

# KENPHIA 2018

## Data Use Manual Supplement





MINISTRY OF HEALTH



The Council of Governors  
48 Governments, 1 Nation



## KENPHIA 2018 Collaborating Institutions

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## Abbreviations

ART	Antiretroviral Therapy
ARV	Antiretroviral
CAP/CTM	COBAS AmpliPrep/COBAS Taqman HIV-1 Qualitative Test
CI	Confidence Interval
CONSORT	Consolidated Standard of Reporting Trials
DHS	Demographic and Health Surveys
DNA	Deoxyribonucleic Acid
EA	Enumeration Area
EID	Early Infant Diagnosis
HIV	Human Immunodeficiency Virus
ID	Identification
LAg-EIA	Limiting-Antigen Avidity Enzyme Immunoassay
KENPHIA	Kenya Population-based HIV Impact Assessment
OVC	Orphans and Vulnerable Children
PCA	Principal Components Analysis
PCR	Polymerase Chain Reaction
PHIA	Population-based HIV Impact Assessment

# I. Background

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## 1. What is KENPHIA 2018?

The Kenya Population-based HIV Impact Assessment 2018 (KENPHIA 2018) is a cross-sectional household-based survey conducted in Kenya. KENPHIA 2018 is part of the PHIA Project, a series of population-based surveys, which are designed to assess the burden of HIV disease and impact of the health sector response to national HIV epidemics. PHIA surveys are being conducted in 15 countries.

## 2. Purpose of the KENPHIA 2018 Data Use Manual Supplement

The purpose of the *KENPHIA 2018 Data Use Manual Supplement* (hereafter, *Manual Supplement*) is to accompany the *PHIA Data Use Manual*, which contains information on PHIA data generally applicable to all PHIA surveys, including an overview of the PHIA Project, PHIA survey design and sampling, measures, and a guide for users on how to access and use PHIA data. This *Manual Supplement* contains KENPHIA 2018 survey specifications, including survey-specific eligibility criteria, sampling approaches and measures. A summary of KENPHIA 2018 findings can be found in the *KENPHIA 2018 Preliminary Report*.

## 3. Other documentation and resources

In addition to this *Manual Supplement*, users should refer to the *PHIA Data Use Manual* for general information on PHIA data, as well as other survey-specific documentation including:

- **Survey Questionnaires:** Three questionnaires are provided, the KENPHIA 2018 household, adult and adolescent questionnaires. These questionnaires illustrate the questionnaire's structure, including the order that the questions were asked, each question's wording, variable names and labels, value coding and labels, and skip patterns.
- **Codebooks:** Codebooks are provided for each dataset, indicating all variables contained within. These codebooks document each variable's name, category (i.e., the questionnaire module or source data of the variable), label (i.e., question wording or other label), type (e.g., integer, select one, select multiple, free text, and date/time) and coding values and labels.
- **Variable Frequencies:** Variable frequencies are provided, which contain frequencies of all categorical variables in each dataset.
- **CONSORT Diagrams:** CONSORT (CONSolidated Standard Of Reporting Trials) style diagrams define key analytic variables that combine sets of source variables. A list of CONSORT Diagrams is provided at the end of this *Manual Supplement*.
- **KENPHIA 2018 Sampling and Weighting Technical Report:** Technical details of KENPHIA 2018 sampling and weighting procedures are provided in deeper detail.
- **KENPHIA 2018 Preliminary Report:** KENPHIA 2018 data has been published and provided on the website "[Resources](#)" page. The *KENPHIA 2018 Preliminary Report* contains detailed descriptions of survey data collection procedures, establishing participation by the household head, procedures for individual consent, maintaining confidentiality during data collection and testing procedures, procedures for returning/obtaining test results, and referral for or direct linkage to services.

## II. KENPHIA 2018 survey specifications

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### 1. Survey design and data collection

Survey design characteristics	Description
Survey design	
Data source for survey weighting <sup>1</sup>	2009 Kenya Census
Sampling stratum	County
Primary sampling unit	Census Enumeration Areas (EA)
Urban/rural categorization	Urban/rural
Survey administration	
Data collection dates	May 2018 – February 2019
Languages	English, Kiswahili, Kikuyu, Luo, Luhya, Kalenjin, Kisii, Maasai, Miji, Kenda, Meru, Embu, Somali, Borana, Turkana, Kamba, Pokot
Sample size <sup>2</sup>	
Number of selected EAs	800
Household respondents	16,918
Individual interviews	
Adults (15-64 years)	30,384
Adolescents (10-14 years)	2,687
Children (0-9 years) <sup>3</sup>	6,203
Biomarker test participants	
Adults (15-64 years)	27,745
Adolescents (10-14 years)	2,561
Children (0-9 years)	5,304

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<sup>1</sup> See [KENPHIA 2018 Sampling and Weighting Technical Report](#) for more details on survey weighting approach.

<sup>2</sup> See [KENPHIA 2018 Preliminary Report](#) for response rates.

<sup>3</sup> Individual interview data for children (0-9 years) is provided by the child's parent/guardian.

## 2. Survey questionnaires

In participating households, a household questionnaire is administered to the household head. Then, individual questionnaires are administered to eligible and consenting individuals in the household. Adults (15-64 years) complete an adult questionnaire, and adolescents (10-14 years) complete an adolescent questionnaire. Adults also provide data on their children (0-14 years) as part of the “children” module of the adult questionnaire. Emancipated minors (defined in Kenya as an individual ages 15-17 who is married, a parent, pregnant, or engaged in behavior that puts him or her at risk for contracting HIV) may complete the household questionnaire as the household head. As for other participants, their age determined whether they complete the adult questionnaire (15-64) or not. Modules included in each questionnaire and their associated eligibility criteria are listed in the table below. The content and order of each module may differ between KENPHIA 2018 and other PHIA surveys. Users can refer to each PHIA survey’s **Survey Questionnaires**, **Codebooks** and **Manual Supplements**.

Questionnaire module	Eligibility criteria
<i>Household questionnaire</i>	Sample of households within selected EAs
Household roster	
Household roster for minors	
Sickness	
Household spouses/live-in partners	
Support for orphans and vulnerable children (OVC)	
Deaths	
Household characteristics	
Economic support	
<i>Individual questionnaire – adults (15-64 years)</i>	All rostered <sup>1</sup> and consenting adults
Respondent background	
Marriage	
Reproductive history	All women
Children	Parents or guardians of children or adolescents (0-14 years) in the household provide information pertaining to the child <sup>2</sup>
Male circumcision	All men
Sexual activity	
Social norms, intention to abstain, self-efficacy, and assertiveness	Age 19 and under
HIV/ AIDS Knowledge and Attitudes	
HIV Prevention	
HIV Testing	
Attitudes Toward HIV Disclosure	
HIV status, care and treatment	All self-reporting HIV-positive adults
Tuberculosis and other health issues	
Gender norms	
Alcohol Use	
Blood and Injection Safety	
Violence	One woman age 15-64 in the household, or in child-flagged households, one female adolescent age 13-14 or one women age 15-64, with adolescents having double the chance of being selected
<i>Individual questionnaire – adolescents (10-14 years)</i>	All rostered <sup>1</sup> and consenting adolescents in every third household (33%)
Sociodemographic characteristics	
HIV knowledge	All adolescents
Sexual behavior	
Social norms, intention to abstain, self-efficacy and assertiveness	
HIV risk perceptions	

HIV knowledge  
 HIV testing  
 Alcohol and drugs  
 Violence

One female adolescent 13-14 in child flagged households<sup>3</sup>

<sup>1</sup> Household members are eligible to be rostered if they were confirmed to have slept in the household the night before the interview.

<sup>2</sup> Data provided by parents or guardians in the “children” module may be provided on children in households not flagged for child data collection.

## Data Cleaning

Best practices in questionnaire design and interviewer training are followed in the PHIA's to minimize the amount of incorrect or out of range data entered into the questionnaire. With the Open Data Kit software, there are technical limitations to the number of constraints that can be programmed. The following data cleaning rules were applied to correct for known data issues:

- When a month, day, and year provided resulted in a date that does not exist (e.g., February 31<sup>st</sup>) the date variables were blanked out.
- Dates for events such as the respondents last HIV test or first-time taking ART that occurred after the survey start date were set to blank.
- Men with a marital status of married or living together (curmar = 1, 2) who reported no wives/partners (numwif = 0) had number of wives/partners set to blank.
- Age at first sex and age at marriage of less than five were set to blank.
- If respondents reported more sex partners in the past 12 months than in their lifetime, the number of partners in their lifetime was assigned to -7.
- Women who reported one or more pregnancies (pregnum > 0) that also reported never having sex (firstsexagedk=96) were considered to have had sex (sexever = 1) with age at first sex “out of range” (firstsexagedk = -7).
- Women who delivered a child within the past 3 months and reported no sexual partners in the past year were considered to have had sex in the past 12 months (sex12months = 1), with number of partners in the past 12 months “out of range” (part12monum = -7).
- Women who reported giving birth to more than ten children in the past three years (childa2012 > 10), had childa2012 set to -7. Reports of more than 40 live births in one’s lifetime were considered out of range (liveb = -7).
- Children with age in months greater than or equal to 60 (5 years) had their age in months (agem) set to missing. Users should use age in years (age) for these individuals.

The following values were also considered erroneous or out of range and set to missing.

### Erroneous values cleaned from KENPHIA 2018

Dataset(s)	Variable	Value(s)
Adult individual	birthyr1	1981, 1990, 1993, 1994, 1995, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013
Adult individual	birthyr2*	1998, 2002, 2009, 2013
Adult individual	birthyr3*	2000
Adult individual	birthyr4*	2007
Adult individual	birthyr5*	2012

**Erroneous values cleaned from KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Value(s)</b>
Adult individual	blddntnum	2013, 2017, 36
Adult individual	deathageyr1*	12, 6, 7
Adult individual	hivpsntlnm	-2
Adult individual	hivtesty	1986
Adult individual	partage1	1, 2, 3
Adult individual	partage3	2
Child individual	ch_birthy	1993, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013
Child individual	ch_kidhivtesty	1998, 2001, 2002, 2003
Child individual	momhivpsntlnm	-2
Child individual	momprgnmvsts	0

\* Variable ultimately redacted due to small counts.

### 3. Biomarker testing

In KENPHIA 2018, biomarker testing is offered to all rostered and consenting adults (15+ years). In every third selected household per EA, it is also offered to all children (0-14 years) whose guardians provided consent. Eligibility criteria for receiving tests for specific biomarkers are provided in the table below.

