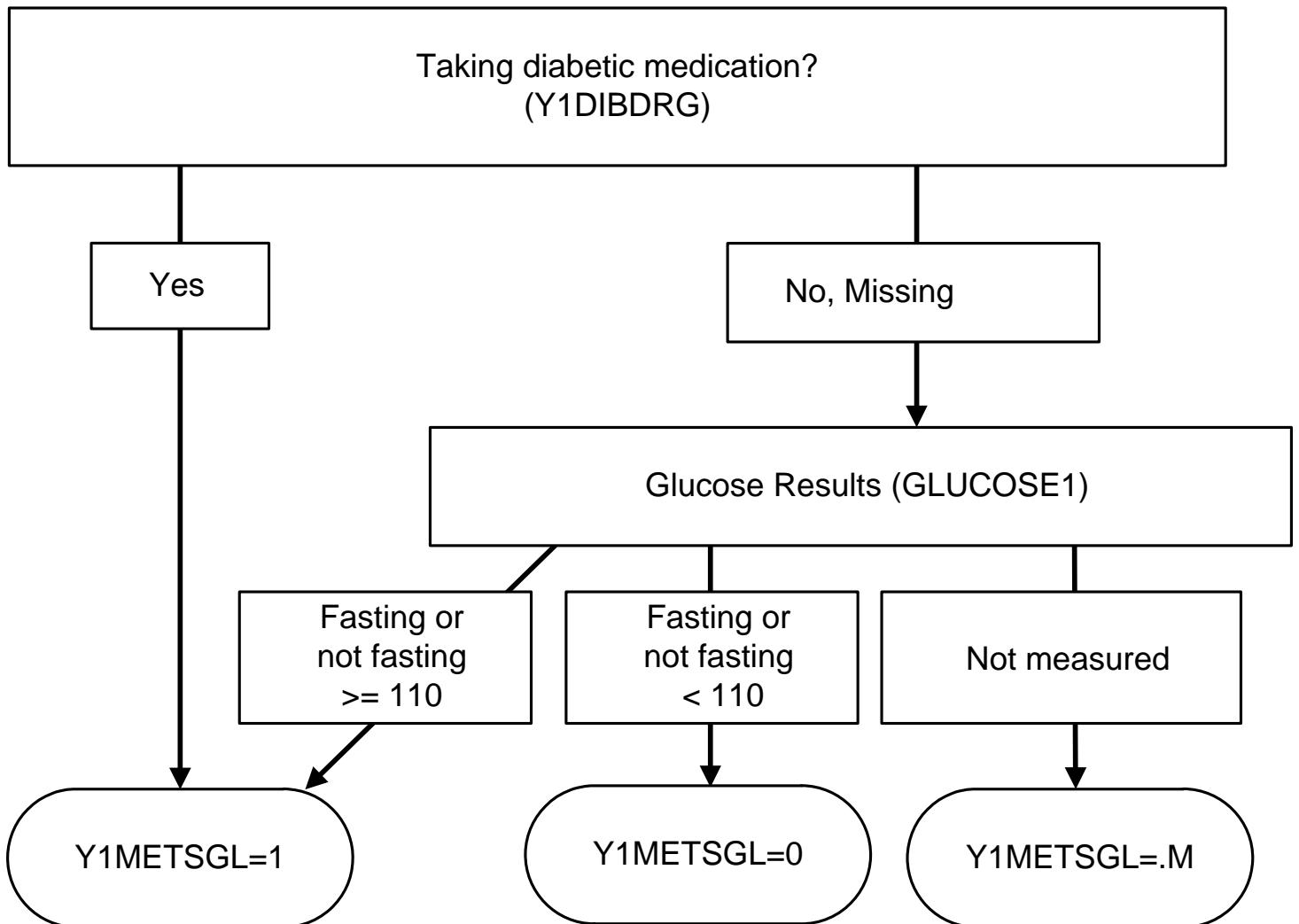
Year 1 Metabolic Syndrome Abdominal Circumference Criterion



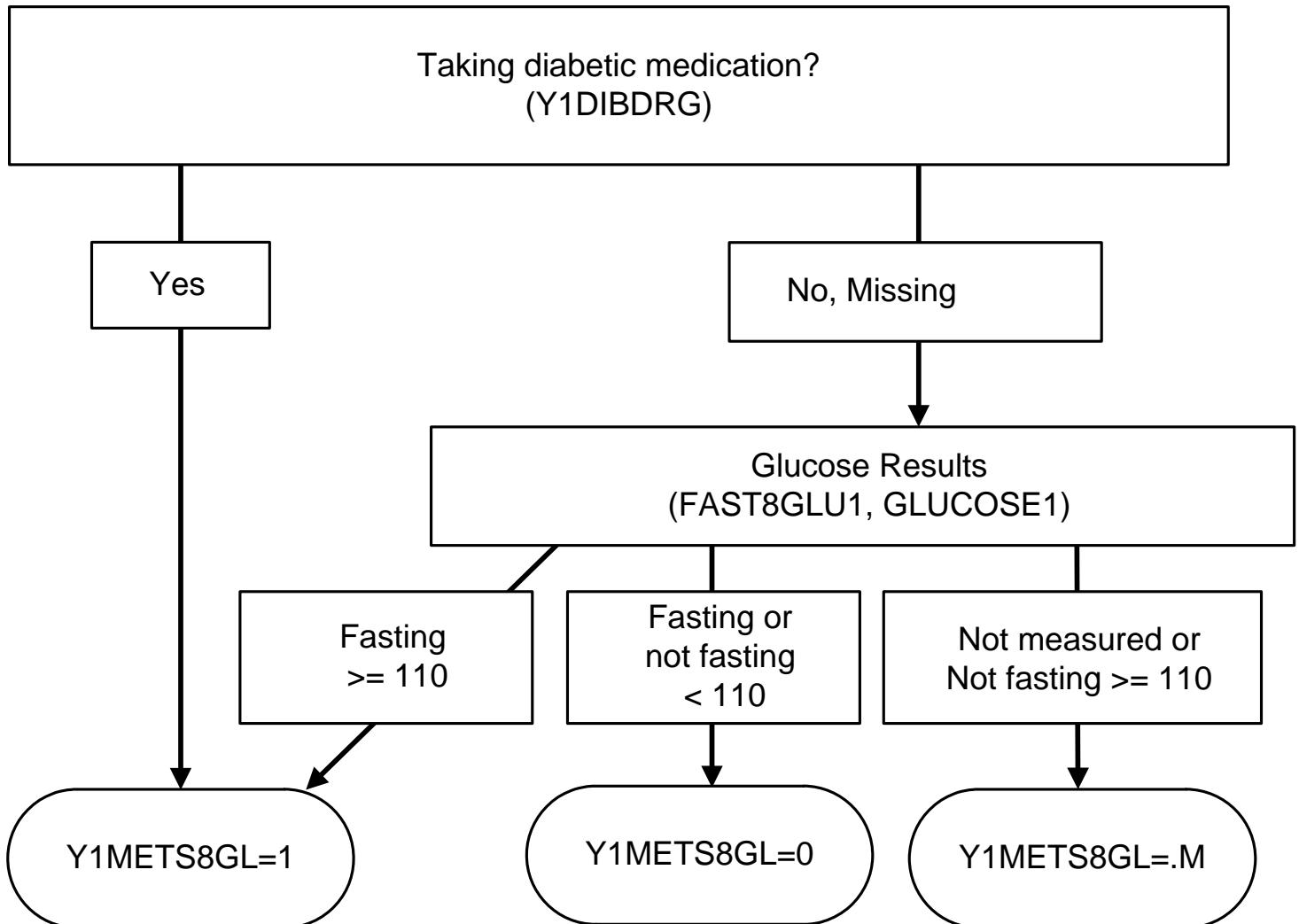
**Year 1: Metabolic Syndrome
Blood Pressure Criterion**



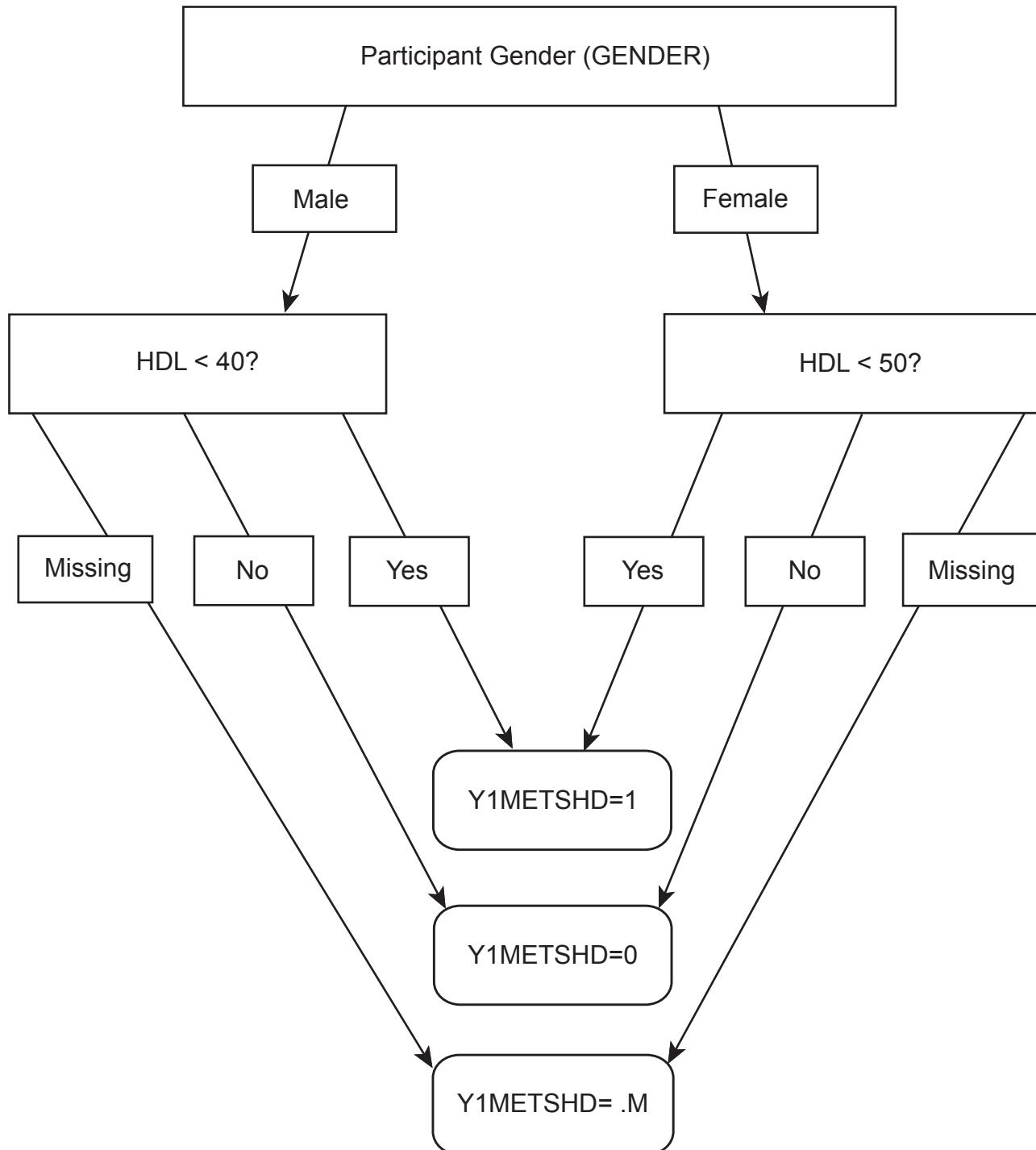
**Year 1: Metabolic Syndrome
Glucose Criterion**



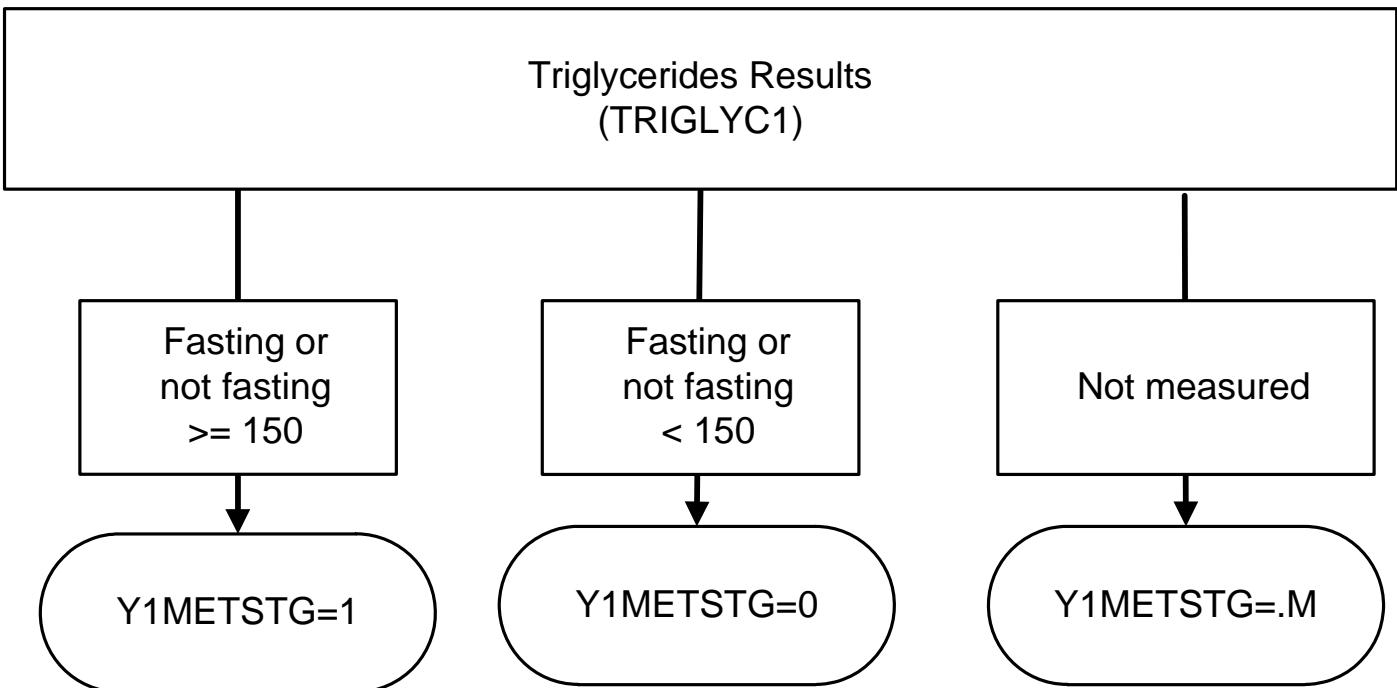
**Year 1: Metabolic Syndrome
Fasting Glucose Criterion**