<b>Biomarker</b>	<b>Eligibility criteria</b>
HIV serostatus <sup>1</sup>	All participants
Recency of HIV infection <sup>2</sup>	All HIV+ individuals 18 months or older
HIV RNA viral load	All HIV+ individuals
Antiretroviral (ARV) drug presence	All HIV+ individuals
ARV drug resistance <sup>3</sup>	All HIV+ individuals with recent infection
Syphilis	All HIV+ individuals and 5% of HIV- individuals 15-64 years old
Hepatitis B	All HIV+ individuals and 5% of HIV- individuals 15-64 years old

<sup>1</sup> See HIV testing algorithm below.

<sup>2</sup> Recency of HIV infection is determined via a combination of Limiting Antigen Enzyme (LAG-Avidity) Immunoassay, viral load and ARV results. See “New HIV infections and annual HIV incidence” under *Section IV. Guide to Analysis* in the **PHIA Data Use Manual**.

<sup>3</sup> ARV drug resistance data have been reported in some **PHIA Publications**, but are not currently available for download. These data may be available with a future release.

#### **KENPHIA 2018 HIV testing algorithm**

For participants 18 months of age or over, initial household-based HIV testing was performed with the national HIV testing algorithm using three HIV rapid tests. Individuals with a nonreactive result on an initial HIV rapid screening test (Alere Determine™ HIV-1/2 Ag/Ab) were classified as HIV-negative. Individuals with a reactive screening test underwent confirmatory testing using the Uni-Gold rapid HIV test (First Response® HIV 1-2.0 HIV Card Test). Individuals with a reactive screening test result followed by a non-reactive confirmatory test result were retested in parallel in the field. If results were repeatedly discordant (HIV-indeterminate), individuals were tested on DNA qualitative polymerase chain reaction (PCR) test (Roche COBAS AmpliPrep/COBAS Taqman (CAP/CTM) HIV-1 Qualitative Test) to obtain a final HIV serostatus, per national guidelines. Individuals with reactive results on both tests were classified as HIV-positive.

All HIV-positive and HIV-indeterminate individuals identified in the field received confirmatory testing in satellite laboratory using the BioRad Geenius™ HIV 1/2 Supplemental Assay. Individuals who self-reported being HIV-positive but tested HIV-negative received additional laboratory-based HIV testing via DNA qualitative polymerase chain reaction (PCR) test (Roche COBAS AmpliPrep/COBAS Taqman (CAP/CTM) HIV-1 Qualitative Test).

Infants under 18 months of age were only tested using the screening test (Determine) in the household. Infants with a reactive screening test (Determine) or with HIV-positive or HIV-indeterminate mothers, or mothers with unknown HIV status according to survey results, were tested on GeneXpert and DNA qualitative polymerase chain reaction (PCR) test (Roche COBAS AmpliPrep/COBAS Taqman (CAP/CTM) HIV-1 Qualitative Test).

Participants were allowed to decline to be tested in the household (“Decliners”) while still receiving HIV testing. All household-based testing described above was instead run in the Satellite lab for the decliners.

## 4. Data Confidentiality

As noted in the *PHIA Data Use Manual*, various risk mitigation actions were used to protect the privacy and confidentiality of respondents in the public use data. Some of these actions apply to all PHIA surveys, while other actions are data-driven decisions that are motivated by various risk disclosure concerns in specific surveys. These concerns include small counts as a result of certain combinations of variables and values which may introduce individual disclosure risk concerns. This section outlines the variables that have been identified for disclosure risk remediation and the specific data action taken to address the risk concern.

The following date variables were redacted for all PHIA surveys prior to public release:

### Date variables redacted for all PHIA surveys

Dataset(s)	Variable	Description
Household	dieddated_01- dieddated_06	Day of death for deceased household member 1-4
Household	dieddatem1-dieddatem6	Month of death for deceased household member 1-6
Adult individual	surveystday	Survey start day
Adult individual	birthday	Birth date (day)
Adult individual	birthmon	Birth date (month)
Child individual	surveystday	Survey start day
Child individual	ch_birthday	Birth date (day)
Child individual	ch_birthmon	Birth date (month)

Top-coding is the process of re-coding values above an upper bound to the value of the upper bound. Age for all respondents was top coded at 80. There was also top-coding to collapse small counts with nearby values, in which the data were re-coded so that the highest category contains at least 25 cases. Variables that underwent top-coding are listed below:

### Variables that underwent top-coding, KENPHIA 2018

Dataset(s)	Variable	Top-coding upper bound
Household	diedage1- diedage5	80
Household	roomsleep	5
Household	toiletsharenun	96 - 9 or more households
Adult individual	arvsmisdays	4
Adult individual	blddntnum	4
Adult individual	childa2012	6
Adult individual	cmplsxtimes	6
Adult individual	firstsxage	30
Adult individual	frcsxage	30
Adult individual	frcsxtimes	6
Adult individual	hivcly	2018
Adult individual	hivpsntlnm	7
Adult individual	hivtsnum	7
Adult individual	husnwif	5
Adult individual	injnum	20
Adult individual	lifetimesex	20
Adult individual	mcage	30
Adult individual	medinhmonths	7
Adult individual	nprnum	2

### Variables that underwent top-coding, KENPHIA 2018

Dataset(s)	Variable	Top-coding upper bound
Adult individual	numwif	4
Adult individual	part12monum	6
Adult individual	partage1	80
Adult individual	partage2	80
Adult individual	pregnum	14
Adult individual	prgnmvsts	10
Adult individual	prssxtimes	4
Adult individual	schlhi	14
Adult individual	sptgrfreq	4
Adult individual	touchtimes	6
Adult individual	wifliveew	2
Adult individual	childbrstfddurw1	96
Child individual	ch_childbrstfddurw	96
Child individual	adcurgrd	10
Child individual	adlghiv	3
Child individual	ch_kidclass	12
Child individual	ch_kidhighlvl	12
Child individual	ch_kidhivtesty	2018
Child individual	momhivpsntlnm	7
Child individual	momhivtsnum	7
Child individual	mompregnum	10
Child individual	momprgnmvsts	10

Bottom-coding is the process of re-coding values below a lower bound to the value of the lower bound. Bottom-coding was used to collapse small counts with nearby values, in which the data were re-coded so that the bottom coded value contains at least 25 cases. Variables that underwent bottom-coding are listed below:

### Variables that underwent bottom-coding, KENPHIA 2018

Dataset	Variable(s)	Bottom-coding lower bound
Household	diedage1- diedage5	5
Adult individual	adltcurgrd	3
Adult individual	arvfty	2005
Adult individual	bldtrfnlsty	2000
Adult individual	cd4tty	2014
Adult individual	firstsxage	14
Adult individual	frcsxage	14
Adult individual	hivcfy	2004
Adult individual	hivtesty	2000
Adult individual	hivtfposy	2003
Adult individual	medinhmonths	2
Adult individual	partage1	14
Adult individual	partage2	14
Adult individual	partage3	14
Adult individual	prgnmvsts	1
Adult individual	vltlty	2017
Adult individual	childbrstfddurw1	24
Child individual	ch_childbrstfddurw	24

**Variables that underwent bottom-coding, KENPHIA 2018**

<b>Dataset</b>	<b>Variable(s)</b>	<b>Bottom-coding lower bound</b>
Child individual	adcurgrd	2
Child individual	adfrhvsx	2
Child individual	ch_kidhivtesty	2008

The following variables and values were combined with the code for “other” due to small counts or percentages:

**Variables and values collapsed in to the “other” classification, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Value(s)</b>
Household	cookingfuel	8
Household	matfloor	31, 32
Adult individual	adhivprv_i	I
Adult individual	adhivprv_l	L
Adult individual	adltaclwhr_d	D
Adult individual	adltdrugwh_c	C
Adult individual	adltdrugwh_d	D
Adult individual	adltdrugwo_b	B
Adult individual	admisreas	10, 2, 3, 4, 7
Adult individual	adnosreas	10, 2, 3, 7
Adult individual	childaltfood_e1	E
Adult individual	childaltfood_f1	F
Adult individual	childaltfood_g1	G
Adult individual	childfeed1	4
Adult individual	cmethod_b	B
Adult individual	cmethod_h	H
Adult individual	frcsxrelat	5, 6, 7, 9
Adult individual	hivcnot6mo	10, 2, 3, 4, 5, 7, 8
Adult individual	hivstathrs_e	E
Adult individual	hivstathrs_f	F
Adult individual	hivstathrs_g	G
Adult individual	hivtsnr	1, 2, 3, 6, 7
Adult individual	hivtstfutloc	11, 13, 6, 7, 9
Adult individual	hivtstlocation	13, 6, 7
Adult individual	hivwnottold_a	A
Adult individual	hivwnottold_c	C
Adult individual	hivwnottold_d	D
Adult individual	hivwnottold_e	E
Adult individual	hivwnottold_f	F
Adult individual	lastpartnerrelation12months	6, 7
Adult individual	nationality	3, 4, 7
Adult individual	nextappt	88
Adult individual	parthivnotrsn1- parthivnotrsn3	5
Adult individual	partlastsupwhat_d1- partlastsupwhat_d3	D
Adult individual	partlastsupwhat_e1- partlastsupwhat_e2	E
Adult individual	partlastsupwhat_g1- partlastsupwhat_g3	G

**Variables and values collapsed in to the “other” classification, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Value(s)</b>
Adult individual	partlastsupwhat_h1- partlastsupwhat_h3	H
Adult individual	partlastsupwhat_i1- partlastsupwhat_i3	I
Adult individual	partrelation1- partrelation3	6, 7
Adult individual	pregncr	10, 2, 3, 4, 5, 6, 7, 8, 9
Adult individual	prepwhr	2, 3, 5, 6, 7
Adult individual	recdrugevr_c	C
Adult individual	stdnotrt_e	E
Adult individual	stdtrtpresc_c	C
Adult individual	unwnsxnohp_f	F
Adult individual	unwntseek	3, 4
Adult individual	unwntsxnoh	5, 7, 8
Adult individual	wahivprv_f	F
Adult individual	wahivprv_g	G
Adult individual	whyaway	5
Child individual	adaclwo_a	A
Child individual	adaclwr_b	B
Child individual	adaclwr_c	C
Child individual	adaclwr_d	D
Child individual	adhiv_e	E
Child individual	adhiv_f	F
Child individual	adhivpr_b	B
Child individual	adhivpr_c	C
Child individual	adhivpr_d	D
Child individual	adhivpr_e	E
Child individual	adhivpr_f	F
Child individual	adhivpr_g	G
Child individual	adhivpr_k	K
Child individual	adhivpr_m	M
Child individual	adhivpr_n	N
Child individual	adhivpr_o	O
Child individual	adhivwr_b	B
Child individual	adhivwr_c	C
Child individual	adhivwr_d	D
Child individual	adhivwr_e	E
Child individual	adhivwr_f	F
Child individual	adhivwr_h	H
Child individual	admischreas	2, 4, 5, 7, 8
Child individual	admrlhiv	3, 4, 5, 6, 7
Child individual	adsxfrsn	10, 2, 3, 4, 5, 9
Child individual	ch_childaltfood_e	E
Child individual	ch_childaltfood_f	F
Child individual	ch_childaltfood_g	G
Child individual	ch_childfeed	4
Child individual	ch_kidhivwhynever_i	I

**Variables and values collapsed in to the “other” classification, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Value(s)</b>
Child individual	ch_kidhivwhynever_k	K
Child individual	ch_kidnoschl	3, 9
Child individual	langint	10, 11, 12, 15, 16, 5, 7, 9
Child individual	momhivtsnr	1, 2, 3, 6, 7
Child individual	mompregncr	10, 2, 3, 4, 5, 6, 7, 8, 9

The following variables were redacted entirely due to small counts on one or more values.