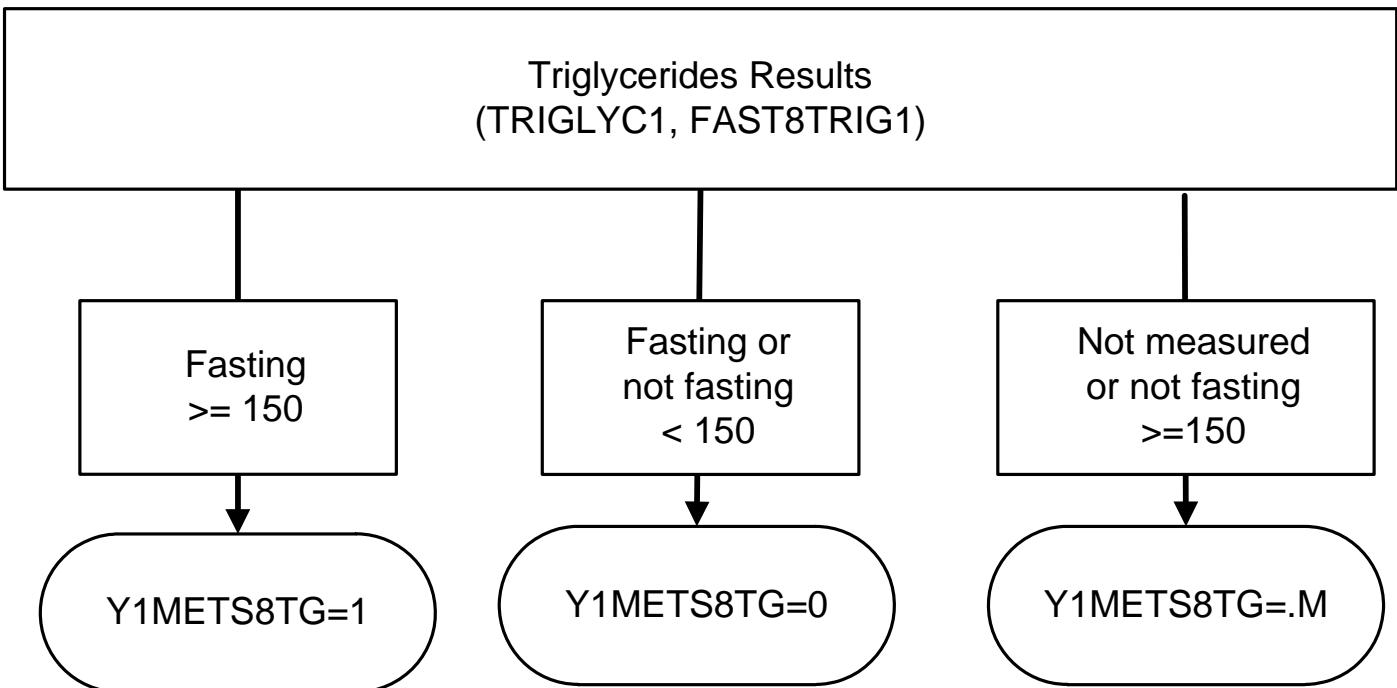
Year 1 Metabolic Syndrome HDL Criterion



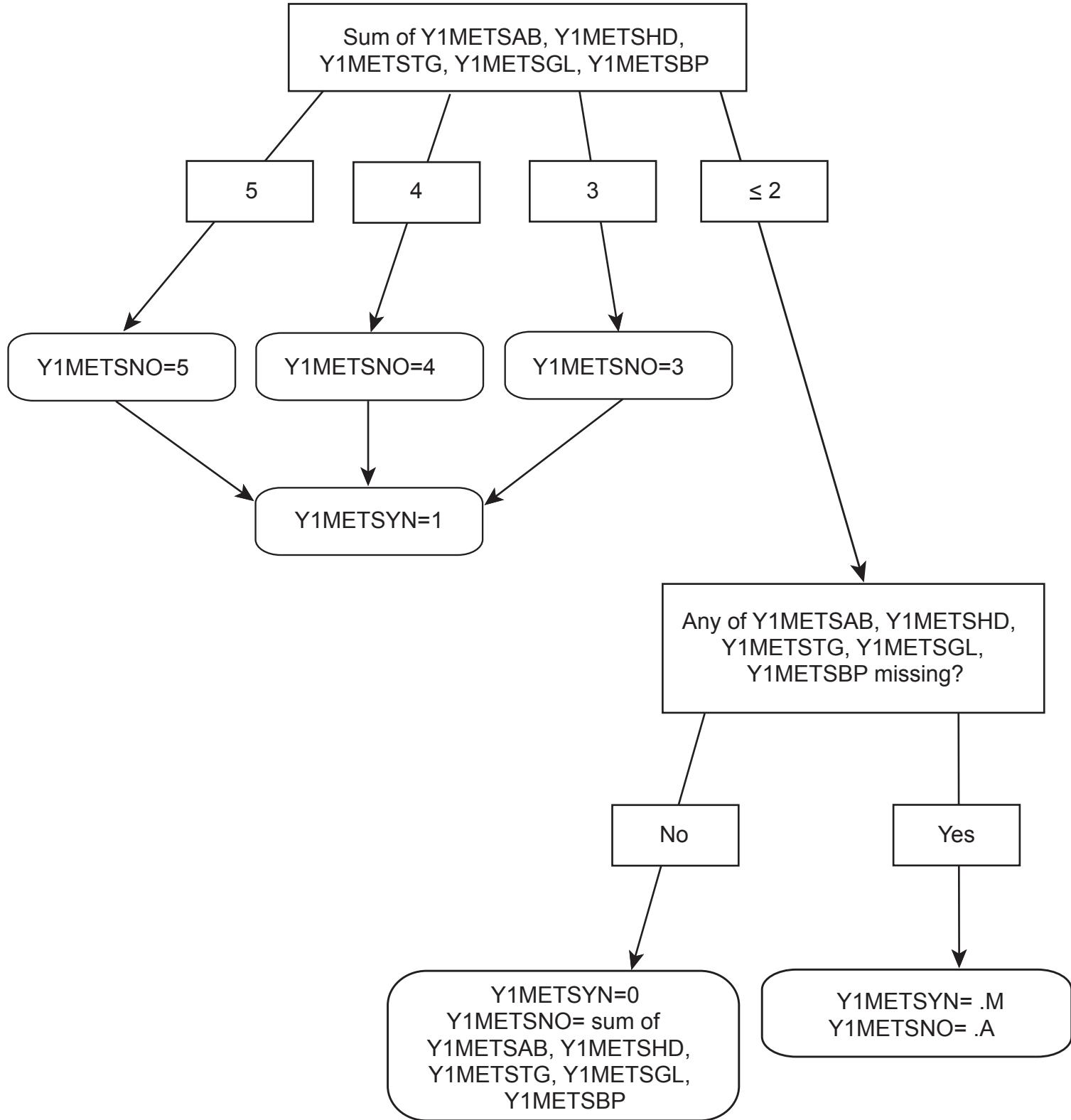
**Year 1: Metabolic Syndrome
Triglyceride Criterion**



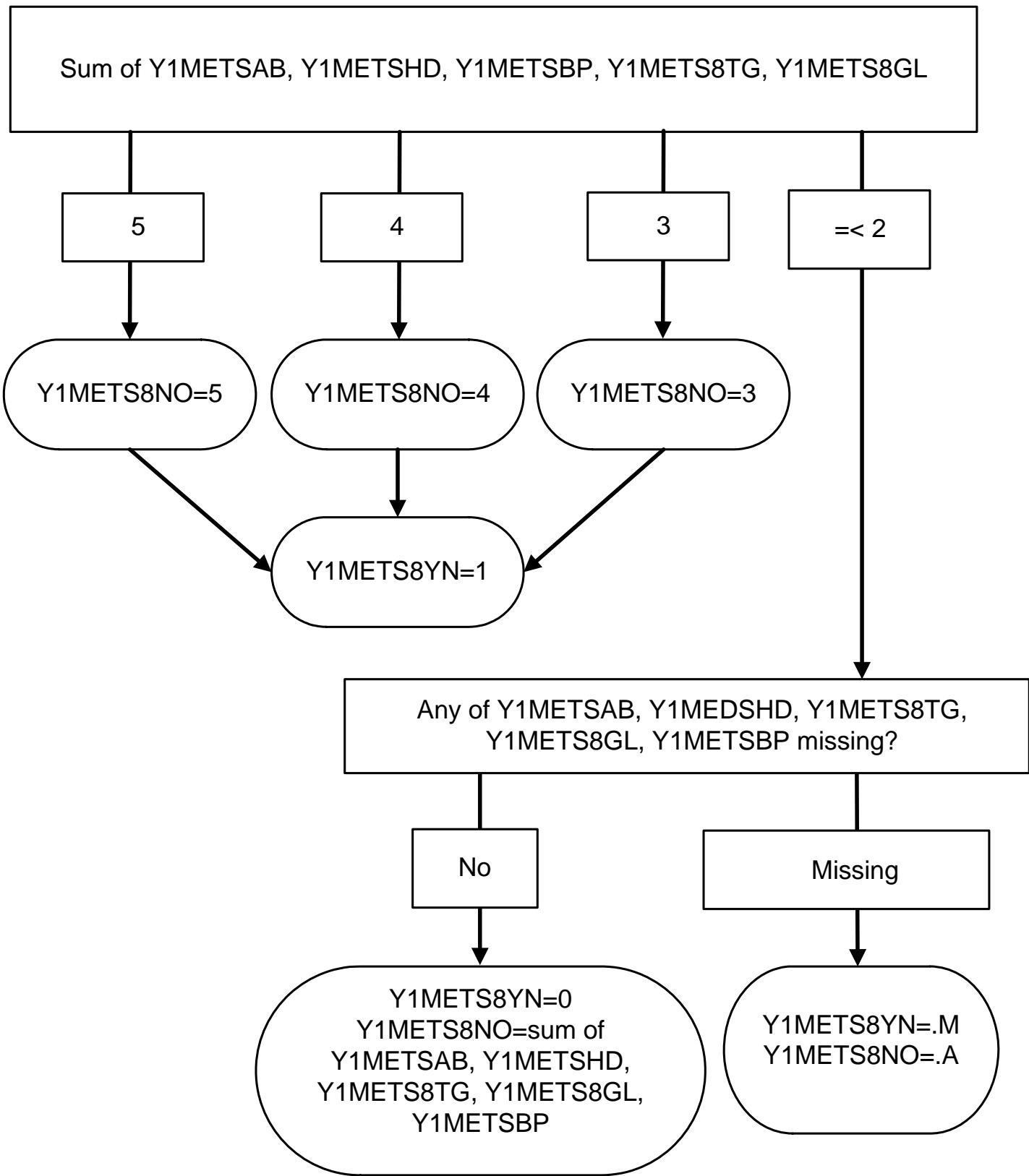
**Year 1: Metabolic Syndrome
Fasting Triglyceride Criterion**



Year 1 Metabolic Syndrome



Year 1: Fasting Metabolic Syndrome



Baseline Prevalent Osteoarthritis

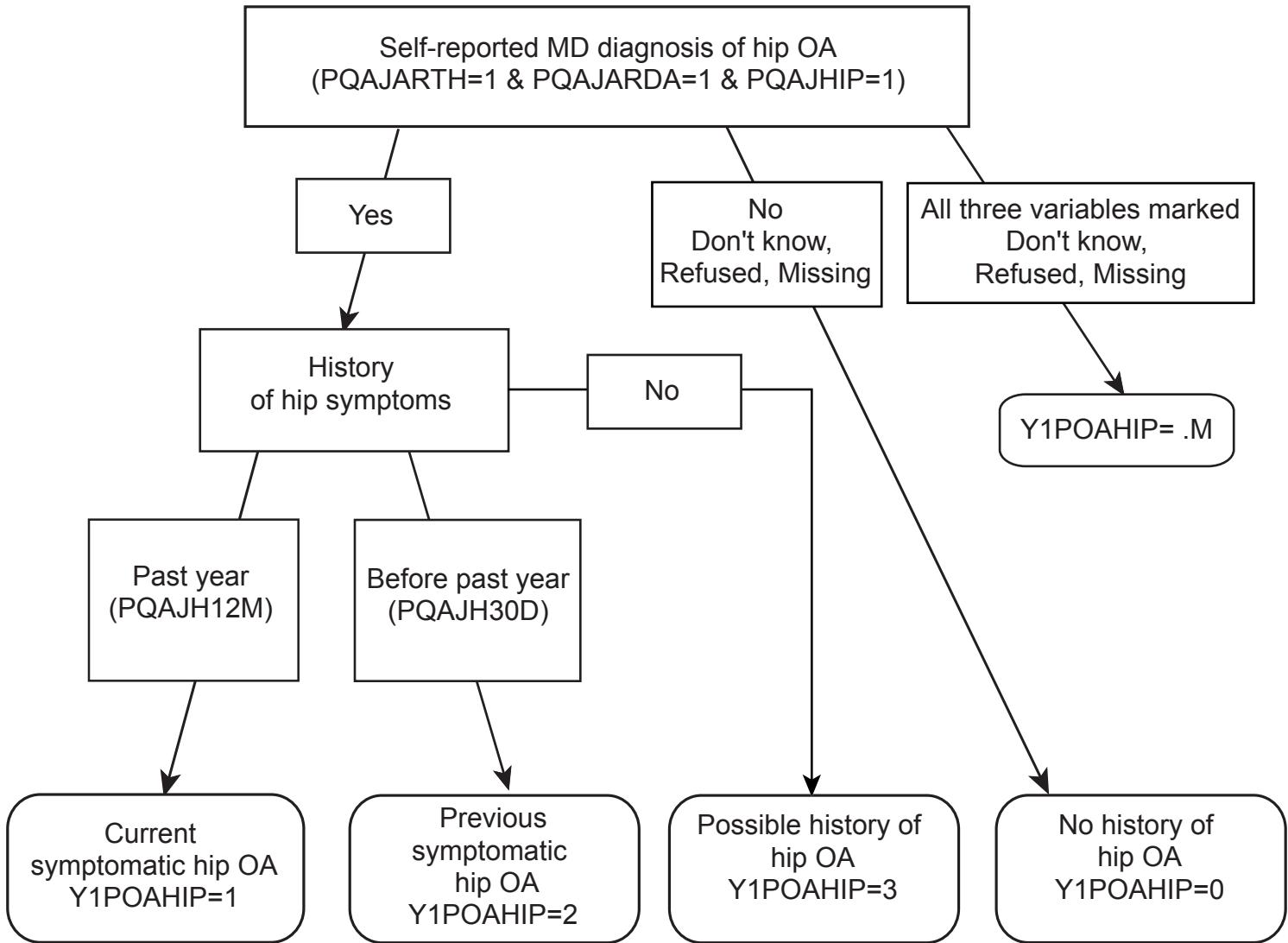
Prime mover: Michael Nevitt

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1POAHIP	Prevalent hip osteoarthritis	Indicator variable for prevalent hip osteoarthritis	=0 if self-report of arthritis, degenerative or osteoarthritis, and in the hip (PQAJARTH & PQAJARDA & PQAJHIP) are not all answered yes If PQAJARTH & PQAJARDA & PQAJHIP =1 then: =1 if hip pain in last 12 months lasting at least one month or on most days (PQAJH12M=1 or PQAJH30D=1) else =2 if knee pain ever lasting at least one month (PQAJH30D=1) =3 otherwise	Missing if PQAJARTH, PQAJARDA, and PQAJHIP all missing, Don't Know or Refused (these were all cases when the original question about arthritis was marked don't know or refused) Otherwise, missing, don't know or refused are treated as No.	0=No OA 1=Current symptomatic 2=Past symptomatic 3=Possible OA/no symptoms
Y1POAHND	Prevalent hand osteoarthritis	Indicator variable for prevalent hand osteoarthritis	=0 if self-report of arthritis, degenerative or osteoarthritis, and in the hand (PQAJARTH & PQAJARDA & PQAJHAND) are not all answered yes If PQAJARTH & PQAJARDA & PQAJHAND =1 then: =1 if hand pain in last 12 months (PQAJWR30 or PQAJWR12 =1) =3 otherwise	Missing if PQAJARTH, PQAJARDA, and PQAJHAND all missing, Don't Know or Refused (these were all cases when the original question about arthritis was marked don't know or refused) Otherwise, missing, don't know or refused are treated as No.	0=No OA 1=Current symptomatic 3=Possible OA/no symptoms

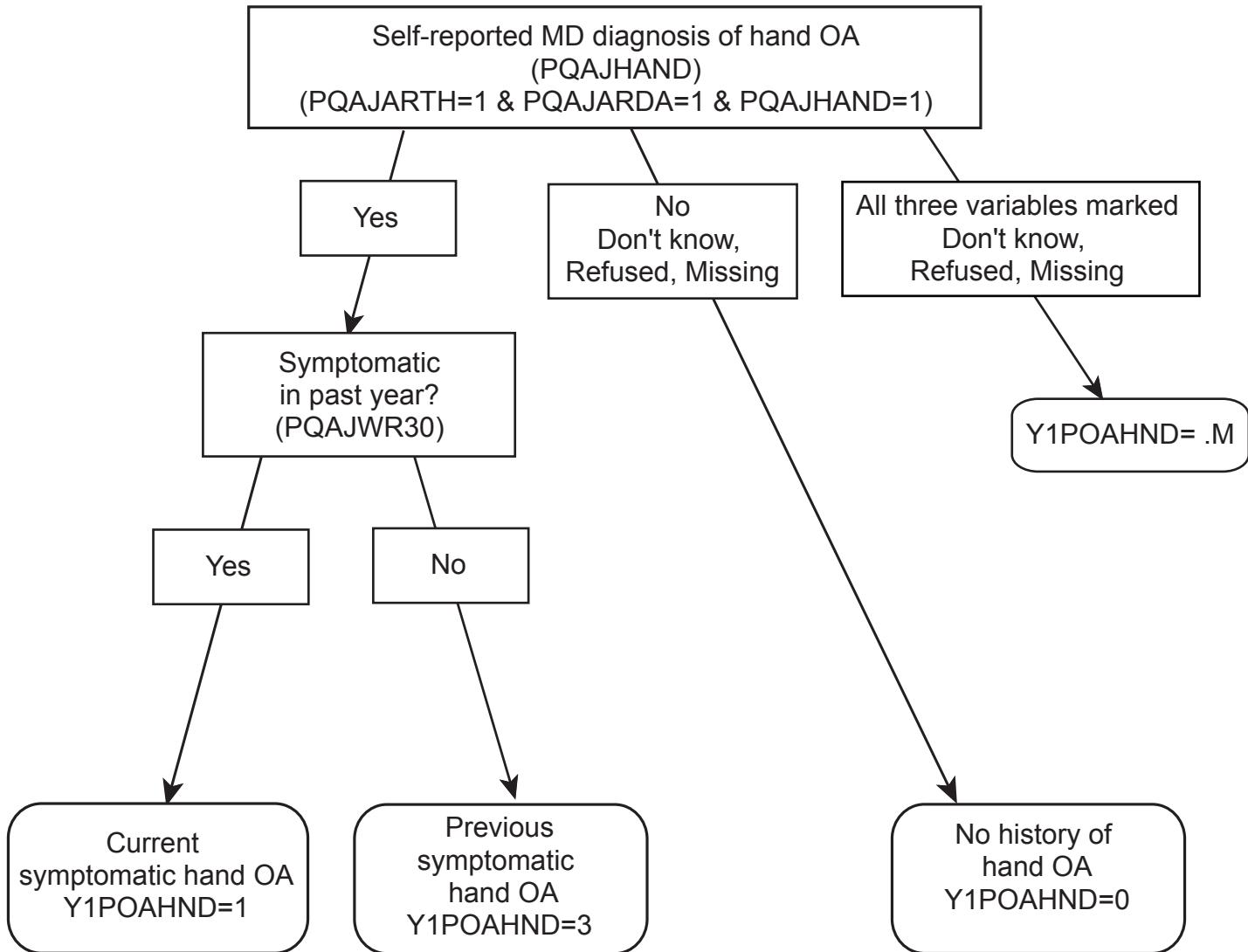
Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1POAKN	Prevalent knee osteoarthritis	Indicator variable for prevalent knee osteoarthritis	=0 if self-report of arthritis, degenerative or osteoarthritis, and in the knee (PQAJARTH & PQAJARDA & PQAJKNEE) are not all answered yes If PQAJARTH & PQAJARDA & PQAJKNEE =1 then: =1 if knee pain in last 12 months lasting at least one month or on most days (PQAJKP12=1 or PQAJKMD =1) else =2 if knee pain ever lasting at least one month (PQAJKP30=1) =3 otherwise	Missing if PQAJARTH, PQAJARDA, and PQAJKNEE all missing, Don't Know or Refused (these were all cases when the original question about arthritis was marked don't know or refused) Otherwise, missing, don't know or refused are treated as No.	0>No OA 1=Current symptomatic 2=Past symptomatic 3=Possible OA/no symptoms

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1POAOTH	Prevalent osteoarthritis in other joint	Indicator variable for prevalent osteoarthritis other than knee, hip or hand	=0 if self-report of arthritis, degenerative or osteoarthritis type (PQAJARTH & PQAJARDA) are not both answered yes or if conditions for values of 1 and 3 are not met =1 if pain in last 12 months in feet, shoulders, neck or back (PQAJFT30=1 or PQAJSH12=1 or PQAJNP30=1 or PQAJBP12 in (3,4,5) or moderate to severe back pain PQAJBPSV in (2,3,4) else =3 if PQAJARTH & PQAJARDA are both answered yes, and no knee, hip, or hand arthritis reported (PQAJKNEE & PQAJHIP & PQAJHAND=0), but above symptom criteria not met	Missing if PQAJARTH and PQAJARDA both missing, Don't Know or Refused (these were all cases when the original question about arthritis was marked don't know or refused)	0>No OA 1=Current symptomatic 3=Possible OA/no symptoms

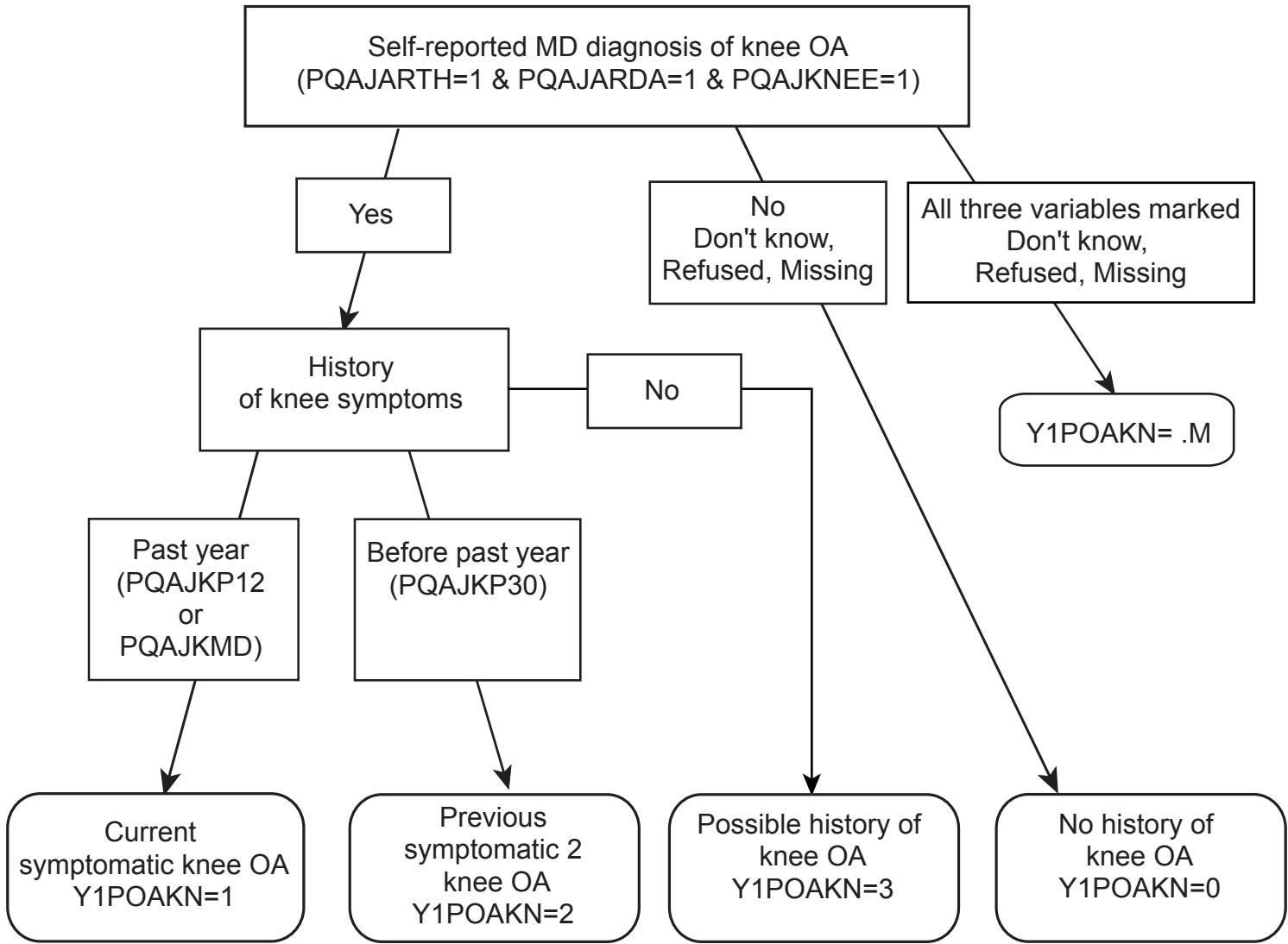
Prevalent Hip Osteoarthritis/ History of Community Diagnosis of Hip OA



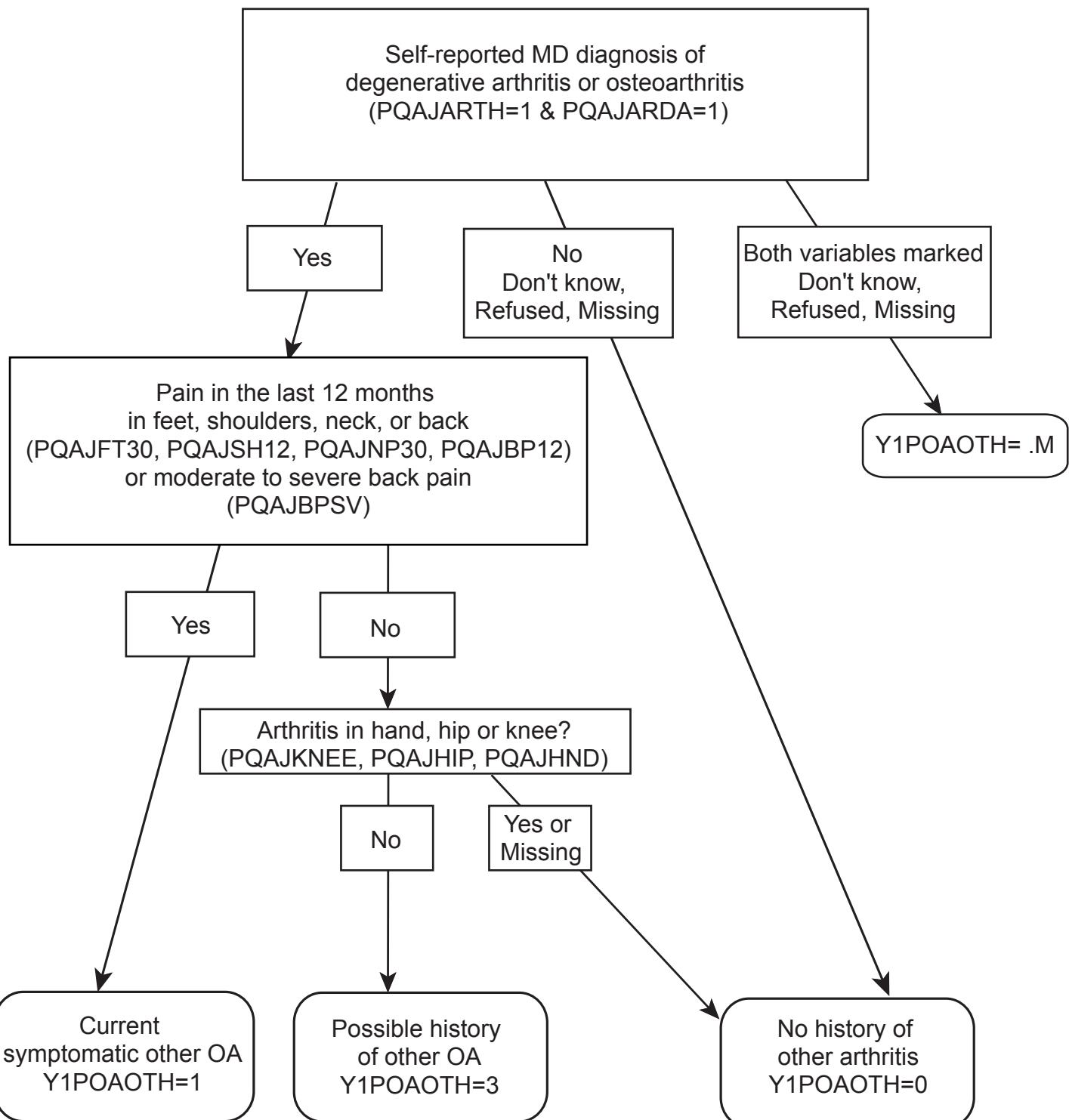
Prevalent Hand Osteoarthritis/ History of Community Diagnosis of Hand OA



Prevalent Knee Osteoarthritis/ History of Community Diagnosis of Knee OA



Prevalent Osteoarthritis-Unspecified Site/ History of Community Diagnosis of Other OA