**Variables redacted due to small counts, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Description</b>
Adult individual	arvcntn	Did you continue to take the ARVs after delivery?
Adult individual	arvfvt	At the time of your first antenatal care visit when you were pregnant with [CHILD'S NAME], were you taking ARVs, that is, antiretroviral medications, to treat HIV?
Adult individual	arvrpg	What was the main reason you did not take ARVs while you were pregnant with [CHILD'S NAME]?
Adult individual	arvsnocurrsn	Can you tell me the main reason why you are not currently taking ARVs?
Adult individual	arvsnottake	What is the main reason you have never taken ARVs?
Adult individual	arvtklb	During labor, did you take ARVs to protect [CHILD'S NAME] against HIV?
Adult individual	arvtkpg	Did you take ARVs during your pregnancy with [CHILD'S NAME]?
Adult individual	bldtrfnlstd	Day (When was the last time you had a blood transfusion?)
Adult individual	childaltfood_a2	What are the reasons [CHILD'S NAME] was given food/drinks other than breast milk? A - NOT ENOUGH BREAST MILK
Adult individual	childaltfood_a3	What are the reasons [CHILD'S NAME] was given food/drinks other than breast milk? A - NOT ENOUGH BREAST MILK
Adult individual	childaltfood_b2	What are the reasons [CHILD'S NAME] was given food/drinks other than breast milk? B - BABY CRIED TOO MUCH
Adult individual	childaltfood_c2	What are the reasons [CHILD'S NAME] was given food/drinks other than breast milk? C - CULTURAL REASONS

**Variables redacted due to small counts, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Description</b>
Adult individual	childaltfood_d2	What are the reasons [CHILD'S NAME] was given food/drinks other than breast milk? D - WORK RELATED OBLIGATIONS
Adult individual	childarv1	Did [CHILD'S NAME] take any ARVs to stop [him/her] from getting HIV infection? This would be before [CHILD'S NAME] 's first HIV test.
Adult individual	childbrstfd2- childbrstfd6	Did you ever breastfeed [CHILD'S NAME]?
Adult individual	childfeed2- childfeed6	How did you feed [CHILD'S NAME] when they were 0-6 months?
Adult individual	childlive2- childlive6	Is [CHILD'S NAME] still alive?
Adult individual	childlivewith2- childlivewith6	Is [CHILD'S NAME] living with you?
Adult individual	deathagemo1- deathagemo2	How old was [CHILD'S NAME] in months when he/she died?
Adult individual	deathageyr1- deathageyr2	How old was [CHILD'S NAME] when he/she died?
Adult individual	frcxmf	Was this person whom you just indicated a male or a female?
Adult individual	hivcly	What year: (What month and year did you last see a health care worker for HIV medical care?)
Adult individual	hivcnotrsn	What is the main reason why you have never received HIV medical care from a health care worker?
Adult individual	hivrslr	What was the result of that test?
Adult individual	hivselfstconfrm	Did you confirm this HIV-positive self-test result in a facility?
Adult individual	hivstatdeniedcare	In the last 12 months, have you been denied health services including dental care, because of your HIV status?
Adult individual	id30day	Have you injected drugs with a needle and syringe in the last 30 days?
Adult individual	id30dshr	When you have injected drugs during the last 30 days, have you shared the syringe or needle with other people?
Adult individual	lngvqx	LANGUAGE OF QUESTIONNAIRE
Adult individual	newhdkrf	Please provide the reason this previous question was left blank: PLEASE ENTER THE NAME OF YOUR SPOUSE/PARTNER THAT LIVES WITH YOU.

**Variables redacted due to small counts, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Description</b>
Adult individual	offrarvs	During labor, were you offered ARVs to protect [CHILD's NAME] against HIV?
Adult individual	prepmis	People sometimes forget to take all of their drugs every day. In the last 30 days that you were on PrEP, how many days have you/did you miss taking any of your PrEP pills?
Adult individual	prepmisdk	Please provide the reason this previous question was left blank: People sometimes forget to take all of their drugs every day. In the last 30 days that you were on PrEP, how many days have you/did you miss taking any of your PrEP pills?
Adult individual	supportsocial3	Did your household receive any of this social support for kidname in the past 3 months?
Child individual	adatndsch	Have you ever attended school?
Child individual	addifpsx	In total, how many different people have you had sex with? PROMPT IF REQUIRED: "Please give your best guess."
Child individual	addifpsxdkrf	Please provide the reason this previous question was left blank: In total, how many different people have you had sex with?
Child individual	addrugs_a	What drugs have you ever tried? A - MIRAA
Child individual	addrugs_x	What drugs have you ever tried? X - OTHER (SPECIFY)
Child individual	addrugw_a	Who have you gotten drugs from? A - FRIENDS/PEERS
Child individual	addrugw_b	Who have you gotten drugs from? B - RELATIVES/FAMILY
Child individual	addrugw_x	Who have you gotten drugs from? X - OTHER (SPECIFY)
Child individual	addrugw_y	Who have you gotten drugs from? Y - DON'T KNOW
Child individual	addrwhr_a	Where have you gotten drugs from? A - HOME
Child individual	addrwhr_x	Where have you gotten drugs from? X - OTHER (SPECIFY)
Child individual	addrwhr_y	Where have you gotten drugs from? Y - DON'T KNOW

**Variables redacted due to small counts, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Description</b>
Child individual	adfpsxage	How old was the person you first had sex with? PROMPT IF REQUIRED: "Please give your best guess."
Child individual	adfpsxagedkrf	Please provide the reason the previous question was left blank HOW OLD WAS THE PERSON YOU FIRST HAD SEX WITH?
Child individual	adfrcrel	The first time you were pressured or forced to have sex, what was your relationship to the person who did this?
Child individual	adfrcscc	Has anyone ever physically forced you to have sex and did succeed?
Child individual	adfrcsxage	How old were you the first time someone physically forced you to have sex?
Child individual	adfrcsxgender	Was this person whom you just indicated a male or a female?
Child individual	adfrcsxtimes	How many times in your life has anyone ever physically forced you to have sex?
Child individual	adfsxcon	The first time you had sex, was a condom used?
Child individual	adftrel	The first time this happened, what was your relationship to the person who did this? If it was more than one person, what was your relationship with the person you knew the best?
Child individual	adhdsx_c	Have you ever had vaginal, anal or oral sex? C - ANAL
Child individual	adhdsx_d	Have you ever had vaginal, anal or oral sex? D - ORAL
Child individual	adhivdf_a	What do you find difficult about living with HIV? A - I DON'T FIND IT DIFFICULT
Child individual	adhivdf_b	What do you find difficult about living with HIV? B - ILLNESS OR MEDICINE SIDE EFFECTS
Child individual	adhivdf_f	What do you find difficult about living with HIV? F - STIGMA
Child individual	adhivdf_g	What do you find difficult about living with HIV? G - DISCLOSURE IN GENERAL
Child individual	adlstregsch	When was the last time you regularly attended school? Would you say it was less than a year ago or more than a year ago?
Child individual	adltsxcon	The last time you had sex was a condom used?

**Variables redacted due to small counts, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Description</b>
Child individual	adlvlsch	What is the highest class/form you attended?
Child individual	admatsup	Have you ever had sex with someone because he/she provided you with, or you expected that he/she would provide you with gifts, help you to pay for things or help you in other ways such as giving you food or paying for school fees?
Child individual	admlrhiv	Why do you think you have a moderate or great risk of getting HIV?
Child individual	adnoschreas	Why do you NOT go to school?
Child individual	adpreg	Have you ever been or are you currently pregnant?
Child individual	adprosv_a	From whom did you try to seek professional help or services? A - HEALTHCARE PROFESSIONAL
Child individual	adprosv_b	From whom did you try to seek professional help or services? B - POLICE OR OTHER SECURITY PERSONNEL
Child individual	adprosv_d	From whom did you try to seek professional help or services? D - RELIGIOUS LEADER
Child individual	adprosv_x	From whom did you try to seek professional help or services? X - OTHER (SPECIFY)
Child individual	adprosv_y	From whom did you try to seek professional help or services? Y - DON'T KNOW
Child individual	adprosvcevr	After any of these unwanted sexual experiences, did you try to seek professional help or services?
Child individual	adprsxsc	Has anyone ever pressured you to have sex, through harassment, threats or tricks and did succeed?
Child individual	adrsprs_a	What was the main reason that you did not try to seek professional help or services? A - DID NOT KNOW SERVICES WERE AVAILABLE
Child individual	adrsprs_c	What was the main reason that you did not try to seek professional help or services? C - AFRAID OF GETTING IN TROUBLE

**Variables redacted due to small counts, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Description</b>
Child individual	adrsprs_d	What was the main reason that you did not try to seek professional help or services? D - ASHAMED FOR SELF/FAMILY
Child individual	adrsprs_f	What was the main reason that you did not try to seek professional help or services? F - DID NOT THINK IT WAS A PROBLEM
Child individual	adrsprs_i	What was the main reason that you did not try to seek professional help or services? I - DID NOT NEED/WANT SERVICES
Child individual	adrsprs_x	What was the main reason that you did not try to seek professional help or services? X - OTHER (SPECIFY)
Child individual	adsxage	How old were you when you had sex for the first time?
Child individual	adxagkdrf	Please provide the reason the previous question was left blank: HOW OLD WERE YOU WHEN YOU HAD SEX FOR THE FIRST TIME?
Child individual	adsxdsc_a	Which of the following describes who you told about any of these unwanted sexual experience? A - PARENT / GUARDIAN
Child individual	adsxdsc_c	Which of the following describes who you told about any of these unwanted sexual experience? C - TEACHER
Child individual	adsxdsc_d	Which of the following describes who you told about any of these unwanted sexual experience? D - FRIEND/CLASSMATE
Child individual	adsxdsc_e	Which of the following describes who you told about any of these unwanted sexual experience? E - OTHER FAMILY MEMBER
Child individual	adsxdsc_f	Which of the following describes who you told about any of these unwanted sexual experience? F - RELIGIOUS LEADER
Child individual	adsxntsc	Has anyone ever tried to make you have sex against your will but did not succeed?
Child individual	adsxtell	After any of these unwanted sexual experiences, did you tell anyone about it?
Child individual	adtchwopm	Has anyone ever touched you in a sexual way without your permission, but did not try and force you to have sex?