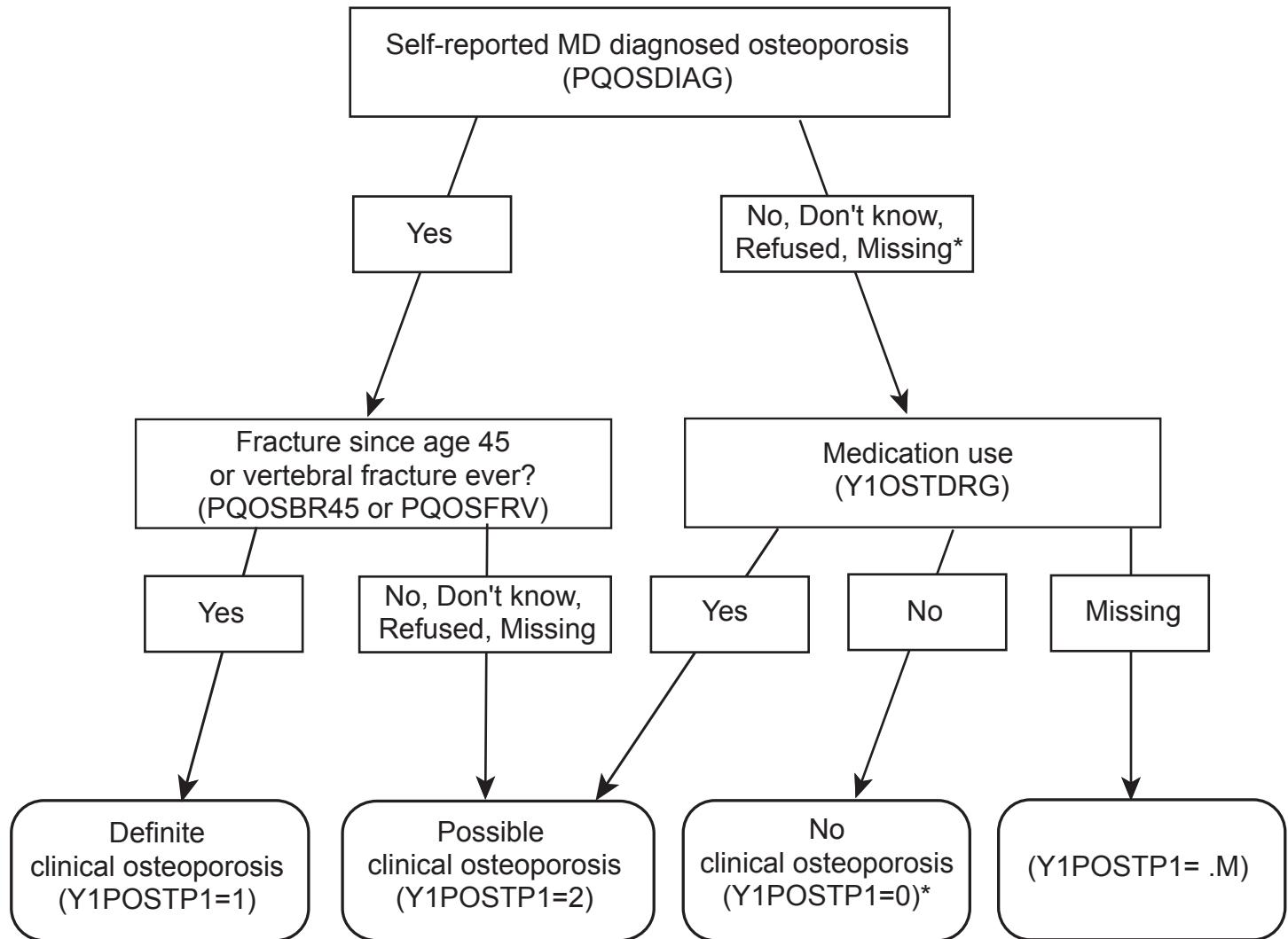


Baseline Prevalent Osteoporosis

Prime mover: Doug Bauer

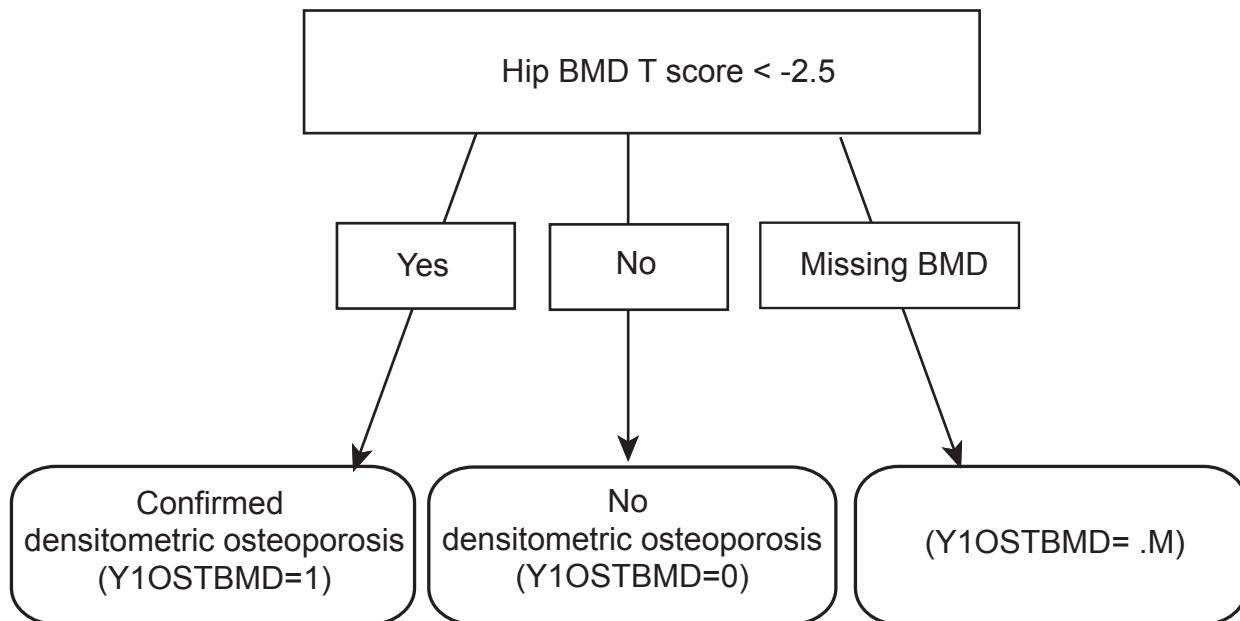
Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
(Y1OSTDRG)	Yr1:Any osteoporosis drugs (1=Yes, 0=No)	Indicator variable for osteoporosis med in Y1MIFCOD based on IDIS code	See medication use variables (Y1RxCalc) in Year 1 documentation	= 0 if no drug information available 1=Yes	0=No 1=Yes
Y1POSTP1	Prevalent clinical osteoporosis	Categorical variable for prevalent osteoporosis by self-report or meds	=0 if no self-report of osteoporosis (PQOSDIAG ≠ 1) <u>and</u> no use of osteoporosis drug (Y1OSTDRG ≠ 1) =1 if self-report of osteoporosis (PQOSDIAG=1) <u>and</u> self-report of fracture after age 45 or vertebral fracture ever (PQOSBR45 or PQOSFRV=1) =2 if self-report of osteoporosis (PQOSDIAG=1) <u>and</u> no self-report of fracture after age 45 or vertebral fracture ever (PQOSBR45 ≠ 1 and PQOSFRV ≠ 1) =2 if no self-report of osteoporosis (PQOSDIAG≠1) but use of osteoporosis drug (Y1OSTDRG=1)	Set to missing (.M) if PQOSDIAG in (7,8) or missing If P1OSDIAG≠1 and Y1OSTDRG=.A then set to missing (.M)	0=None 1=Definite 2=Possible
Y1OSTBMD	Prevalent osteoporosis by T-score	Indicator variable for prevalent osteoporosis by T-score	=0 if $T \geq -2.5$ =1 if $T < -2.5$ (cutpoints for $T = -2.5$ based on NHANES normals stored in Hologic): white women ≤ 0.637 black women ≤ 0.640 white men ≤ 0.656 black men ≤ 0.747	set to missing if no T score (no BMD)	0 = No 1 = Yes

Prevalent Osteoporosis



*If PQOSDIAG in (7,8) or Missing and Y1OSTDRG ≠ 1, then Y1POSTP1= .M

Prevalent Densitometric Osteoporosis



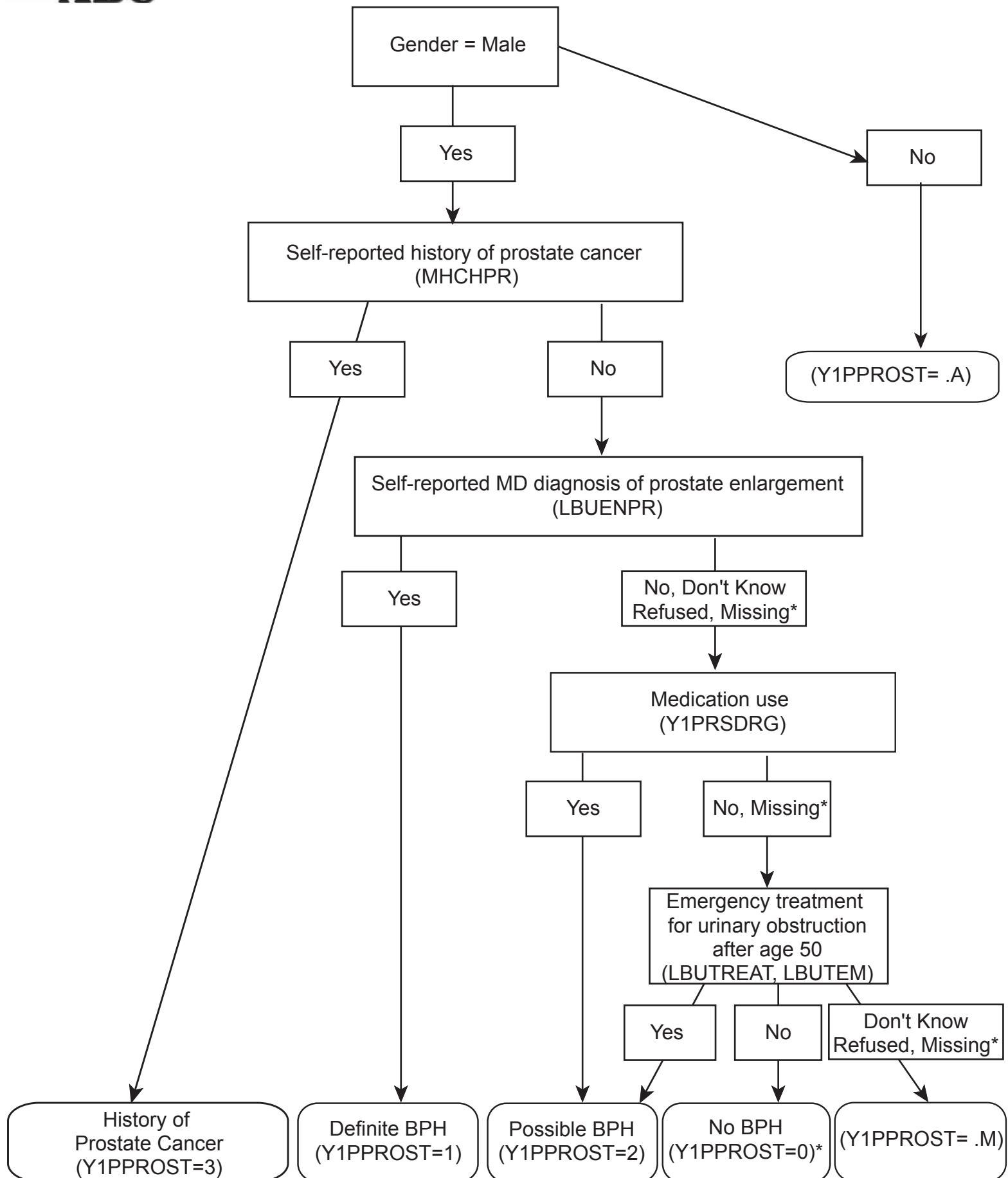
Baseline Prevalent Prostate Disease

Prime Mover: Toni Miles

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
(Y1PRSDRG)	Yr1:Any drugs used for prostate disease	Indicator variable for prostate med in Y1MIFCOD based on IDIS code	See medication use variables (Y1RxCalc), documentation behind tab 2	= 0 if no drug information available	0=No 1=Yes
Y1PPROST	Prevalent benign prostatic hyperplasia	Categorical variable for prevalent benign prostatic hyperplasia	=3 if history of prostate cancer (MHCHPR = (-1)), else =1 if self-report of enlarged prostate (LBUENPR=1) =2 if no self-report of enlarged prostate (LBUENPR ≠ 1) but use of prostate drug (Y1PRSDRG=1) =2 if no self-report of enlarged prostate (LBUENPR ≠ 1) but self-report of emergency treatment for urine retention (LBUTREAT=1) at age 50 or higher (LBUTEM ≥ 50) =0 if GENDER=1 and conditions above do not apply	Missing (.A) if GENDER=2 Missing (.M) if LBUENPR or LBUTREAT in (7,8) or missing or if Y1PRSDRG=.A or if LBUTEM=.M and Y1PPROST not already set to 1,2, or 3.	0=No clinical history 1=Definite BPH 2=Possible BPH 3=Hx of prostate cancer (consider excluding from analysis)

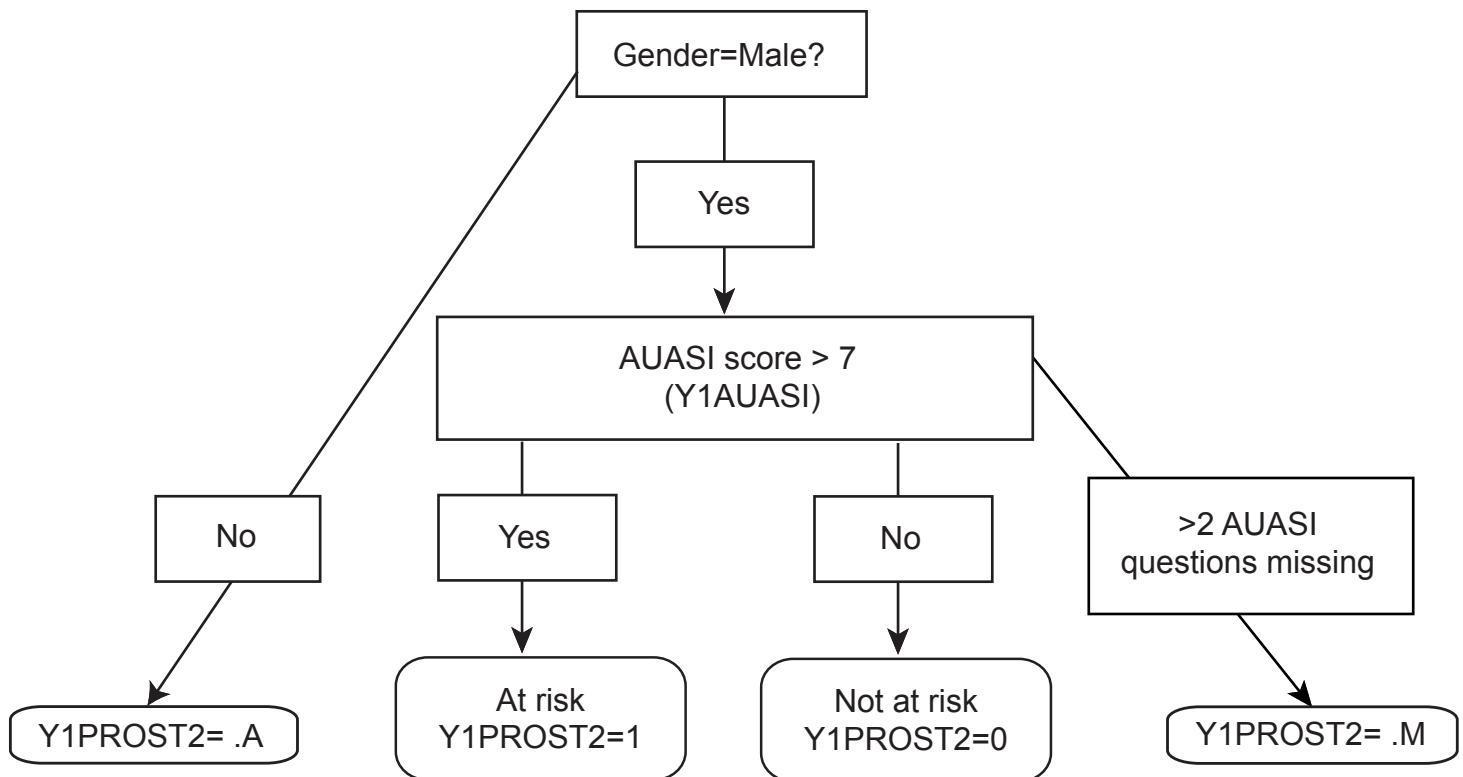
Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1AUASI	AUASI score (urination problems questionnaire)	Sum of answers to AUASI questions (urination problems)	Sum of LBURNEB, LBU2HRS, LBUSTST, LBUPOST, LBUWEAK, LBUPUSH, or LBUGETUP (B/L Q'aire Q125-131)	Responses of 7 (don't know) or 8 (refused) or '.' (missing) are set to 0. Y1AUASI is missing (.M) if <u>more than 2</u> of LBURNEB, LBU2HRS, LBUSTST, LBUPOST, LBUWEAK, LBUPUSH, or LBUGETUP are missing Missing (.A) if GENDER=2	continuous
Y1PPSCAT	AUASI category (urination problems)	Classification of symptoms of benign prostatic hyperplasia based on AUASI	=0 if (Y1AUASI=0) =1 if ($1 \leq Y1AUASI \leq 7$) =2 if ($8 \leq Y1AUASI \leq 19$) =3 if ($Y1AUASI \geq 20$)	Missing (.M) if Y1AUASI is missing Missing (.A) if GENDER=2	0=No disease 1=Mild symptoms 2=Moderate symptoms 3=Severe symptoms
Y1PROST2	At risk for prostate disease	Indicator variable for prostate disease risk based on AUASI questions	=0 if $Y1AUASI \leq 7$ =1 if $Y1AUASI > 7$	Missing (.M) if Y1AUASI is missing Missing (.A) if GENDER=2	0=Not at risk 1=At risk

Prevalent Prostate Disease



*If LBUENPR or LBUTREAT in (7,8) or missing, or if Y1PRSDRG or LBUTEM is missing and Y1PPROST is not already set to 1,2 or 3, Y1PPROST= .M

At Risk for Prostate Disease



Baseline Prevalent Pulmonary Disease

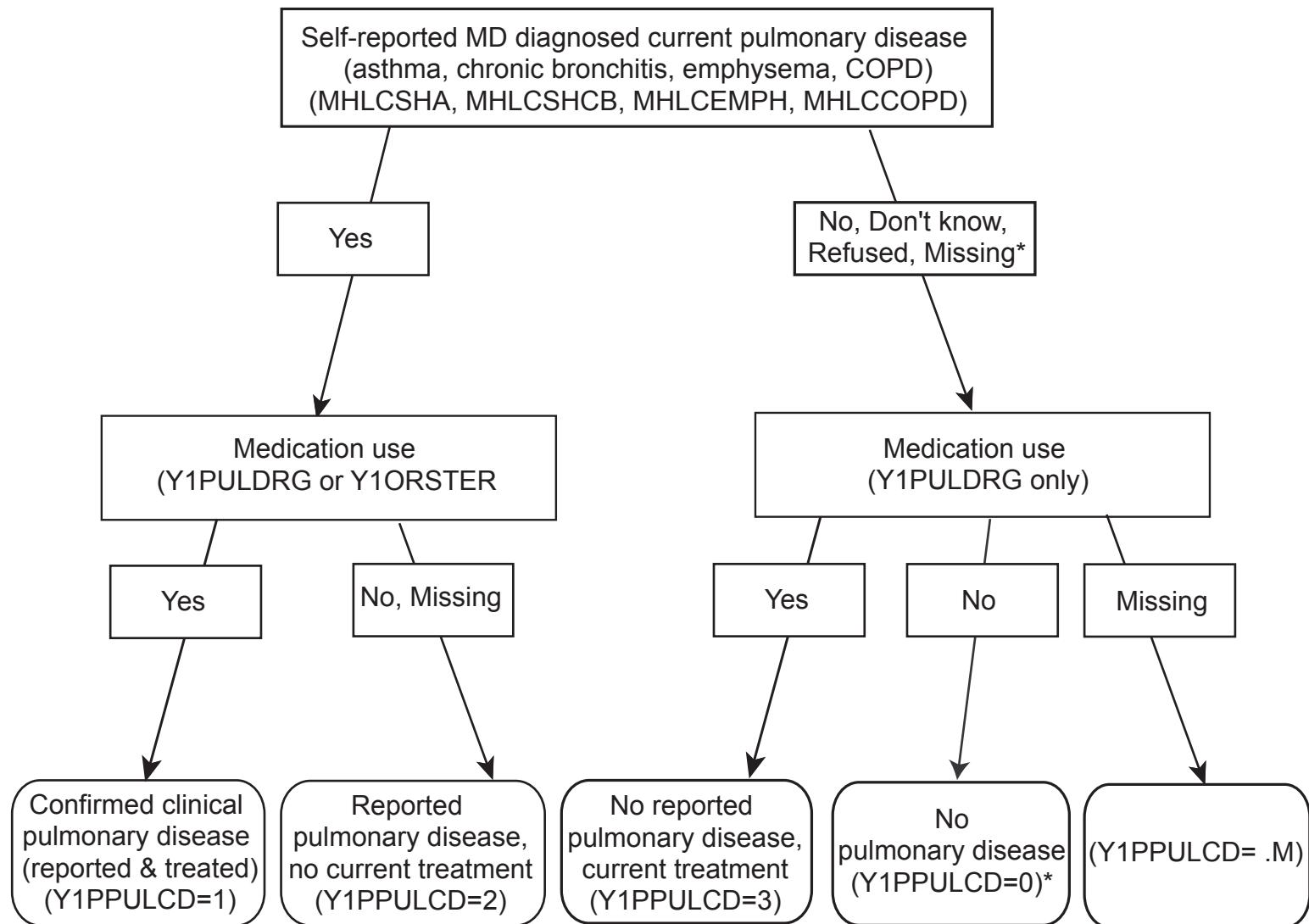
Prime Mover: Suzanne Satterfield

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
(Y1PULDRG)	Yr1: Any pulmonary medication (not oral steroids)	Indicator variable for pulmonary med in Y1MIFCOD	See medication use variables (Y1RxCalc) documentation	= 0 if no drug information available	0=No 1=Yes

Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1PPULCD	Prevalent pulmonary disease report/meds	Categorical variable for pulmonary disease based on self-report/meds	=0 if no self-reported pulmonary disease [all of (MHLCSPA, MHLCCHB, MHLCEMPH and MHLCOPD) ≠ 1] <u>and</u> no use of pulmonary drug (Y1PULDRG≠ 1) (steroids can be yes or no) =1 if self-report of any of current asthma , current chronic bronchitis, emphysema, or COPD (MHLCSPA=1, MHLCCHB=1, MHLCEMPH=1 or MHLCOPD=1) <u>and</u> use of a pulmonary drug or oral steroid (Y1PULDRG=1 or Y1ORSTER)=1 =2 if self-reported pulmonary disease but <u>no</u> use of pulmonary drug or oral steroid (Y1PULDRG ≠ 1 and Y1ORSTER ≠ 1) =3 if no self-reported pulmonary disease but use of pulmonary drug (Y1PULDRG=1) (steroids can be yes or no)	If MHLCASTH or MHLCCHB or MHLCEMPH or MHLCOPD or MHLCSPA or MHLCCHB in (7,8) or missing and Y1PULDRG≠1, Y1PPULCD is set to missing (.M) If positive self-report and Y1PULDRG=.A or Y1ORSTER=.A then Y1PPULCD=2	0>No disease 1=Reported and treated 2=Reported, not treated 3=Treated, not reported

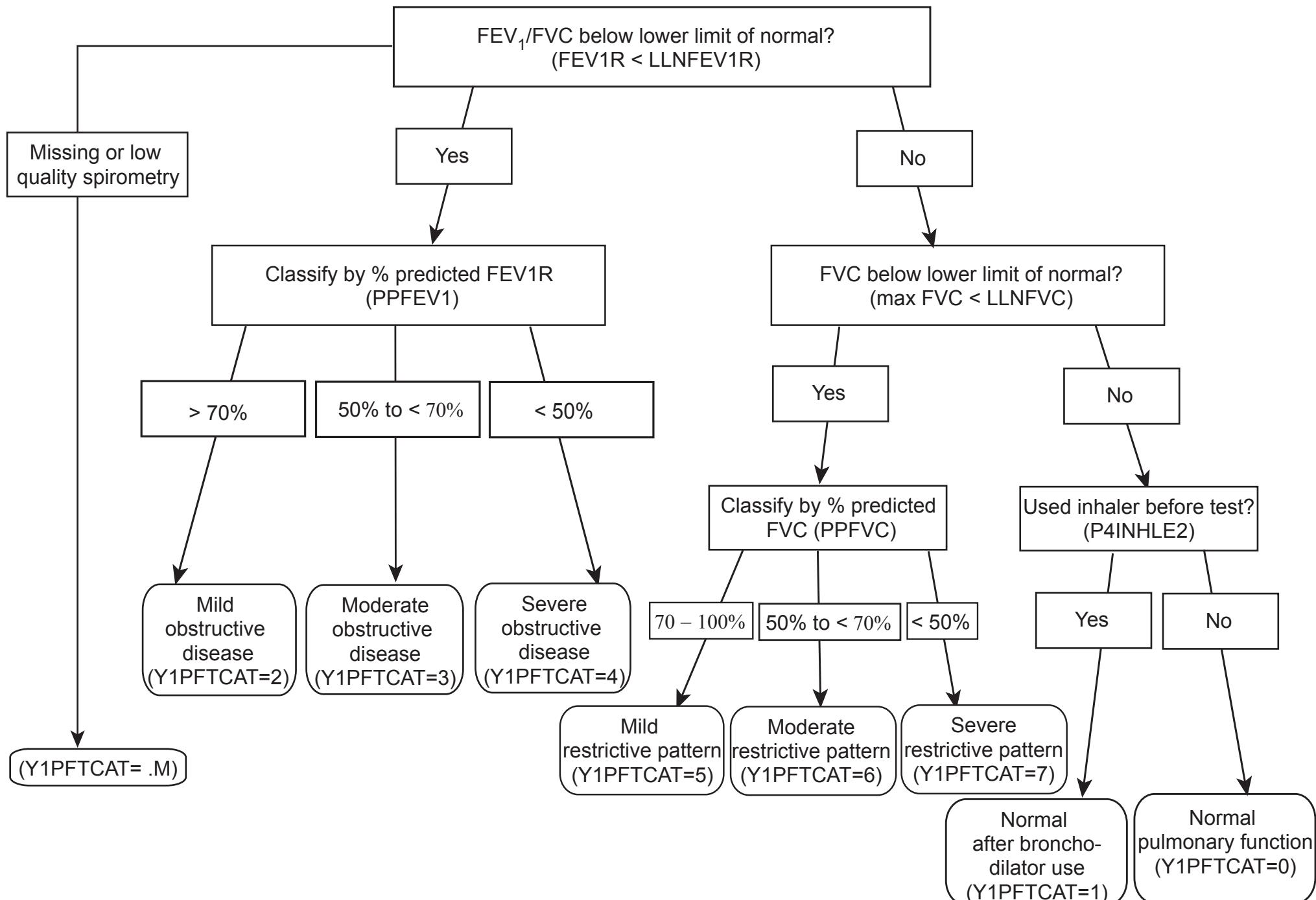
Variable	Descriptive Title	Detailed Description	How variable is calculated	How to handle missing or special values	Value labels
Y1PFTCAT	Prevalent obstructive/restrictive pulmonary disease (based on PFT)	Classification of obstructive pulmonary disease based on percent predicted FEV1, for those with low FEV1R only, or restrictive pulmonary disease based on percent predicted FVC for those with normal FEV1R only	=0 if ratio FEV1/FVC (=FEV1R) and FVC are within normal limits ($Y1FEV1R \geq LLNFEV1R$ and $MAXFVC \geq LLNFVC$) =1 if above is true, but participant used inhaler before measurement (P4INHLE2=1) If $Y1FEV1R < LLNFEV1R$ then classify by percent predicted FEV1: =2 if $(70 \leq PPFEV1 < 100)$ =3 if $(50 \leq PPFEV1 < 70)$ =4 if $(. < PPFEV1 < 50)$ If $Y1FEV1R \geq LLNFEV1R$ and $Y1FVC < LLNFVC$ then classify by percent predicted FVC: =5 if $(70 \leq PPFVC < 100)$ =6 if $(50 \leq PPFVC < 70)$ =7 if $(. < PPFVC < 50)$	Missing if PPFEV1, PPFVC, Y1FVC, or Y1FEV1R is missing or QCFEV1=0 or 1 or QCFVC=0 or 1 **NOTE: bronchodilator use was not ascertained in about 1/4 of the participants; if these participants had FEV1/FVC and FVC within normal limits, they are classified as normal, even if they may have used a bronchodilator before the PFT exam.	0=Normal pulmonary fcn 1=Normal after** bronchodilator 2=Mild obstructive dz 3=Moderate obstructive dz 3=Severe obstructive dz 4=Mild restrictive pattern 5=Moderative restrictive pattern 6=Severe restrictive pattern

Prevalent Pulmonary Disease (by self-report & medications)



*If self-report data is uncertain or missing and Y1PULDRG ≠ 1, Y1PULDRG is set to missing (.M)

Prevalent Obstructive/Restrictive Pulmonary Disease
(based on spirometry)



PrevDzCodeCorrected20160609.sas

*---

Program: PrevDzCode.sas

Update program to use new biospecimens file.

Change prevalent diabetes indicators.

Update hypertension indicators to use corrected yxhbpdrg vars.

Use cesd10 depression vars from their files rather than recreate in program.

Todd Glasser - 2012/07/05.

End of HABC study - Final version.

Todd Glasser - 2015/12/04.

```
;  
proc datasets library=work nolist kill;  
  quit;  
run;  
title2;  
options obs=max ls=180 nocenter;  
*--- Y1PREVDZ: Prevalent disease indicator variables.;  
*--- Read in all input data.;  
  
*--- obtain Year 1 screener information.;  
data screener;  
  set current.Y1screen(keep=hacbid gender cvlage race  
    mhscabg mhcsaca mhhchami mhhcapcp mhhchbp mhcssurg  
    mhhcchf mhhcicpl mhcsbpal mhcsalea mhlcasth  
    mhlcscha mhlccnbr mhlcsnrb mhlcmeph mhlccopd  
    lsgdiab lbgmdepr lsgblsi lsgulcr lsgugui  
    lsgupen lsggall lbomsurg lsguloc  
    mhchmgmt mhchpr mhchbs mhchlus mhchco mhchsc  
    mhchbd mhchbl mhchbo mhchbr mhchcv mhchen mhchho  
    mhchlv mhchly mhchmn mhchov mhchpa mhchst mhchth mhchot  
    mhctia mhccva mhcsend  
    lburneb lbu2hrs lbustst lbuspost lbuweak  
    lbuspush lbusgetup lbutreat lbutem lbusenpr  
    pqosdiag pqosbr45 pqosfrv pqajarth pqajarda  
    pqajknee pqajhip pqajhand pqajkp30 pqajkp12  
    pqajkmd pqajh30d pqajh12m pqajwr30 pqajwr12  
    pqajft30 pqajsh12 pqajnp30 pqajbp12 pqajbpsv  
    lpfbothr lpfeat lpfblues lpfgood lpfmind  
    lpfdown lpfeffrt lpfhope lpffail lpffear  
    lpfsleep lpfhappy lpftalk lpflone lpfunfr  
    lpfenjoy lpfcry lpfsad lpfdisme lpfnogo  
    mhcslpup mhcsplls mhcslgpn mhcslpss  
    mhcsstst mhcslpvc mhcsclpup mhcsclpls  
    mhcschpn mhcswalk mhcsstil mhcsrel
```

```

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mhcsplc);

run;
*--- Year1 calculated variables.;

data calc;
  set current.Y1calc(keep=habcid llnfev1r fev1r predfev1 predfvc llnfvc
                     sysbp diabp qvwab ces_d p2sh p3abi ces_d10
                     rename=(ces_d10=Y1CES_D10));
    *--- calculate standing height in cm from p2sh which is in mm.;

    heightcm=p2sh/10.0;
    label Y1CES_D10='YR1: CES-D 10';
    format Y1CES_D10 5.2;
run;
*--- Year1 reading center data;
data reading;
  set current.Y1read(keep=habcid bes_fev1 bes_fvc scn_fev1 scn_fvc trd_fev1
                     trd_fvc qcfev1 qcfvc htotbmd q_ant q_inf q_lat q_post
                     vent_def ppfev1 ppfvc);
run;
*--- get biospecimen variables.;

data biospec;
  set current.biospecimens(keep=habcid drawflag1 fast8glu1 glucose1 hr2gluc1
                           hr_gluc1 hg_a1c1 fast8hdl1 hdl1 fast8trig1 triglyc1);
run;
*--- Year 1 clinic visit data.;

data clinic;
  set current.Y1clnvis(keep=habcid p4beta p4inhale p4inhle2 rt1fast p1fast);
run;
*--- Year 1 medication data.;

data y1rxcalc;
  set current.Y1rxcalc(keep=habcid Y1dibdrg Y1hbpdrg Y1antang Y1chfdiu Y1chfvas
                       Y1cargly
                           Y1depdrg Y1puldrg Y1orster Y1prsdrg Y1candrg
                           Y1ostdrg );
run;
*--- HCFA data.;

data hcfa;
  merge current.hprevdis
        (keep=habcid
         /*Cancer*/ botherca bcolonca blungca bbreaca bprosca buppgica bhmelan
         /*CVD*/ bhpccta bbypass bminf bangina bstroke )
        current.oprevdis
        (keep=habcid
         /*Cancer*/ potheerca pcolonca plungca pbreaca pprosca puppgica phmelan
         /*CVD*/ phpccta pmi pangina pstroke );
  by habcid;
run;
*--- A lot of pts report no hypertension in the Qaire, but then say they are
taking

```

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a medication for hypertension. Per Suzy Satterfield and Ron Shorr, we have decided to code those who specifically mention hypertension as the reason for use as possible/past hypertension, instead of No hypertension. This looks at the meds specifically targeted by Y1hbpdrg.

```

*--- code to assign y1hbpdrg at the time Fran wrote it. not used, just for documentation.;
data hbpconfFran;
  set current.Y1mifcod;
  where (((12160400 le ingcode le 12160499) and (ingcode ne 12160411))
  /*alphabk*/
  or ((12160100 le ingcode le 12160199) and (formcode ne '06')
  and (substr(drugname,1,8) ne 'TIMOPTIC'))
  /*betabk*/
  or (((24080000 le ingcode le 24080104) and (not(formcode in('04','06')))
  or (substr(drugname,1,9)='CLONIDINE' and substr(drugname,17,5)='PATCH')
  or (substr(drugname,1,13)='CATAPRESS-TTS'))
  and substr(drugname,1,17) ne 'MINOXIDIL FOR MEN'))
  /*hypotn*/
  or ((24080200 le ingcode le 24080299))
  /*aceinh*/
  or ((24080400 le ingcode le 24080412))
  /*angtn2*/
  or (ingcode=24120094)
  /*hydrlz*/
  or (((24120400 le ingcode le 24120449) or (ingcode=24120065)
  and ingcode ne 24120402)
  /*cachbk*/
  or ((40280010 le ingcode le 40280062) and not(ingcode
  in(40280020,40280021))) /*diuro*/
  or ((40280100 le ingcode le 40280199))
  /*thiaz*/
  or ((40280400 le ingcode le 40280406)));
  /*loopdi*/
run;
*--- in case above code to assign Y1HBPDRG changes in the future, just use Y1HBPDRG, Emily K., 2010/06/08.;

proc sort data=y1rxcalc(keep=hacbid Y1hbpdrg where=(Y1hbpdrg=1)) out=hbpconf
nodupkey;
  by hacbid;
run;
data hbpconf;
  merge hbpconf(in=h) current.y1mifcod;
  by hacbid;
  if h;
run;

```

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```

*--- This separates out those that specifically mention hypertension as a reason
for use
   from those who do not.;

data conf;
  set hbpconf;
  if (((index(upcase(Mifreas), 'B.P') > 0)           or (index(upcase(Mifreas), 'B.
P.') > 0)
       or (index(upcase(Mifreas), 'B/P') > 0)           or
(index(upcase(Mifreas), 'PRESSURE') > 0)
       or (index(upcase(Mifreas), 'PRSSURE') > 0)           or
(index(upcase(Mifreas), 'PRESSUE') > 0)
       or (index(upcase(Mifreas), 'RPRESSURE') > 0)           or
(index(upcase(Mifreas), 'BP') > 0)
       or (index(upcase(Mifreas), 'PRESURE') > 0)           or
(index(upcase(Mifreas), 'PRERSSURE') > 0)
       or (index(upcase(Mifreas), 'ORESSIONE') > 0)           or
(index(upcase(Mifreas), 'BLOOD P-RESSURE') > 0)
       or (index(upcase(Mifreas), 'BLOOD ESSURE') > 0)           or
(index(upcase(Mifreas), 'BLOOD PREESURE') > 0)
       or (index(upcase(Mifreas), 'BLOOD PREASSURE') > 0)           or
(index(upcase(Mifreas), 'PERSSURE') > 0)
       or (index(upcase(Mifreas), 'HIGH BLOOD') > 0)           or
(index(upcase(Mifreas), 'HYPERTEN') > 0)
       or (index(upcase(Mifreas), 'HYPPERTENSION') > 0)           or
(index(upcase(Mifreas), 'HYPRTENSION') > 0)
       or (index(upcase(Mifreas), 'BLOOD PRES') > 0)           or
(index(upcase(Mifreas), 'HTN') > 0))
       and not (index(upcase(MIFREAS), 'EYE') > 0))
       and (index(upcase(Mifreas), 'BENIGN PROSTATIC HYPERTROPHY') le 0));
run;
*--- reduce to one record per ppt.;

proc sort nodupkey data=conf;
  by habcid;
run;
data prevdz;
  merge screener y1rxcalc clinic
    reading biospec calc hcfa;
  by habcid;
  *--- prevalent coronary heart disease via self-report and drugs.;
  *--- no Rose.?;
  if mhscabg=1 or mhcsaca=1 then Y1pchd1=1; *--- yes - coronary
bypass/angioplasty.;

  else if mhhchami=1 or mhhcapcp=1 then do;
    if Y1antang=1           then Y1pchd1=1; *--- yes - SR MI/angina with drugs.;
    else                      Y1pchd1=2; *--- possible.;

  end;
  else                      Y1pchd1=0; *--- no disease.;

  *--- Set anyone to missing who is missing one of the constituent variables.;


```

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```

if Y1pchd1=0 and (mhhchami le .z or mhhchami in (7,8) or mhhcapcp le .z or
    mhhcapcp in (7,8)) then Y1pchd1=.M;

*--- ECG evidence of MI - major Q/QS abnormalities on ECG.;
if vent_def='11'      then Y1pchd2=2;  *--- indeterminate.;
else if qvwab=1       then Y1pchd2=1;  *--- major Q/QS abnormalities.%;
else if qvwab in(0,2) then Y1pchd2=0;  *--- no major Q/QS abnormalities.%;
else                      Y1pchd2=.M; *--- missing ECG data.%;
*--- prevalent chd including HCFA.%;
*--- Added 12/16/04.%;
if Y1pchd1=1 or
    bhpcta=1 or bbypass=1 or bminf=1 or bangina=1 or
    phpcta=1 or pmi=1 or pangina=1
    then Y1pchd3=1;  *--- definite CHD*;
else if Y1pchd1=2
    then Y1pchd3=2;  *--- possible CHD*;
else if Y1pchd1<0
    then Y1pchd3=.M; *--- missing*;
else      Y1pchd3=0;  *---no CHD*;

*--- prevalent congestive heart failure via self-report and drugs.%;
*--- for right now, I am saying they need a combination of diuretic with
    dig or ACE or vasodilators - might be O.K. to consider angiotensin II
    antagonists in same group as ACE inhibitors since both affect the renin-
    angiotensin system.%;
if mhhcchf ne 1 then Y1pchf=0; *--- no disease.%;
else do;
    if Y1chfdiu=1 and (Y1chfvas=1 or Y1cargly=1)
        then Y1pchf=1; *--- yes - self-report & meds.%;
    else          Y1pchf=2; *--- possible.%;
end;
*--- Check for missing values in constituent variables.%;
if Y1pchf=0 and (mhhcchf le .z or mhhcchf in (7,8))
    then Y1pchf=.M;

*--- Prevalent cerebrovascular disease.%;
if mhhctia=1 or mhhccva=1 then Y1pcbd=1;  *--- definite history of CVD.%;
else if mhcsdesc=1         then Y1pcbd=2;  *--- possible CVD history.%;
*--- Check for missing constituent variable(s);
else if mhhctia le .z or mhhctia in (7,8)
    or mhhccva le .z or mhhccva in (7,8)
        then Y1pcbd=.M; *--- Missing data.%;
else          Y1pcbd=0;  *--- no CVD history.%;
*--- New prevalent CHD/CVD var added to include HCFA, combine CHD and CBVD.%;
*--- Added 12/16/04.%;
if Y1pchd1=1 or Y1pcbd=1  or
    bhpcta=1 or bbypass=1 or bminf=1 or bangina=1 or bstroke=1 or
    phpcta=1 or pmi=1 or pangina=1 or pstroke=1

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then Y1pcvd=1;                                *--- definite CHD/CBVD.;

else if Y1pchd1=2 or Y1pcbvd=2
  then Y1pcvd=2;                                *--- possible CHD/CBVD.;

else if Y1pchd1<0 or Y1pcbvd<0
  then Y1pcvd=.M;                               *--- missing.;

else Y1pcvd=0;                                 *--- o CHD/CBVD.;

*--- prevalent peripheral arterial disease (PAD) / intermittent claudication;
*--- no mention of pain in either leg when walking which is relieved by rest.;

if mhhcicpl=1 or mhcsbpal=1 or mhcsalea=1 then Y1ppad=1;      *--- prevalent PAD.;

else Y1ppad=0;                                *--- no PAD.;

*--- Check for missing constituent variable(s);

if Y1ppad=0 and
  (mhhcicpl le .z or mhhcicpl in (7,8) or mhcssurg in (7,8) or
  ((mhcssurg=1 or mhcssurg le .z) and
  (mhcsbpal le .z or mhcsbpal in (7,8) or mhcsalea le .z or mhcsalea in (7,8))))
    then Y1ppad=.M;      *--- missing

data.;

*--- prevalent diabetes/glucose intolerance via self-report & drug use.;

if lbsgdiab=1      then Y1pdiab1=1;          *--- yes - by self-report.;

else if lbsgdiab=0  then do;
  if Y1dibdrg=1    then Y1pdiab1=1;          *--- yes - by drug use.;

  else if Y1dibdrg=0 then Y1pdiab1=0;        *--- no drug use, accept self
report of not diabetic.;

  else Y1pdiab1=0;                           *--- no - by self-report.;

end;

else if lbsgdiab in (7,8) or lbsgdiab <0 then do; *--- missing, refused unknown.;

  if Y1dibdrg=1    then Y1pdiab1=1;          *--- yes - by drug use.;

  else if Y1dibdrg<=0  then Y1pdiab1=.M;      *--- missing.;

end;

if fast8glu1 in(-777,-999) then fast8glu1=.;

if hr2gluc1 in(-777,-999) then hr2gluc1=.;

if glucose1 in(-777,-999) then glucose1=.;

if hr_gluc1 in(-777,-999) then hr_gluc1=.;

*--- Glucose intolerance (FG criteria) **.;

*--- (Code updated 11/18/2003 to use new ADA.;

*--- recommended cutoff of 100 instead of 110).;

if Y1pdiab1=1      then Y1adaepi=3;          *--- Known diabetic.;

else if Y1pdiab1=0 then do;
  if fast8glu1>=126     then Y1adaepi=2;    *--- Diabetic fasting glucose.;

  else if 100<=fast8glu1<126 then Y1adaepi=1;  *--- Impaired fasting glucose.;

    *--- either fasting or not fasting glucose is normal.;

  else if 0<=fast8glu1<100 or
    0<=glucose1<100   then Y1adaepi=0;    *--- Not impaired.;

  else if fast8glu1<0 or
    glucose1>=100     then Y1adaepi=0.5;   *--- Self reported not
diabetic.;


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```

end;
else if Y1pdiab1<0 then do;
  if fast8glu1>=126      then Y1adaepi=2;    *--- Diabetic fasting glucose.;
  else if 100<=fast8glu1<126 then Y1adaepi=1;    *--- Impaired fasting glucose.;
  *--- either fasting or not fasting glucose is normal.;
  else if 0<=fast8glu1<100 or
        0<=glucose1<100   then Y1adaepi=0;    *--- Not impaired.;
  else if fast8glu1<0 or
        glucose1>=100      then Y1adaepi=.M;   *--- Not measured, or not fasting
elevated blood sugar.;
end;

*--- Glucose intolerance (FG + OGTT criteria).;
if Y1pdiab1=1           then Y1ada2h=4;    *--- Known diabetic.;
else if Y1pdiab1=0 then do;
  if fast8glu1>=126      then Y1ada2h=3;    *--- Diabetic fasting glucose.;
  else if 100<=fast8glu1<126 then do;
    if hr2gluc1>=200      then Y1ada2h=3;    *--- Diabetic fasting glucose.;
    else if .<=hr2gluc1<200 then Y1ada2h=2;    *--- Impaired fasting
glucose.;
    else                      Y1ada2h=0.5;   *--- No fasting 2 hour
glucose.;
  end;
  *--- either fasting or not fasting glucose is normal.;
  else if (0<=fast8glu1<100 or 0<=glucose1<100) then do;
    *--- either 2 hour fasting or not fasting glucose is normal.;

  if (0<=hr2gluc1<140 or 0<=hr_gluc1<140)
        then Y1ada2h=0;    *--- Not impaired.;

  else if 140<=hr2gluc1<200 then Y1ada2h=1;    *--- Impaired fasting flucose.;

  else if hr2gluc1>=200      then Y1ada2h=3;    *--- Diabetic fasting
glucose.;

  else if hr2gluc1<0 or hr_gluc1>=140
        then Y1ada2h=0.5;   *--- Self reported not
diabetic.;

  end;
  else if fast8glu1<0 or glucose1>=100
        then Y1ada2h=0.5;   *--- Self reported not
diabetic.;

  end;
else if Y1pdiab1<=0 then do;
  if fast8glu1>=126      then Y1ada2h=3;    *--- Diabetic fasting glucose.;

  else if 100<=fast8glu1<126 then do;
    if hr2gluc1>=200      then Y1ada2h=3;    *--- Diabetic fasting glucose.;

    else if .<=hr2gluc1<200 then Y1ada2h=2;    *--- Impaired fasting
glucose.;

    else                      Y1ada2h=.M;   *--- No fasting 2 hour
glucose.;

  end;
end;

```

```

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    *--- either fasting or not fasting glucose is normal.;

else if (0<=fast8glu1<100 or 0<=glucose1<100) then do;
    *--- either 2 hour fasting or not fasting glucose is normal.;

if (0<=hr2gluc1<140 or 0<=hr_gluc1<140)
    then Y1ada2h=0; *--- Not impaired.;

else if 140<=hr2gluc1<200 then Y1ada2h=1; *--- Impaired fasting glucose.;

else if hr2gluc1>=200      then Y1ada2h=3; *--- Diabetic fasting
glucose.;

else if hr2gluc1<0 or hr_gluc1>=140
    then Y1ada2h=.M; *--- Not measured, or not
fasting elevated blood sugar.;

end;

else if fast8glu1<0 or glucose1>=100
    then Y1ada2h=.M; *--- Not measured, or not fasting
elevated blood sugar.;

end;

*--- prevalent MD diagnosed OA of knee.;

if not(pqajarth in(0,1)) and not(pqajarda in(0,1)) and not(pqajknee in(0,1))
    then Y1poakn=.M; *--- missing.;

else if (pqajarth=1 and pqajarda=1 and pqajknee=1) then do;
    if (pqajkp12=1 or pqajkmd=1) then Y1poakn=1; *--- current symptomatic.;

    else if pqajkp30=1           then Y1poakn=2; *--- past symptomatic.;

    else                           Y1poakn=3; *--- OA/no symptoms reported.;

end;

else                               Y1poakn=0; *--- OA of knee not reported.;

*--- prevalent MD diagnosed OA of hip.;

if not(pqajarth in(0,1)) and not(pqajarda in(0,1)) and not(pqajhip in(0,1))
    then Y1poahip=.M; *--- missing.;

else if (pqajarth=1 and pqajarda=1 and pqajhip=1) then do;
    if pqajh12m=1      then Y1poahip=1; *--- current symptomatic.;

    else if pqajh30d=1 then Y1poahip=2; *--- past symptomatic.;

    else                 Y1poahip=3; *--- OA/no symptoms reported.;

end;

else                               Y1poahip=0; *--- OA of hip not reported.;

*--- prevalent MD diagnosed OA of hands;

if not(pqajarth in(0,1)) and not(pqajarda in(0,1)) and not(pqajhand in(0,1))
    then Y1poahnd=.M; *--- missing.;

else if (pqajarth=1 and pqajarda=1 and pqajhand=1) then do;
    if pqajwr30=1 or pqajwr12=1 then Y1poahnd=1; *--- current symptomatic.;

    else                           Y1poahnd=3; *--- OA/no symptoms reported.;

end;

else                               Y1poahnd=0; *--- OA of hands not reported.;

*--- prevalent MD diagnosed OA other than knee, hip or hand;

if not(pqajarth in(0,1)) and not(pqajarda in(0,1))

```

```

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      then Y1poaoth=.M; *--- missing.;

else if (pqajarth=1 and pqajarda=1) then do;
  if pqajft30=1 or pqajsh12=1 or pqajnp30=1 or pqajbp12 in(3,4,5)
    or pqajbpsv in(2,3,4) then Y1poaoth=1; *--- current symptomatic.;

else if (pqajknee=0 and pqajhip=0 and pqajhand=0)
  then Y1poaoth=3; *--- OA/no symptoms reported.;

else Y1poaoth=0; *--- fall through.;

end;

else Y1poaoth=0; *--- other joint OA not reported.;

*--- prevalent hypertension algorithm via self-report & drug use.;

if mhhchbp=0 then Y1phbp1=0; *--- no prevalent hypertension.;

else if mhhchbp=1 then do;
  if Y1hbpdrg=1 then Y1phbp1=1; *--- confirmed (reported & treated) HBP.;

  else Y1phbp1=2; *--- possible HBP - unconfirmed.;

end;

*--- dont know, refused, missing.;

else if (mhhchbp in (7,8) or mhhchbp<0) then Y1phbp1=.M;

*--- Check for missing mhhchbp.;

if Y1phbp1=0 and (mhhchbp le .z or mhhchbp in (7,8)) then Y1phbp1=.M; *--- missing data;

*--- prevalent hypertension algorithm via blood pressure measurement.;

if (1 le sysbp lt 130) and (1 le diabp lt 85) then Y1phbp2=0; *--- normal.;

else if ((sysbp lt 140) and (diabp lt 90)) then Y1phbp2=1; *--- high normal.;

else if ((sysbp ge 140) or (diabp ge 90)) then Y1phbp2=2; *--- HTN.;

if Y1phbp2=2 then do;
  if sysbp>=140 and .z<diabp<90 then Y1shbp=1; *--- isolated systolic elevation.;

  else Y1shbp=0;
end;

else do;
  Y1shbp=.A;
end;

*--- prevalent depression.;

if lbomdepr=1 then do;
  if Y1depdrg=1 then Y1pdepr1=1; *confirmed (reported and treated);;

  else Y1pdepr1=2; *possible/past (reported not treated);;

end;

if lbomdepr ne 1 then do;
  if Y1depdrg=1 then Y1pdepr1=3; *not reported but using antidepressant;;

  **Add code for missing constituent variable(s);;

  else if lbomdepr le .z
    or lbomdepr in (7,8)
    or Y1depdrg le .z then Y1pdepr1=.M; *missing data;;

```

```

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else Y1pdepr1=0;                                *no disease;
end;
*** CES-D score for depression;
*Using 16 as cutoff;
Y1pdepr2=.M;                                     *stays missing if no CES-D score;
*Change made to put cutoff correctly at 16 per Radloff paper;
*11/17/2004 FHarris;
if (0<=ces_d<16) then Y1pdepr2=0;              *not at risk;
else if ces_d>=16 then Y1pdepr2=1;             *CES-D at risk for depression;
*Using 20 as cutoff;
Y1pdepr3=.M;                                     *stays missing if no CES-D score;
if (0<=ces_d<20) then Y1pdepr3=0;              *not at risk;
else if ces_d>=20 then Y1pdepr3=1;             *CES-D at risk for depression;

*new at risk for depression var using ces_d10;
Y1pdepr4=.M;
if (0<=Y1CES_D10<10) then Y1pdepr4=0;          *not at risk;
else if Y1CES_D10>=10 then Y1pdepr4=1;         *CES_D10 at risk for depression;

*Prevalent clinical pulmonary disease;

* the following is just a check to make sure that if S reported they still
have asthma or chronic bronchitis, that they also mentioned Dr. dx;
*I am making the assumption that even if they report dx of asthma or
chronic bronchitis, unless they specify that they still have the disease,
we do not count it;

if mhlcasth=1 and mhlcscha=1 then Y1crasth=1;      *current asthma yes or
no;
else Y1crasth=0;
if mhlccchbr=1 and mhlcschcb=1 then Y1crbron=1;     *current chronic
bronchitis;
else Y1crbron=0;
if (Y1crasth=1 or Y1crbron=1 or mhlcemph=1 or mhlccopd=1) then do;
  if (Y1puldrdg=1 or Y1orster=1) then Y1ppulcd=1;      *reported & treated;
  else Y1ppulcd=2;                                     *reported current dz, no
current trt;
end;
else do;
  if Y1puldrdg=1 then Y1ppulcd=3;                  *no rpt current dis,
current treatment;
  else Y1ppulcd=0;                                    *no disease;
***Add code for missing constituent variables;
if Y1ppulcd=0 and
  (mhlcasth le .z or mhlcasth in (7,8) or (mhlcasth=1 and (mhlcscha le .z or
mhlcscha=8)) or
  Y1puldrdg le .z or Y1orster le .z) then Y1ppulcd=.M; *missing data;
end;