### Variables redacted due to small counts, KENPHIA 2018

Dataset(s)	Variable	Description
Child individual	adtouchtimes	How many times has anyone ever touched you in a sexual way without your permission, but did not try and force you to have sex?
Child individual	adtrdrg	It is possible that some people in our communities use non-prescription drugs for recreation or pleasure purposes. Have you ever tried drugs?
Child individual	adtxevrhiv	Have you ever taken ARVs, that is, medicines to treat your HIV infection?
Child individual	adtxhiv	Are you currently linked and enrolled to receive HIV care from a health facility?
Child individual	adtxmis	Children sometimes miss taking their medication. For the past one month were there any days when you did not take your medications?
Child individual	ch_kidarvmiss30	People sometimes forget to take all of their ARVs every day. In the past 30 days, how many days has [CHILD'S NAME] missed taking any ARV pills?
Child individual	ch_kidarvmiss30dk	Please provide the reason this previous question was left blank: People sometimes forget to take all of their ARVs every day. In the past 30 days, how many days has [CHILD'S NAME] missed taking any ARV pills?
Child individual	ch_kidarvsfirstm	What month: (What month and year did [CHILD'S NAME] first start taking ARVs? )
Child individual	ch_kidarvsfirsty	What year: (What month and year did [CHILD'S NAME] first start taking ARVs? )
Child individual	ch_kidarvsnotrsn	Can you tell me the main reason why [CHILD'S NAME] is not currently taking ARVs?
Child individual	ch_kidarvsnvrrsn	What is the main reason [CHILD'S NAME] has never taken ARVs?
Child individual	ch_kidcd4lastm	What month: (What month and year was [CHILD'S NAME] last tested for his/her CD4 count?)
Child individual	ch_kidcd4lasty	What year: (What month and year was [CHILD'S NAME] last tested for his/her CD4 count?)
Child individual	ch_kidclasslstyr	What class/grade was [CHILD'S NAME] during the previous school year?

**Variables redacted due to small counts, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Description</b>
Child individual	ch_kidhivcare	Has [CHILD'S NAME] ever received HIV medical care from a health care worker?
Child individual	ch_kidhivcarefirstm	What month: (What month and year did [CHILD'S NAME] first see a health care worker for HIV medical care?)
Child individual	ch_kidhivcarefirsty	What year: (What month and year did [CHILD'S NAME] first see a health care worker for HIV medical care?)
Child individual	ch_kidhivcarelastm	What month: (What month and year did [CHILD'S NAME] last see a health care worker for HIV medical care?)
Child individual	ch_kidhivcarelasty	What year: (What month and year did [CHILD'S NAME] last see a health care worker for HIV medical care?)
Child individual	ch_kidhivcarelink	Has [CHILD'S NAME] currently linked and enrolled to receive HIV care from a health facility?
Child individual	ch_kidhivcarenvr	What is the main reason why [CHILD'S NAME] has never seen a health care worker for HIV medical care?
Child individual	ch_kidhivcarnumbrdk	Please provide the reason this previous question was left blank: What is [CHILD'S NAME] current HIV Clinic Number (CCC Yellow Card Number)?
Child individual	ch_kidhivnot6rsn	What is the main reason for [CHILD'S NAME] not seeing a health care worker for HIV medical care for more than 6 months?
Child individual	ch_kidiptcurr	Is [CHILD'S NAME] currently taking INH?
Child individual	ch_kidiptmonths	How many months has [CHILD'S NAME] taken INH?
Child individual	ch_kidlposm	What month: (What was the month and year of [CHILD'S NAME] 's first HIV positive test result? )
Child individual	ch_kidlposy	What year: (What was the month and year of [CHILD'S NAME] 's first HIV positive test result? )
Child individual	ch_kidseptrin	Is [CHILD'S NAME] currently taking Septrin, cotrimoxazole, or Dapsone?
Child individual	ch_kidtrttb	Was [CHILD'S NAME] ever treated for TB?
Child individual	ch_kidtrttb6motrt	The last time [CHILD'S NAME] was treated for TB, did [CHILD'S NAME] complete at least 6 months of treatment?

**Variables redacted due to small counts, KENPHIA 2018**

<b>Dataset(s)</b>	<b>Variable</b>	<b>Description</b>
Child individual	ch_kidtrtcurr	Is [CHILD'S NAME] currently on treatment for TB?
Child individual	ch_vlever	Did [CHILD'S NAME] ever have a viral load test?
Child individual	ch_vllastm	What month: (When did [CHILD'S NAME] last have a viral load test? )
Child individual	ch_vllasty	What year: (When did [CHILD'S NAME] last have a viral load test? )
Child individual	ch_vlresult	Were you told the result of [CHILD'S NAME] 's viral load test?
Child individual	emancipated	Is name emancipated?
Child individual	langadx	LANGUAGE OF QUESTIONNAIRE
Child individual	momarvcntn	Did you continue to take the ARVs after delivery?
Child individual	momarvfvt	Mothers response to the question, At the time of your first antenatal care visit when you were pregnant with this child), were you taking ARVs, that is, antiretroviral medications to treat HIV?
Child individual	momarvnrpg	What was the main reason you did not take ARVs while you were pregnant with [CHILD'S NAME] ?
Child individual	momarvtklb	Mothers response to the question, During labor, did you take ARVs to protect this child against HIV?
Child individual	momarvtkpg	Mothers response to the question, Did you take ARVs during your pregnancy with this child to stop this child from getting HIV?
Child individual	momhivrslr	Mothers response to the question, What was the result of that test? (test taken during labor)
Child individual	momoffrarvs	During labor, were you offered ARVs to protect [CHILD'S NAME] against HIV?
Child individual	sick3mo	Has name been very sick for at least 3 months during the past 12 months, that is name was too sick to work or do normal activities?

## 5. Dataset specifications

<b>Dataset (filename)</b>	<b>Number of observations</b>	<b>Number of variables</b>
Household (kenphia2018hh)	19,996	492
Adult individual (kenphia2018adultind)	42,452	1,323
Adult biomarker (kenphia2018adultbio)	31,032	813
Child individual (kenphia2018childind)	29,972	978
Child biomarker (kenphia2018childbio)	8,956	801
Household intermediary weights (kenphia2018hhintermediarywts)	19,996	386
Individual intermediary weights (kenphia2018indintermediarywts)	72,424	1,536
<b>Dataset specification</b>	<b>Description</b>	
Two-letter country code prefix for ID variables	KE	
Survey weighting variables		
No. of jackknife replicates	381	
Survey weights provided (variable prefix)	Household (hhwt) Individual interview (intwt) Blood test (btwt) Hepatitis B and Syphilis (hepbsyphwt) Child module (chmodfwt) Violence module (vmpstw)	
Selected variable parameters		
Household characteristics used for wealth index construction	<i>See next section</i>	
Mean duration recent infection used for HIV incidence estimation	130 days (95% CI 118-142 days)	

## 6. Wealth index

As described in the *PHIA Data Use Manual*, a wealth index is constructed using principal components analysis (PCA) on household characteristics and asset ownership variables that can vary by country. The table below lists the variables used to construct the wealth index for KENPHIA 2018.

Indicator variable	Type	Description
memsleep	Numeric (count)	Number of household members per sleeping room
matroof	Categorical	Dwelling roofing material
matexwalls	Categorical	Dwelling wall material
matfloor	Categorical	Dwelling floor material
toilettype	Categorical	Type of toilet used by the household
watersource	Categorical	Source of water used by the household
cookingfuel	Categorical	Type of cooking fuel used by the household
<i>For the remaining variables:</i>		<i>Does this household have/own...?</i>
econsup12_a	Binary	No external economic support
haveelect	Binary	Electricity that is connected
haveradio	Binary	A radio in working condition
haverefrig	Binary	A refrigerator in working condition
havetele	Binary	A television in working condition
havmobile	Binary	A mobile telephone
ownbike	Binary	A bicycle
owncar	Binary	A car or truck
ownmoto	Binary	A motorcycle or motor scooter
ownboat	Binary	A boat
owncattle	Binary	Cows (cattle)
owngoat	Binary	Goats or sheep
owndogs	Binary	Dogs
ownpoul	Binary	Poultry
ownother	Binary	Other animals (camels, horses, donkeys)

### Wealth scores and model performance

The first component of the PCA model is interpreted as an index of household wealth. However, it does not explain a large proportion of the total variance: it accounts for only around 6.2% of the total variance in the common model, 5.7% for the urban model, and 5.3% for the rural model. Howe et al. note that this figure is “often less than 20%”.<sup>1</sup> The results from KENPHIA 2018 are consistent with those of other DHS studies in similar settings.<sup>2,3</sup>

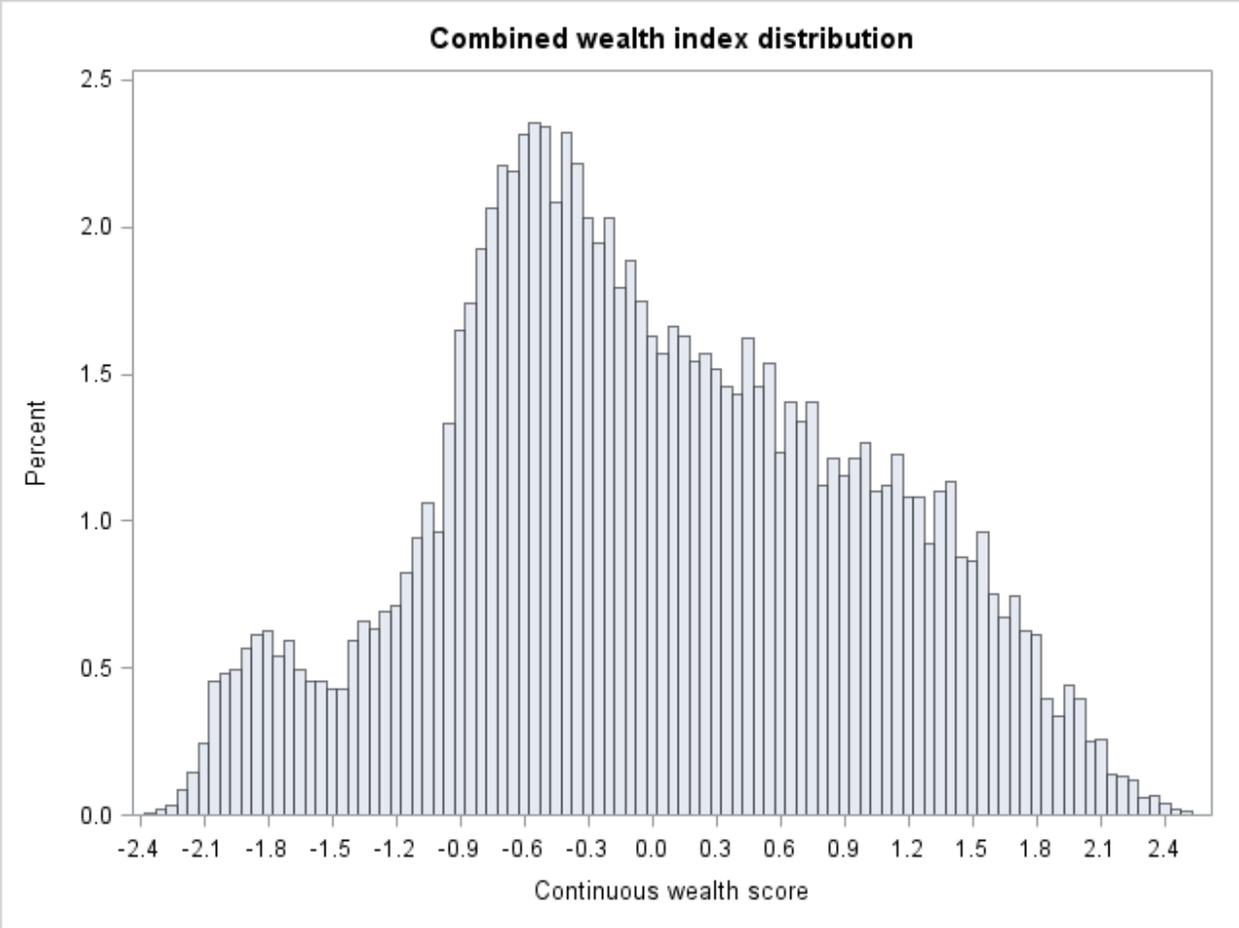
The PCA method does not guarantee the extraction of an index that is actually well-correlated with wealth, but results from the PCA can be used to check whether the interpretation of the model makes sense. The component loading for each asset variable describes the association

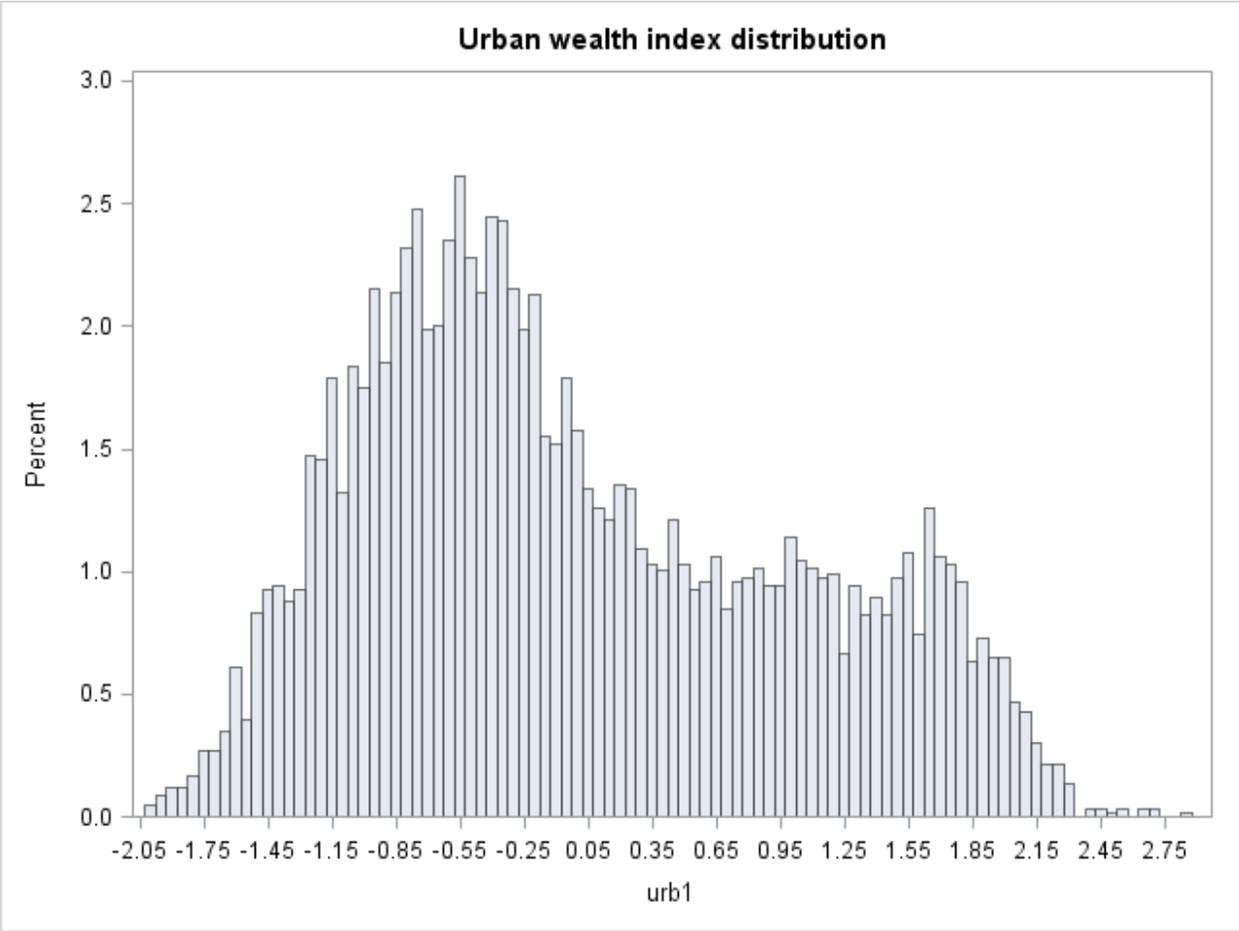
between that asset and the wealth index. The following table shows the most influential variables as measured by absolute value of their loading in each model:

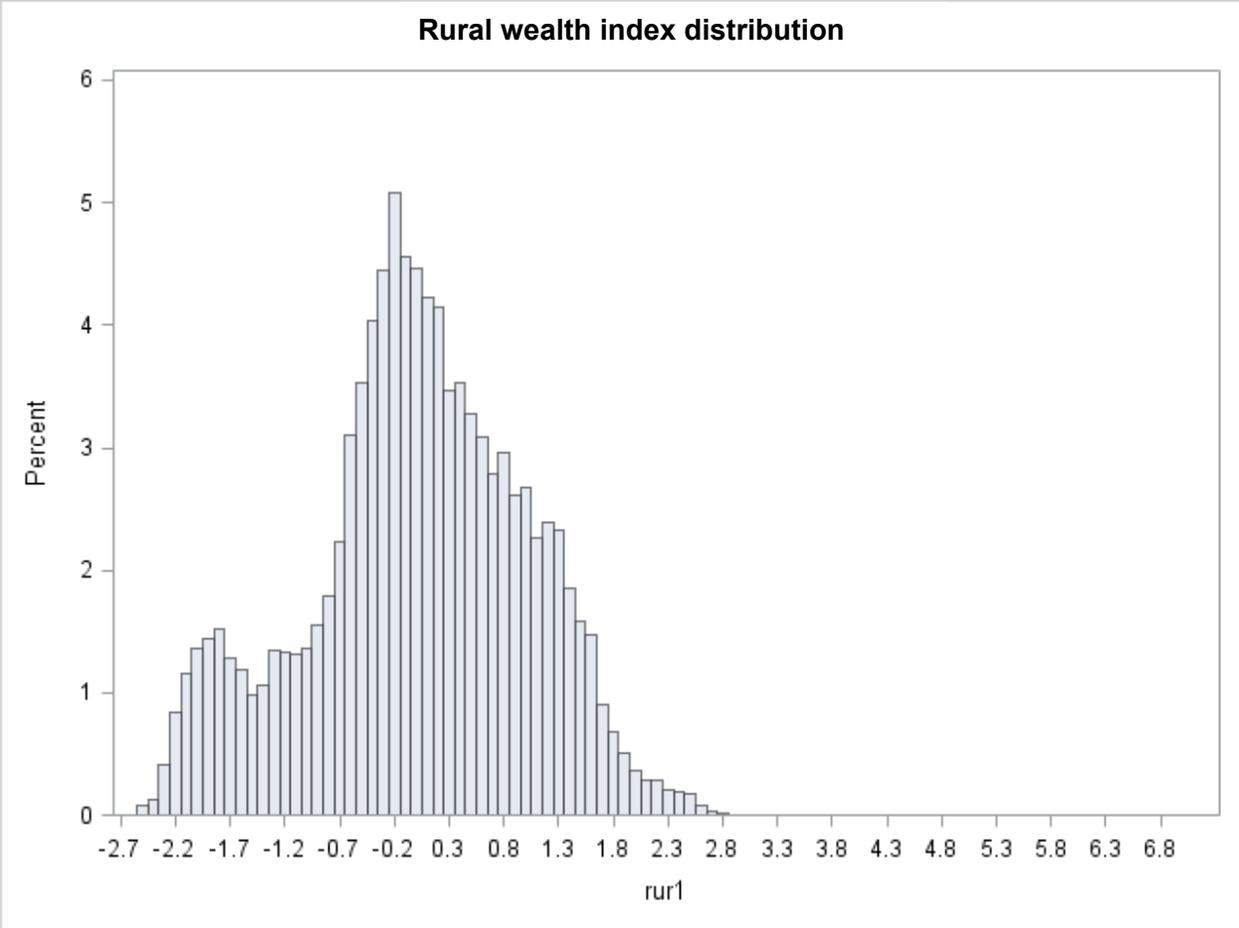
<b>Variable</b>	<b>Category</b>	<b>Component loading</b>		
		<b>Common model</b>	<b>Urban model</b>	<b>Rural model</b>
Electricity	Yes	0.67709	-0.63347	0.63782
Telephone	Yes	0.64053	-0.57333	0.61549
Floor material	Cement/terazo	0.61082	-0.43318	0.60608
Cooking fuel	Liquified petroleum gas (lpg)	0.58979	-0.59224	0.37309
Toilet type	Flush or pour flush toilet	0.56436	-0.6099	0.25191
Walls material	Stone with lime/ cement	0.4584	-0.3809	0.39116
Radio	Yes	0.40433	-0.31207	0.57203

The highest-weighted variables fall into two main categories: low-cost building materials and facilities indicating a basic level of housing; and electrical connectivity and major appliances. Note that variables with greater absolute values for component loadings have the highest influence on the final wealth score.