```

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* prevalent pulmonary disease - pulmonary function test;
* calculate largest FEV1 and FVC among best, second best and third best
  curves for use in various calculations;
Y1lgfev1=bes_fev1;
if scn_fev1 gt Y1lgfev1 then Y1lgfev1=scn_fev1;
if trd_fev1 gt Y1lgfev1 then Y1lgfev1=trd_fev1;
Y1lgfvc=bes_fvc;
if scn_fvc gt Y1lgfvc then Y1lgfvc=scn_fvc;
if trd_fvc gt Y1lgfvc then Y1lgfvc=trd_fvc;
if fev1r<=.z then Y1pftcat=.M;
else if (.z<fev1r<llnfev1r) then do;
  if (.z lt ppfev1 lt 50) then Y1pftcat=4; *severe obstructive disease;
  if (50 le ppfev1 lt 70) then Y1pftcat=3; *moderate obstructive disease;
  if (70 le ppfev1)      then Y1pftcat=2; *mild obstructive disease;
end;
else if fev1r>=llnfev1r>.z then do;
  ***Add code for missing Y1lgfvc;
  if Y1lgfvc le .z then Y1pftcat=.M;
  else if Y1lgfvc<llnfvc then do;
    if (.z lt ppfvc lt 50) then Y1pftcat=7; *severe restrictive pattern;
    if (50 le ppfvc lt 70) then Y1pftcat=6; *moderate restrictive pattern;
    if (70 le ppfvc)        then Y1pftcat=5; *mild restrictive pattern;
  end;
  else if p4inhle2=1 then Y1pftcat=1; *normal after bronch use;
  ***NOTE p4inhle2 (and the associated stem questions) was not asked of 734 ppts;
  else if p4inhle2 ne 1 then Y1pftcat=0; *normal pulmonary function;
end;

* if QCFEV1=0 or 1, or QCFVC=0 or 1 (low quality tests) then do not use tests;
if qcfev1 in ('0','1') or qcfvc in ('0','1') then do;
  Y1pftcat=.U;
end;

* prevalent gastrointestinal disease - GI bleed;
if lbsgblsi=1 then Y1pgibld=1; *clinical GI bleed;
**Add in code for missing lbsgblsi;
else if lbsgblsi le .z or lbsgblsi in (7,8) then Y1pgibld=.M;
else Y1pgibld=0; *no history of GI bleed;

* prevalent gastrointestinal disease - ulcer;
if lbsgulcr=1 then do;
  if (lbsgugi=1 or lbsgupen=1)
    then Y1pulcer=1; *Confirmed ulcer;
    else Y1pulcer=2; *Unconfirmed ulcer;
end;
**Add in code for missing constituent variable(s);
else if lbsgulcr<=.z or lbsgulcr in (7,8) then Y1pulcer=.M; *missing data;
else Y1pulcer=0; *no clinical history;

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PrevDzCodeCorrected20160609.sas

```

* Type of ulcer;
if Y1pulcer in (1,2) then do;
  if lbsguloc=1 then Y1ulctyp=1;                      *Stomach;
  else if lbsguloc=2 then Y1ulctyp=2;                  *Duodenum;
  else if lbsguloc in (3,8)
    or lbsguloc<=.z then Y1ulctyp=3;                  *Unknown;
end;
else do Y1ulctyp=.A;end;

* prevalent gastrointestinal disease - gallstones;
if lbsggall=1 then Y1pgalls=1;                         *clinical gallstones;
  **Add in code for missing constituent variable;
else if lbsggall le .z or lbsggall in (7,8) then Y1pgalls=.M;
  else Y1pgalls=0;                                     *no clinical history;

* prevalent gastrointestinal disease - abdominal wall hernia;
if lbomsurg=1 then Y1pherni=1;                          *clinical hernia;
  **Add in code for missing constituent variable;
else if lbomsurg le .z or lbomsurg in (7,8) then Y1pherni=.M;
  else Y1pherni=0;                                     *no clinical history;

* prevalent prostate disease - AUASI score;
* if more than two items missing then set whole score to missing -
  otherwise, set 7, 8, and "not ascertained" (.m) scores to 0 in the
  computation;
* also - for right now, I obtain an AUASI score for all males regardless
  of prostate cancer status;

pmiss=0;
array pquesin lburneb lburneb lbu2hrs lbustst lbupost lbuweak lbupush lbudgetup;
array pquesout auasi1 auasi2 auasi3 auasi4 auasi5 auasi6 auasi7;
do over pquesin;
  pquesout=pquesin;
  if pquesin in(7,8) or (pquesin le .m) then do;
    pquesout=0; pmiss+1;
  end;
end;
end;

Y1auasi=sum(of auasi1-auasi7);
if pmiss gt 2 then Y1auasi=.M;
Y1ppscat=.;
if Y1auasi=0 then Y1ppscat=0;                           *no disease;
if (1 le Y1auasi le 7) then Y1ppscat=1;                *mild sx;
if (8 le Y1auasi le 19) then Y1ppscat=2;              *moderate sx;
if Y1auasi ge 20 then Y1ppscat=3;                      *severe sx;

if Y1ppscat in (0,1) then Y1prost2=0;                 *Not at risk;

```

```

PrevDzCodeCorrected20160609.sas
else if Y1ppscat in (2,3) then Y1prost2=1; *At risk;
else Y1prost2=.M;
if gender ne 1 then do;
  Y1auasi=.A;
  Y1ppscat=.A;
  Y1prost2=.A;
end;
* prevalent prostate disease - must be males;
if gender ne 1 then Y1prsdrg=.; *women do not take drugs for prostate dis;
if gender ne 1 then Y1pprost=.A; *Set calc var to not applicable for women;
else do; *For men only;
  if mhchpr=-1 then Y1pprost=3; *history of prostate
cancer;
  else if lbuenpr=1 then Y1pprost=1; *definite BPH;
  else if lbuenpr ne 1 then do;
    if Y1prsdrg=1 then Y1pprost=2; *possible BPH;
    else if (lbutreat=1 and lbudem ge 50) then Y1pprost=2;
    **Add in code for possible missing constituent variable(s);
    else if Y1prsdrg le .z or lbuenpr le .z or
      lbuenpr in (7,8) or lbutreat le .z or
      lbutreat in (7,8) then Y1pprost=.M; *missing data;
    else Y1pprost=0; *no clinical history;
  end;
  else Y1pprost=0;
end;

* prevalent cancer;
if mhchmgmt=1 then Y1pcancr=1; *self-reported
cancer;
else if Y1candrg=1 then Y1pcancr=2; *possible;
**Add in code for possible missing constituent variable(s);
else if mhchmgmt le .z or mhchmgmt in (7,8)
  or Y1candrg le .z then Y1pcancr=.M; *missing data;
else Y1pcancr=0; *no cancer;

* New additional prevalent cancer variables, to include HCFA data*;
* Any (except non-melanoma skin ca), prostate, breast, lung, colon*;
* Added 12/15/04 FEH*;
if (Y1pcancr in (1,2) and
  not (mhchsc=-1 and mhchbd ne -1 and
    mhchbl ne -1 and mhchbo ne -1 and mhchbr ne -1 and mhchbs ne -1 and
    mhchcv ne -1 and mhchco ne -1 and mhchen ne -1 and mhchho ne -1 and
    mhchlv ne -1 and mhchlne -1 and mhchly ne -1 and mhchmn ne -1 and
    mhchov ne -1 and mhchpa ne -1 and mhchpr ne -1 and mhchst ne -1 and
    mhchth ne -1 and mhchot ne -1))
or
  (potherca=1 or botherca=1 or
  pprosca=1 or bprosca=1 or

```

```

PrevDzCodeCorrected20160609.sas
pcolonca=1 or bcolonca=1 or
plungca=1 or blungca=1 or
pbreaca=1 or bbreaca=1 or
puppgica=1 or buppgica=1 or
phmelan=1 or bhmelan=1) then Y1pcanany=1;
else if Y1pcancr=.M then Y1pcanany=.M;
else Y1pcanany=0;

/*Prostate*/
if mhchpr=-1 or bprosca=1 or pprosca=1 then Y1pcanprs=1; else
if Y1pcanany=.M then Y1pcanprs=.M; else
Y1pcanprs=0;
if gender ne 1 then Y1pcanprs=.A; *missing for women*;

/*Breast*/
if mhchbs=-1 or bbreaca=1 or pbreaca=1 then Y1pcanbrst=1; else
if Y1pcanany=.M then Y1pcanbrst=.M; else
Y1pcanbrst=0;

/*Lung*/
if mhchl=1 or blungca=1 or plungca=1 then Y1pcanlung=1; else
if Y1pcanany=.M then Y1pcanlung=.M; else
Y1pcanlung=0;

/*Colon*/
if mhchco=-1 or bcolonca=1 or pcolonca=1 then Y1pcancoln=1; else
if Y1pcanany=.M then Y1pcancoln=.M; else
Y1pcancoln=0;

* prevalent self-reported osteoporosis;
if pqosdiag=1 then do;
  if (pqosbr45=1 or pqosfrv=1)
    then Y1postp1=1; *definite clinical osteoporosis;
    else Y1postp1=2; *possible;
end;
if pqosdiag ne 1 then do;
  if Y1ostdrg=1 then Y1postp1=2; *possible;
  **Add in code for possible missing constituent variable(s);
  else if pqosdiag le .z or pqosdiag in (7,8) or (pqosdiag ne 1 and Y1ostdrg
le .z) then Y1postp1=.M;
  else Y1postp1=0; *no disease;
end;

* Osteoporosis by T score;
if race=1 and gender=1 then do;
  if htotbmd<=0.656 then Y1ostbmd=1; else Y1ostbmd=0;
end; else

```

```

PrevDzCodeCorrected20160609.sas
if race=1 and gender=2 then do;
  if htotbmd<=0.637 then Y1ostbmd=1; else Y1ostbmd=0;
end; else
if race=2 and gender=1 then do;
  if htotbmd<=0.747 then Y1ostbmd=1; else Y1ostbmd=0;
end; else
if race=2 and gender=2 then do;
  if htotbmd<=0.640 then Y1ostbmd=1; else Y1ostbmd=0;
end;
if htotbmd<=.z then Y1ostbmd=.M;

run;
/*
proc print data=prevdz(where=(y1pdepr4=. and y1ces_d10^=.) );
run;
*/
***** DEFINE METABOLIC SYNDROME AT BASELINE - *****

```

Adapted from: Ford et al (JAMA 2002 Jan 16;287(3):356-9)

A person has metabolic syndrome if they meet 3 or more of the following criteria:

- waist circumference > 102 cm (men); > 88 cm (women)
- triglyceride => 150
- hdl < 40 (men); < 50 (women)
- blood pressure => 130/85, or taking anti-hypertensive medication
- glucose =>110, or taking antidiabetic medication

(Ford definition is only insulin, but Health ABC consensus is that all treated diabetics qualify).

New Variables-

```

Y1metsab = 'Y1:abdominal circumference criteria met'
Y1metshd = 'Y1:low hdl criteria met'
Y1metstg = 'Y1:high triglyceride criteria met'
Y1metsgl = 'Y1:high glucose criteria met'
Y1metsbp = 'Y1:blood pressure criteria met'
Y1metsno = 'Y1:Number of metabolic syndrom criteria met'
Y1metsyn = 'Y1:metabolic syndrome at year 1' *****

data metsyn;
merge calc(keep=hacbid sysbp diabp p3abi)
      biospec(keep=hacbid hdl1 triglyc1 fast8trig1 glucose1 fast8glu1)
      y1rxcalc(keep=hacbid Y1dibdrg Y1hbpdrg)
      current.ph(keep=hacbid gender)
      conf(keep=hacbid in=FranHbpDrug);
by hacbid;

/*abdominal circumference criteria*/
if p3abi > 0 then metsab=0;

```

```

PrevDzCodeCorrected20160609.sas
if gender=1 and p3abi > 102 then metsab=1;
if gender=2 and p3abi > 88 then metsab=1;
if p3abi<0 then metsab=.M;

/*hdl criteria*/
if hdl1 > 0 then metshd=0;
if gender = 1 and .z < hdl1 < 40 then metshd=1;
if gender = 2 and .z < hdl1 < 50 then metshd=1;
if hdl1 < 0 then metshd=.M;

/* not fasting triglyceride criteria*/
if 0<=triglyc1<=149 then metstg=0;
else if triglyc1>=150 then metstg=1;
else if triglyc1<0 then metstg=.M;

/*8 hour fasting triglyceride criteria*/
if 0<=fast8trig1<=149 or 0<=triglyc1<=149 then mets8tg=0;
else if fast8trig1>=150 then mets8tg=1;
else if fast8trig1<0 then mets8tg=.M;

----- not fasting glucose criteria. ;
if Y1dibdrg=1 then metsgl=1;
else if Y1dibdrg <= 0 then do;
  if glucose1 >= 110 then metsgl=1;
    else if 0<=glucose1<=109 then metsgl=0;
    else metsgl=.M;
end;

----- 8 hour fasting glucose criteria. ;
if Y1dibdrg=1 then mets8gl=1;
else if Y1dibdrg <= 0 then do;
  if fast8glu1 >= 110 then mets8gl=1;
    else if 0<=fast8glu1<=109 or 0<=glucose1<=109 then mets8gl=0;
    else mets8gl=.M;
end;

/*blood pressure criteria*/
----- Use Fran method of identifying medications used to treat
hypertension rather than self report Y1HBPDRG for blood pressure
component of metabolic syndrome, per Steve K email, 2010/06/08. ;
if sysbp>0 and diabp>0 then metsbp=0;
if (sysbp<0 or diabp<0) then metsbp=.M;
if sysbp>=130 or
diabp>= 85 or
(Y1hbpdrg=1 and FranHbpDrug=1) then metsbp=1;

/*define metabolic syndrome*/
x=nmiss(metshd,metstg,metsgl,metsbp,metsab);

```

```

PrevDzCodeCorrected20160609.sas
y=sum(metshd,metstg,metsgl,metsbp,metsab);

/*8 hour triglyceride and glucose define metabolic syndrome*/
x8=nmiss(metshd,mets8tg,mets8gl,metsbp,metsab);
y8=sum(metshd,mets8tg,mets8gl,metsbp,metsab);

/*If a person has a missing value then they are not scored for
metabolic syndrome, unless they are positive on 3 or more non-missing criteria
in which case they do have metabolic syndrome*/

metsyn1=0;
if x > 0 then do;
  metsyn1=.M; metsnum1=.A;end;
if y > 2 then metsyn1=1;
if x = 0 then metsnum1 = y;

/* give a number to those with a missing component but still qualify for the
syndrome*/
if x > 0 and metsyn1=1 then metsnum1 = y;

/*If a person has a missing value then they are not scored for
metabolic syndrome, unless they are positive on 3 or more non-missing criteria
in which case they do have metabolic syndrome*/

mets8yn1=0;
if x8 > 0 then do;
  mets8yn1=.M; mets8num1=.A;
end;
if y8 > 2 then mets8yn1=1;
if x8 = 0 then mets8num1 = y8;

/* give a number to those with a missing component but still qualify for the
syndrome*/
if x8 > 0 and mets8yn1=1 then mets8num1 = y8;

drop x y x8 y8;
run;
proc format;
  value glum
    000-109='000-109'
    110-high='110+'
    ;
  value trigm
    000-149='000-149'
    150-high='150+'
    ;
run;