The distribution of wealth index values from the model is shown in the figures below, first the composite wealth index for all households, and then the urban and rural-specific wealth indices. The distribution for the composite wealth index is skewed towards households with lower wealth, with a small secondary peak towards the wealthier end of the score range.







### III. References

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1. Howe LD, Hargreaves JR, Huttly SR. Issues in the construction of wealth indices for the measurement of socio-economic position in low-income countries. *Emerg Themes Epidemiol.* 2008;5:3.(doi):10.1186/1742-7622-1185-1183.
2. Vyas S, Kumaranayake L. Constructing socio-economic status indices: how to use principal components analysis. *Health Policy Plan.* 2006;21(6):459-468. Epub 2006 Oct 2009.
3. Filmer D, Pritchett LH. Estimating wealth effects without expenditure data - or tears: An application to educational enrollments in states of India. *Demography.* 2001;38(1):115-132.

## IV. CONSORT diagrams for analytic variables

This section contains CONSORT diagrams for analytic variables provided in KENPHIA 2018 datasets. These diagrams are designed to facilitate use of analytic variables by illustrating which source variables are incorporated into each analytic variable and how participants are categorized based on data from these variables. See CONSORT diagram key on page 33.

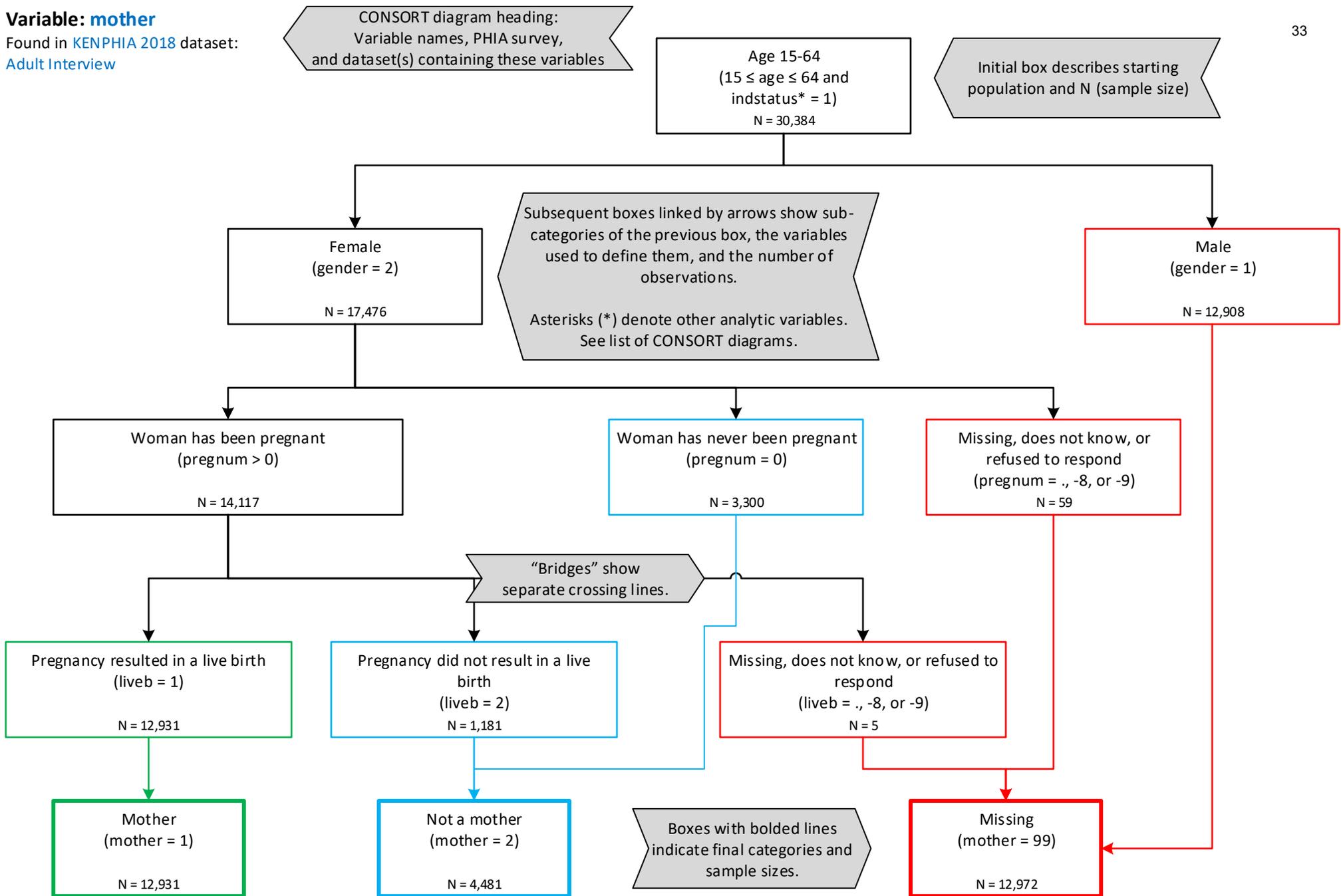
### List of CONSORT diagrams

Variable name	Description	Page
CONSORT diagram key	Example diagram showing the main elements of each diagram and how to read them	33
hhstatus	Indicator of household eligibility and response status	34
indstatus	Indicator of individual eligibility and response status	34
bt_status	Did LAB blood test have definite result?	34
hivstatusfinal	HIV-1 status: final, for survey analysis	36
vls	Indicator of whether individual has suppressed viral load	36
awareselfreported	Indicator of whether individual is self-reported as aware of their HIV seropositive status	38
known_hiv_status	Self-reported HIV status.	40
aware	Awareness combining self-report and ARV testing	42
artselfreported	Indicator of whether an adult is self-reported as on ART	44
awareartselfreported	Combined indicator of adult self-reported awareness and ART status	46
art	Indicator of whether on art combining self-report and ARV testing	48
arvstatus	Indicator of whether individual has detectable ARVs	50
artduration	Duration of time on ART	52
artinitiated12months	Indicator of whether individual initiated ART in past 12 months, among those ever reported to be on ART	54
tri90	Flag for inclusion in 90-90-90 analysis	56
tri90aware	Indicator of whether individual is aware of their HIV seropositive status, for 90-90-90 analysis	58
tri90art	Indicator of whether individual is on ART, for 90-90-90 analysis	60
tri90vls	Indicator of whether individual has suppressed viral load, for 90-90-90 analysis	62
pedawareparentreported	Indicator of whether parent is aware of child's HIV seropositive status, among children age 0-14	64
pedaware	Indicator of whether parent reports the child age 0-14 is on ART	66
pedartparentreported	Pediatric awareness combining parent-report and ARV testing	68
pedart	Indicator of whether child is on art combining parent-report and ARV testing	70
pedtri90	Flag for inclusion in pediatric 90-90-90 analysis, among children age 0-14	72
pedtri90aware	Indicator of whether parent is aware of child's HIV seropositive status, for pediatric 90-90-90 analysis	74

pedtri90art	Indicator of whether parent reports that child is on ART or that the child tested positive for ARVs, for pediatric 90-90-90 analysis	76
pedtri90vls	Indicator of whether child has suppressed viral load, for pediatric 90-90-90 analysis	78
eversyphilis	Indicator of whether an individual has ever had a syphilis infection: Treponemal reactive, Nontreponemal either reactive or nonreactive	80
activesyphilis	Indicator of whether an individual has an active syphilis infection: Treponemal and Nontreponemal reactive	81
hepb	Hepatitis B status	83
uniontype	Union type	85
educationkenya	Level of school respondent ever attended for adults	87
adeducationkenya	Level of school respondent ever attended for adolescents	89
pregnancystatus	Pregnancy status	91
testedpregnancyawaredetail	Tested for HIV during pregnancy	93
mother	Indicator of whether individual is a mother	95
delivered12months	Indicator of whether mother has given birth in past 12 months, among mothers age 15+	97
delivered3years	Indicator of whether mother has given birth in past 3 years, among mothers age 15+	99
testedreceiveddetail	Receipt of HIV testing and test results in the past 12 months	101
arvspregnancydetail	Self-reported ARV status during last pregnancy	107
hivstatuslastpregnancy	Self-reported HIV status during last pregnancy	109
breastfedlastchild	Breastfeeding status for last born child	111
anclastchild	Receipt of antenatal care during last pregnancy, among mothers who delivered in past 3 years	113
sexever	Indicator for whether individual has ever had sex	115
sex12months	Indicator for whether individual had sexual intercourse in past 12 months	117
lastpartner	Indicator of last sex partner	119
condomlastsex12months	Indicator of whether individual used a condom at last sexual encounter in past 12 months	121
lastpartnerrelation12months	Relationship status with last sex partner in past 12 months	123
lastpartnerspouselivein12months	Indicator of whether last sex partner in past 12 months was spouse or live-in partner	125
allpartnersspouselivein12months	Indicator of whether all partners in the past 12 months were a spouse or live-in partner	127
condomlastnonmaritalsex12months	Indicator of whether individual used a condom at last sexual intercourse with their last non-marital non-cohabitating partner in past 12 months	129