```

PrevDzCodeCorrected20160609.sas

```

data metsyn;
  set metsyn(rename=
    metsyn1=Y1METSYN
    metsnum1=Y1METSNO
    mets8yn1=Y1METS8YN
    mets8num1=Y1METS8NO
    metstg=Y1METSTG
    metsgl=Y1METSGL
    metshd=Y1METSHD
    mets8tg=Y1METS8TG
    mets8gl=Y1METS8GL
    metsab=Y1METSAB
    metsbp=Y1METSBP
  ));
label
  Y1METSYN='YR1:Metabolic syndrome'
  Y1METSNO='YR1:# of metabolic syndrome criteria met'
  Y1METS8YN='YR1:Fasting Metabolic syndrome'
  Y1METS8NO='YR1:# of Fasting metabolic syndrome criteria met'
  Y1METSAB='YR1:Met abdominal circumference criterion'
  Y1METSHD='YR1:Met hdl criterion'
  Y1METSTG='YR1:Met triglyceride criterion'
  Y1METSGL='YR1:Met glucose criterion'
  Y1METS8TG='YR1:Met Fasting triglyceride criterion'
  Y1METS8GL='YR1:Met Fasting glucose criterion'
  Y1METS8BP='YR1:Met blood pressure criterion'
;
format Y1METSYN Y1METS8YN Y1METSAB Y1METSHD Y1METSTG Y1METSGL Y1METS8TG Y1METS8GL
Y1METS8BP ynb.
  Y1METSNO Y1METS8NO 1.;

keep habcid Y1METSYN Y1METS8YN Y1METSAB Y1METSHD Y1METSTG Y1METSGL Y1METS8TG
Y1METS8GL Y1METS8BP
  Y1METSNO Y1METS8NO;
run;

proc freq data=metsyn;
  tables y1metsbp / missing;
run;
/*
title2 'Prevalent Metabolic NOT Fasting Triglycerides';
proc freq data=metsyn;
  tables triglyc1*fast8trig1*y1metstg / missing list;
  format triglyc1 fast8trig1 trigm.;
run;
title2 'Prevalent Metabolic Fasting Triglycerides';
proc freq data=metsyn;
  tables triglyc1*fast8trig1*y1mets8tg / missing list;
  format triglyc1 fast8trig1 trigm.;
run;

```

```

PrevDzCodeCorrected20160609.sas
title2 'Prevalent Metabolic NOT Fasting Glucose';
proc freq data=metsyn;
  tables y1dibdrg*glucose1*fast8glu1*y1metsgl / missing list;
  format glucose1 fast8glu1 glum.;
run;
title2 'Prevalent Metabolic Fasting Glucose';
proc freq data=metsyn;
  tables y1dibdrg*glucose1*fast8glu1*y1mets8gl / missing list;
  format glucose1 fast8glu1 glum.;
run;
proc compare base=current.previndz(keep=hacid Y1metsyn Y1metsab Y1metshd Y1metstg
Y1metsgl Y1metsbp Y1metsno)
  compare=metsyn(keep=hacid Y1metsyn Y1metsab Y1metshd Y1metstg Y1metsgl Y1metsbp
Y1metsno);
  id hacid;
run;
*/
data Y1prevdz0;
  merge prevdz metsyn;
  by hacid;

*** Create labels ***;
label Y1pftcat      = "YR1:PREV OBS/RES PULMONARY DISEASE"
  Y1pchd1        = "YR1:PREV CHD SELF-REPT & MEDS"
  Y1pchd2        = "YR1:PREV CHD:ECG EVIDENCE OF MI"
  Y1pchd3        = "YR1:PREV CHD:SELF-RPT, MEDS, HCFA"
  Y1pchf         = "YR1:PREV CONGESTIVE HEART FAILURE"
  Y1pcbvd        = "YR1:PREV CEREBROVASCULAR DISEASE"
  Y1pcvd         = "YR1:PREV CVD (CHD+CBVD) INCL HCFA"
  Y1ppad         = "YR1:PREV PERIPHERAL ARTERIAL DISEASE"
  Y1poakn        = "YR1:PREV DX KNEE OA"
  Y1poahip       = "YR1:PREV DX HIP OA"
  Y1poahnd       = "YR1:PREV DX HAND OA"
  Y1poaoth       = "YR1:PREV DX OTH JNT OA"
  Y1phbp1         = "YR1:PREV HYPERTENSION SELF-REPT & MEDS"
  Y1phbp2         = "YR1:PREV HYPERTENSION PHYSIOLOGICAL"
  Y1shbp          = "YR1:ISOLATED SYSTOLIC HTN"
  Y1pdepr1        = "YR1:PREV DEPRESSION S-R/MEDS(NOT CES-D)"
  Y1pdepr2        = "YR1:AT RISK FOR DEPRESSION (CES-D GE 16)"
  Y1pdepr3        = "YR1:AT RISK FOR DEPRESSION (CES-D GE 20)"
  Y1pdepr4        = "YR1:AT RISK FOR DEPRESSION (CES-D10 GE 10)"
  Y1ppulcd        = "YR1:PREV CLINICAL PULMONARY DISEASE"
  Y1pgibld        = "YR1:PREV GI BLEED"
  Y1pulcer        = "YR1:PREV STOMACH/DUODENAL ULCER"
  Y1pgalls        = "YR1:PREV GALLSTONES"
  Y1pherni        = "YR1:PREV ABDOMINAL WALL HERNIA"
  Y1auasi         = "YR1:AUASI(PROSTATE DISEASE SYMPTOMS)"
  Y1pprost        = "YR1:PREV BENIGN PROSTATIC HYPERPLASIA"

```

```

PrevDzCodeCorrected20160609.sas
Y1prost2      = "YR1:AT RISK FOR BPH"
Y1ppscat      = "YR1:AUASI CAT"
Y1pcancr      = "YR1:PREV CANCER"
Y1pcanany     = "YR1:PREV CANCER INCL HCFA, EXCL SKIN CA"
Y1pcanprs     = "YR1:PREV PROSTATE CANCER INCL HCFA"
Y1pcanbrst    = "YR1:PREV BREAST CANCER INCL HCFA"
Y1pcancoln    = "YR1:PREV COLON CANCER INCL HCFA"
Y1pcanlung    = "YR1:PREV LUNG CANCER INCL HCFA"
Y1postp1      = "YR1:PREV CLINICAL OSTEOPOROSIS"
Y1ostbmd      = "YR1:HIP BMD T SCORE < -2.5"
Y1ulctyp      = "YR1:PREV ULCER TYPE"
Y1pdiab1      = "YR1:PREV CLIN DIABETES, SELF-RPT OR MEDS"
Y1adaepi      = "YR1:PREV GLUCOSE INTOLERANCE (FG CRITER)"
Y1ada2h       = "YR1:PREV GLUCOSE INTOLERANCE(FG+OGTT CR)" ;

*Add formats;
format Y1pfcat                      PFTFMT.
      Y1pchd2                      QQSFMT.
      Y1phbp2                       HTNFMT.
      Y1prost                      PROSTFMT.
      Y1ppscat                      AUASIFMT.
      Y1ulctyp                      ULCERFMT.
      Y1pdepr2  Y1pdepr3  Y1pdepr4  Y1prost2  RISKFMT.
      Y1pulcd                        RPTTRTF.
      Y1poakn  Y1poahip  Y1poahnd  Y1poaoth  OAFMT.

      Y1pchd1  Y1pchd3  Y1pchf  Y1pcbvd  Y1pcvd
      Y1pcancr  Y1pulcer  Y1postp1        PREVDZF.

      Y1pcanany  Y1pcanprs  Y1pcanbrst
      Y1pcancoln  Y1pcanlung        PREV2DZ.

      Y1pdepr1  DEPRFMT.

      Y1phbp1   HTN1PREV.

      Y1ppad    Y1pdiab1  Y1pgibld
      Y1pgalls Y1pherni  Y1ostbmd  Y1shbp    YNFMT.

      Y1adaepi                      DMEPIFMT.
      Y1ada2h                       DM2HFMT.           ;
*Rename to all upper case, to match documentation*;
rename Y1pfcat      = Y1PFTCAT
      Y1pchd1      = Y1PCHD1
      Y1pchd2      = Y1PCHD2
      Y1pchd3      = Y1PCHD3
      Y1pchf       = Y1PCHF

```

```

                                PrevDzCodeCorrected20160609.sas
Y1pcbd      = Y1PCBD
Y1pcvd      = Y1PCVD
Y1ppad      = Y1PPAD
Y1poakn     = Y1POAKN
Y1poahip    = Y1POAHIP
Y1poahnd    = Y1POAHND
Y1poaoth    = Y1POAOATH
Y1phbp1     = Y1PHBP1
Y1phbp2     = Y1PHBP2
Y1shbp      = Y1SHBP
Y1pdepr1    = Y1PDEPR1
Y1pdepr2    = Y1PDEPR2
Y1pdepr3    = Y1PDEPR3
Y1pdepr4    = Y1PDEPR4
Y1ppulcd   = Y1PPULCD
Y1pgibld   = Y1PGIBLD
Y1pulcer    = Y1PULCER
Y1pgalls   = Y1PGALLS
Y1pherni    = Y1PHERNI
Y1auasi     = Y1AUASI
Y1pprost    = Y1PROST
Y1prost2    = Y1PROST2
Y1ppscat    = Y1PPSCAT
Y1pcancr   = Y1PCANCR
Y1pcanAny  = Y1PCANANY
Y1pcanprs  = Y1PCANPRS
Y1pcanbrst = Y1PCANBRST
Y1pcancoln = Y1PCANCOLN
Y1pcanlung = Y1PCANLUNG
Y1postp1   = Y1POSTP1
Y1ostbmd   = Y1OSTBMD
Y1ulctyp   = Y1ULCTYP
Y1pdiab1   = Y1PDIAB1
Y1adAepi   = Y1ADAEP
Y1ada2h    = Y1ADA2H      ;
run;
*--- compare new y1prevdz to previous (current).;
%macro testmode;
%if &_progpath=M:\VSS_HABC %then %do;
  data new;
    set Y1PREVDZ0;
    *keep habcid Y1adaepi Y1ada2h Y1METSYN Y1METSNO Y1METSHD Y1METSTG Y1METSGL
Y1METSAB Y1METSBP;
  run;
  data current;
    set current.previncdz;
    keep habcid Y1adaepi Y1ada2h Y1pdiab1 Y1METSYN Y1METSNO Y1METSHD Y1METSTG
Y1METSGL Y1METSAB Y1METSBP;

```

```

          PrevDzCodeCorrected20160609.sas
      rename Y1adaepi=Y1adaepi_o Y1ada2h=Y1ada2h_o Y1pdiab1=Y1pdiab1_o
      Y1METSYN=Y1METSYN_o Y1METSNO=Y1METSNO_o Y1METSHD=Y1METSHD_o
Y1METSTG=Y1METSTG_o Y1METSGL=Y1METSGL_o Y1METSAB=Y1METSAB_o Y1METSBP=Y1METSBP_o;
run;
data compare;
merge new(in=n) current(in=o);
by habcid;
run;
title 'Compare New y1prevdz vs Current';
proc freq data=compare;
tables Y1adaepi*Y1adaepi_o Y1ada2h*Y1ada2h_o Y1METSYN*Y1METSYN_o
Y1METSNO*Y1METSNO_o Y1METSHD*Y1METSHD_o Y1METSTG*Y1METSTG_o Y1METSGL*Y1METSGL_o
Y1METSAB*Y1METSAB_o Y1METSBP*Y1METSBP_o / list missing;
run;
title2 'Y1adaepi^=Y1adaepi_o or Y1ada2h^=Y1ada2h_o or Y1METSYN^=Y1METSYN_o or
Y1METSGL^=Y1METSGL_o';
proc print data=compare(where=(Y1adaepi^=Y1adaepi_o or Y1ada2h^=Y1ada2h_o or
Y1METSYN^=Y1METSYN_o or Y1METSGL^=Y1METSGL_o));
by habcid;
id habcid;
var Y1adaepi Y1adaepi_o Y1ada2h Y1ada2h_o Y1METSYN Y1METSYN_o Y1METSGL
Y1METSGL_o Y1pdiab1 Y1pdiab1_o
drawflag1 rt1fast p1fast fast8glu1 glucose1 hr2gluc1 hr_gluc1; /* fast8hdl1
hdl1 fast8trig1 triglyc1;
format Y1adaepi Y1adaepi_o Y1ada2h Y1ada2h_o Y1METSYN Y1METSYN_o Y1METSGL
Y1METSGL_o Y1pdiab1 Y1pdiab1_o
drawflag1 rt1fast p1fast fast8glu1 glucose1 hr2gluc1 hr_gluc1; /* fast8hdl1
hdl1 fast8trig1 triglyc1;
run;
data lsgdiab;
set current.Y1screen(keep=habcid lsgdiab where=(habcid in
(1012,1586,2628,5063,5284,5580,6519)));
run;
title 'lsgdiab';
proc print data=lsgdiab;
by habcid;
id habcid;
var lsgdiab;
run;
*-- Year 1 medication data;
data Y1dibdrg;
set current.Y1rxcalc(keep=habcid Y1dibdrg where=(habcid in
(1012,1586,2628,5063,5284,5580,6519)));
run;
title 'Y1dibdrg';
proc print data=Y1dibdrg;
by habcid;
id habcid;

```

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```

var Y1dibdrg;
run;
%end;
%mend testmode;
*--- compare new y1prevdz to previous (current).;
*%testmode;

data Y1prevdz;
*(drop=gender cv1age race
mhcscabg mhcsaca mhhchami mhhcapcp mhhchbp mhcssurg
mhhcchf mhhcicpl mhcsbpal mhcsalea mhlcasth
mhlcscha mhlccchbr mhlcschcb mhlcemph mhlcccopd
lsgdiab lbomdepr lsgblsi lsgulcr lsgugui
lsgupen lsggall lbomsurg lsguloc
mhchmgmt mhchpr mhchbs mhchlu mhchco mhchsc
mhchbd mhchbl mhchbo mhchbr mhchcv mhchen mhchho
mhchlv mhchly mhchmn mhchov mhchpa mhchst mhchth mhchot
mhhctia mhhccva mhcsdesc
lburneb lbu2hrs lbustst lbuspost lbusweak
lbuspush lbusgetup lbutreat lbutem lbusenpr
pqosdiag pqosbr45 pqosfrv pqajarath pqajarda
pqajknee pqajhip pqajhand pqajkp30 pqajkp12
pqajkmd pqajh30d pqajh12m pqajwr30 pqajwr12
pqajft30 pqajsh12 pqajnp30 pqajbp12 pqajbpsv
lpfbothr lpfeat lpfblues lpfgood lpfmind
lpfdown lpfeffrt lpfhope lpffail lpffear
lpfsleep lpfhappy lpftalk lpflone lpfunfr
lpfenjoy lpfcry lpfsad lpfdisme lpfnogo
mhcslpup mhcsplls mhcslgpn mhcslpss
mhcsstst mhcslpvc mhcsppup mhcspls
mhcschpn mhcswalk mhcsstil mhcsrel
mhcsplloc
heightcm predfev1 predfvc sysbp diabp qwvab
bes_fev1 bes_fvc scn_fev1 scn_fvc trd_fev1
trd_fvc qcfcv1 qcfcv htobmd q_ant q_inf q_lat q_post
vent_def ppfev1 ppfvc
drawflag1 fast8glu1 glucose1 hr2gluc1 hr_gluc1 fast8hdl1 hdl1 fast8trig1
triglycer1
llnfev1r llnfvc p2sh
Y1lgfev1 Y1lgfvc auasi1-auasi7 ces_d fev1r
p4inhle2 p4inhale rt1fast p1fast p4beta pmiss
Y1dibdrg Y1cargly Y1candrg Y1ostdrg Y1prsdr
Y1orster Y1antang Y1chfvas Y1chfdiu
Y1depdrg Y1hbpdrg Y1puldr
Y1crasth Y1crbron
botherca bcolonca blungca bbreaca bprosca buppgica bhmelan
bhpcta bbypass bminf bangina bstroke
potherca pcolonca plungca pbreaca pprosca puppgica phmelan

```

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```

phpcta pmi pangina pstroke p3abi );
set y1prevdz0(keep=HABCID
Y1PFTCAT
Y1PCHD1
Y1PCHD2
Y1PCHD3
Y1PCHF
Y1PCBVD
Y1PCVD
Y1PPAD
Y1POAKN
Y1POAHIP
Y1POAHND
Y1POAOATH
Y1PHBP1
Y1PHBP2
Y1SHBP
Y1PDEPR1
Y1PDEPR2
Y1PDEPR3
Y1PDEPR4
Y1PPULCD
Y1PGIBLD
Y1PULCER
Y1PGALLS
Y1PHERNI
Y1AUASI
Y1PPROST
Y1PROST2
Y1PPSCAT
Y1PCANCR
Y1PCANANY
Y1PCANPRS
Y1PCANBRST
Y1PCANCOLN
Y1PCANLUNG
Y1POSTP1
Y1OSTBMD
Y1ULCTYP
Y1PDIAB1
Y1ADAEP1
Y1ADA2H
Y1METSYN Y1METSNO Y1METSHD Y1METSTG Y1METSGL Y1METS8YN Y1METS8NO Y1METS8TG
Y1METS8GL Y1METSAB Y1METSBP
);
run;
/*
title 'final New y1prevdz';

```

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```
proc contents data=y1prevdz;
run;
proc freq data=y1prevdz;
  tables Y1ADAEPI Y1ADA2H / missing;
run;
*/
```