**Variable: mother**

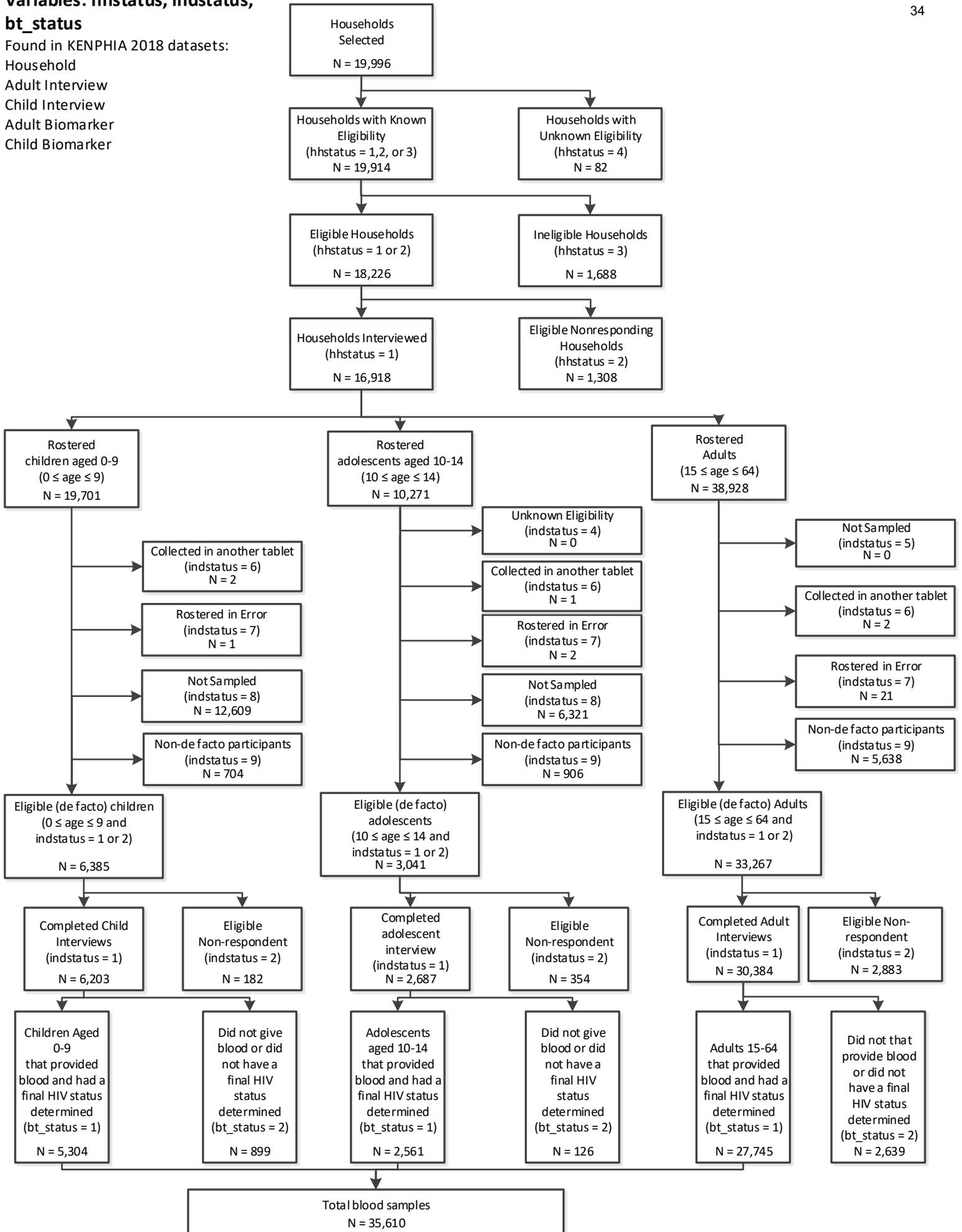
Found in **KENPHIA 2018** dataset:  
**Adult Interview**



**Variables: hhstatus, indstatus, bt\_status**

Found in KENPHIA 2018 datasets:

- Household
- Adult Interview
- Child Interview
- Adult Biomarker
- Child Biomarker



**Variables: hhstatus, indstatus, bt\_status**

Use the following KENPHIA 2018 variables:

Household dataset

hhstatus

Adult Interview dataset

age

indstatus

Child Interview dataset

age

indstatus

Adult Biomarker dataset

bt\_status

Child Biomarker dataset

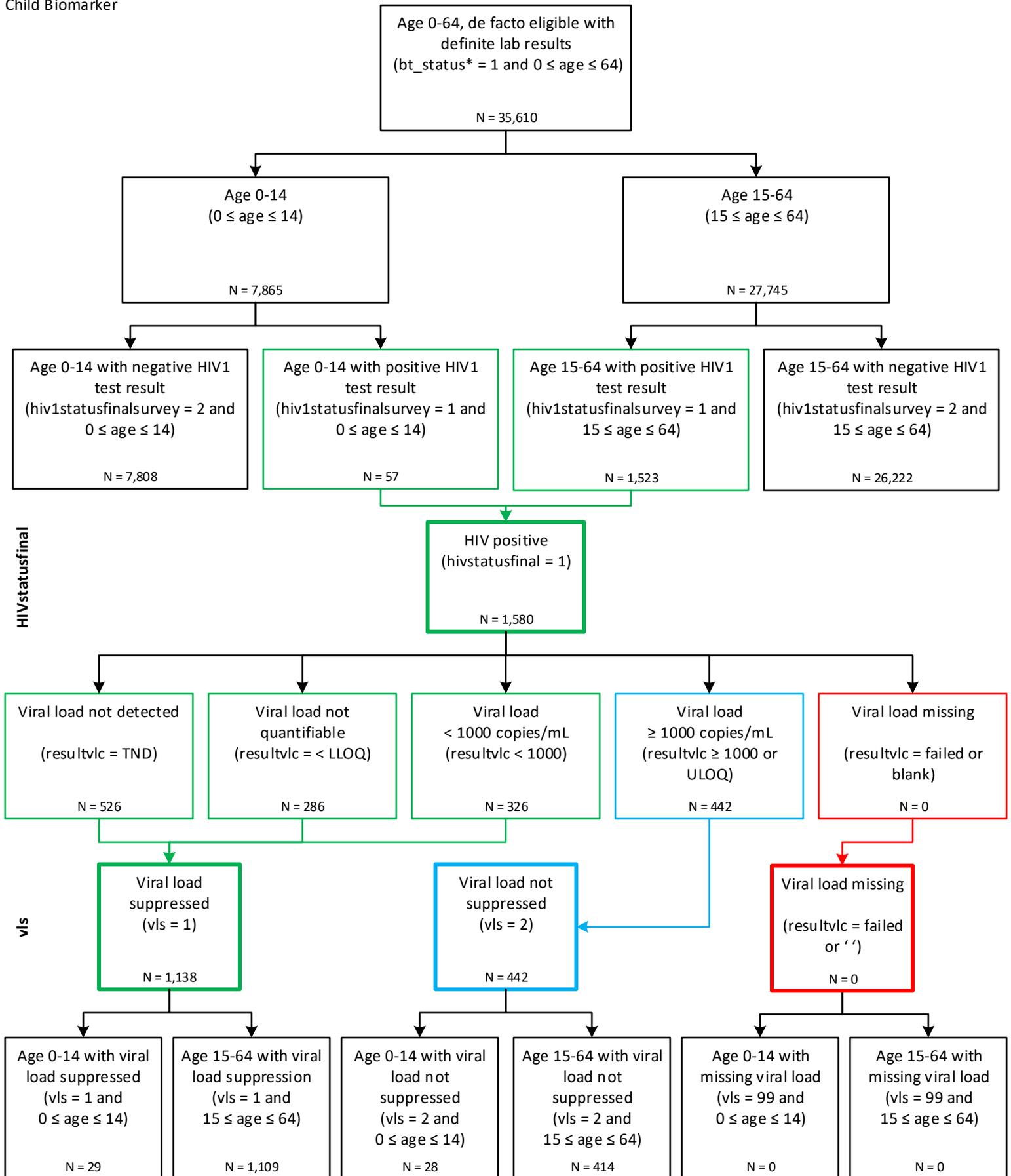
bt\_status

**Variables: hivstatusfinal, vls**

Found in KENPHIA 2018 datasets:

Adult Biomarker

Child Biomarker



**Variables: hivstatusfinal, vls**

Uses variables from KENPHIA 2018 datasets:

**Adult Biomarker**

- bt\_status
- hiv1statusfinalsurvey
- hivstatusfinal
- resultvlc
- vls
- age

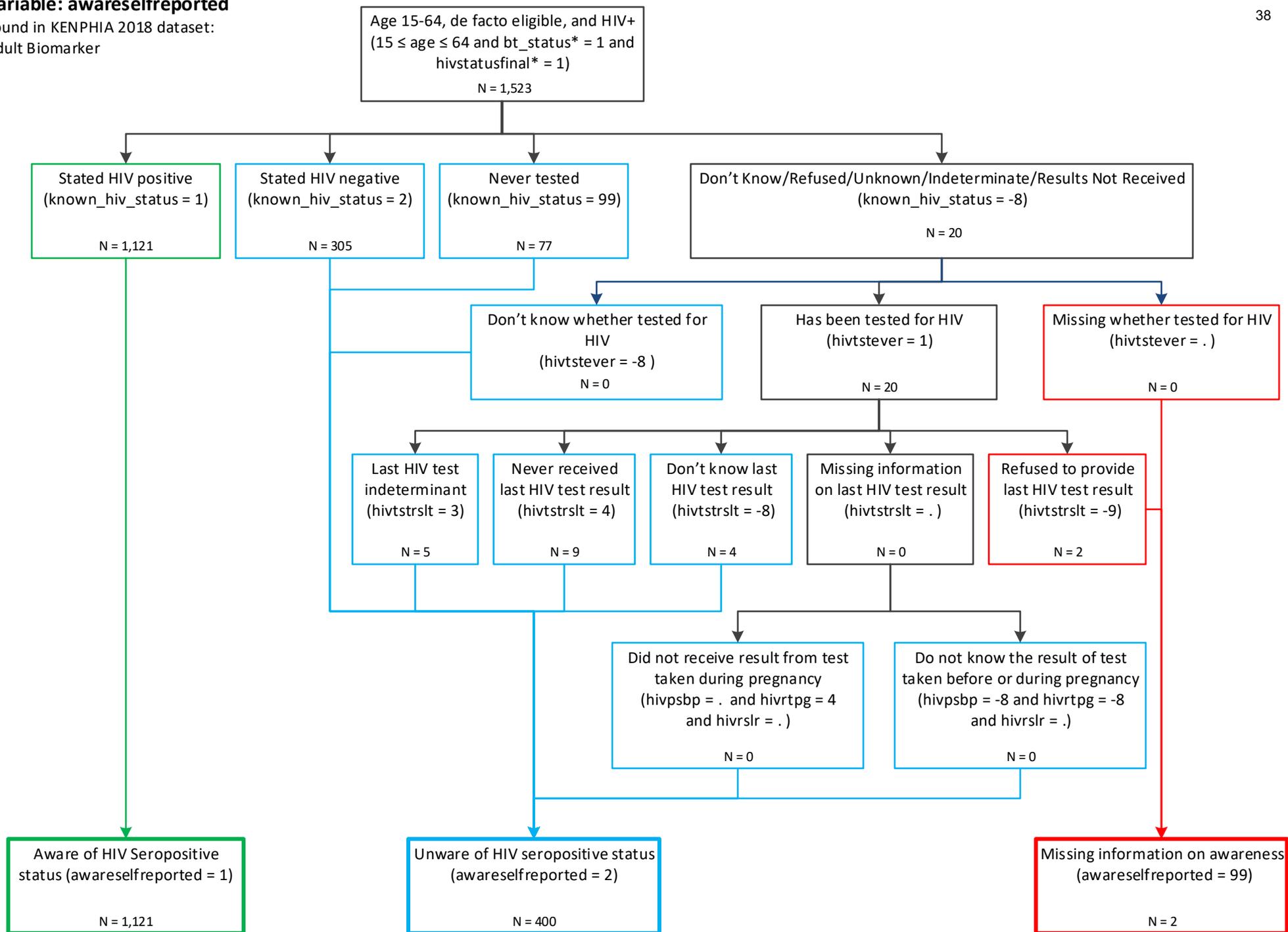
**Child Biomarker**

- bt\_status
- hiv1statusfinalsurvey
- hivstatusfinal
- resultvlc
- vls
- age

**Variable: awareselfreported**

Found in KENPHIA 2018 dataset:

Adult Biomarker



**Variable: awareselfreported**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

bt\_status

hivstatusfinal

Adult Interview dataset

age

known\_hiv\_status

hivtstever

hivtstrslt

hivrtpg

hivrslr†

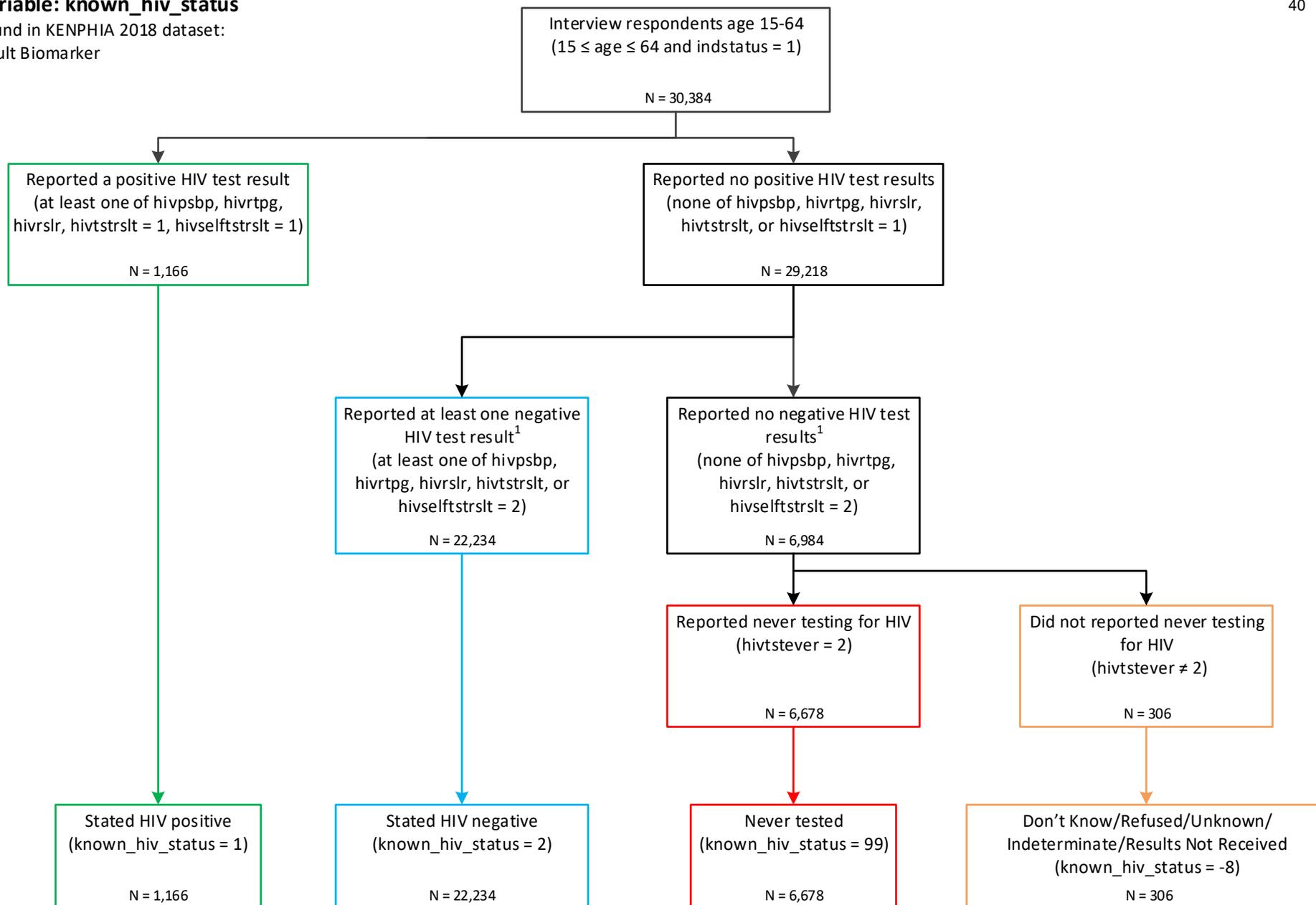
hivpsbp

† Variable redacted from final dataset due to small counts and disclosure risk

## Variable: known\_hiv\_status

Found in KENPHIA 2018 dataset:

Adult Biomarker



1. Some reported negative test results which were inconsistent with other questionnaire responses were corrected to missing in the final dataset. Since the known\_hiv\_status variable was coded from the original responses, there are eight individuals coded as "Stated HIV negative" who would be "Never tested" using the final cleaned values. This figures in this diagram are based on the original, uncorrected data.

**Variable: known\_hiv\_status**

Uses the following KENPHIA 2018 variables:

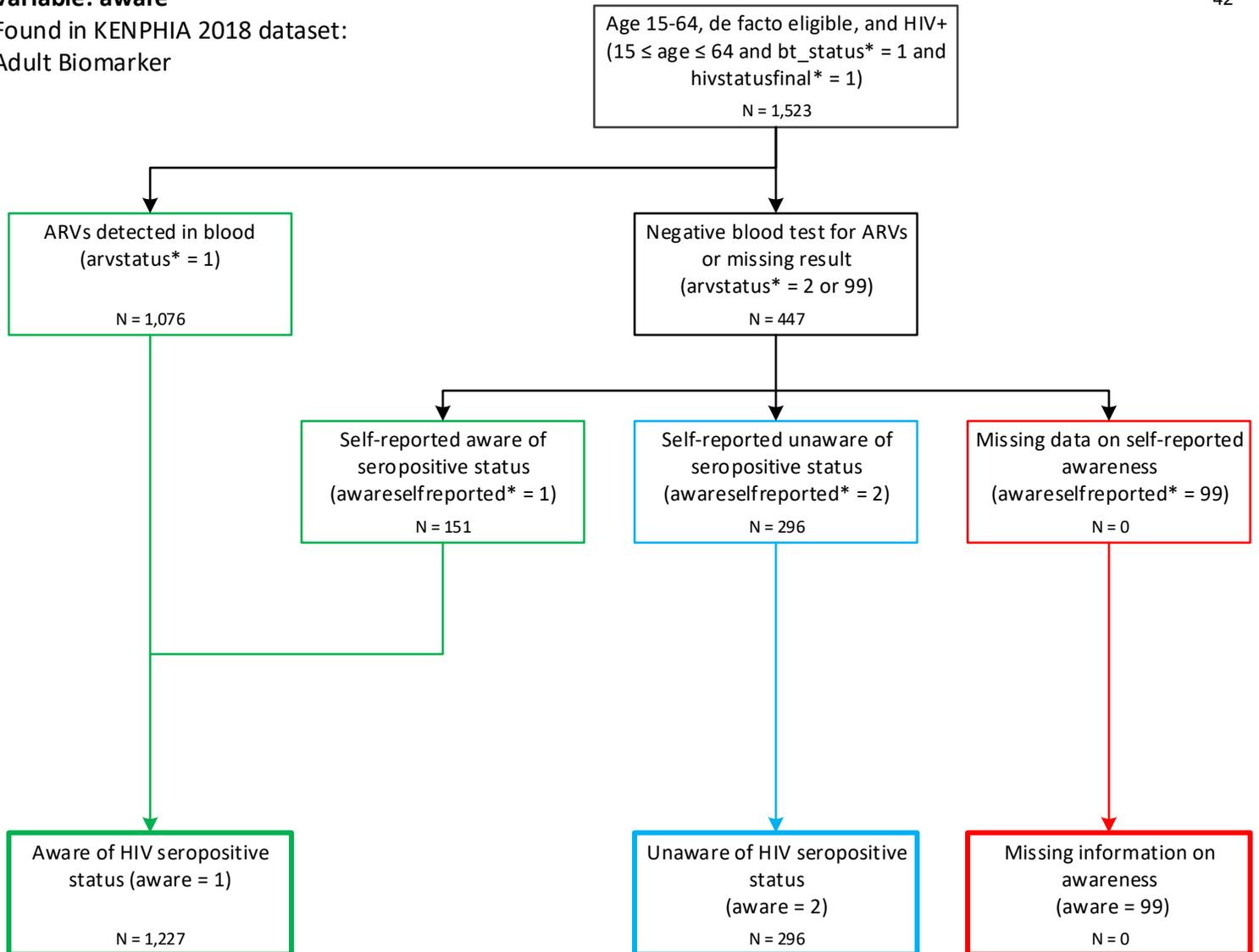
Adult Interview dataset

- age
- indstatus
- hivtstever
- hivrslr†
- hivpsbp
- hivrtpg
- hivtstrslt
- hivselftstrslt

† Variable redacted from final dataset due to small counts and disclosure risk

**Variable: aware**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



## **Variable: aware**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

bt\_status

hivstatusfinal

age

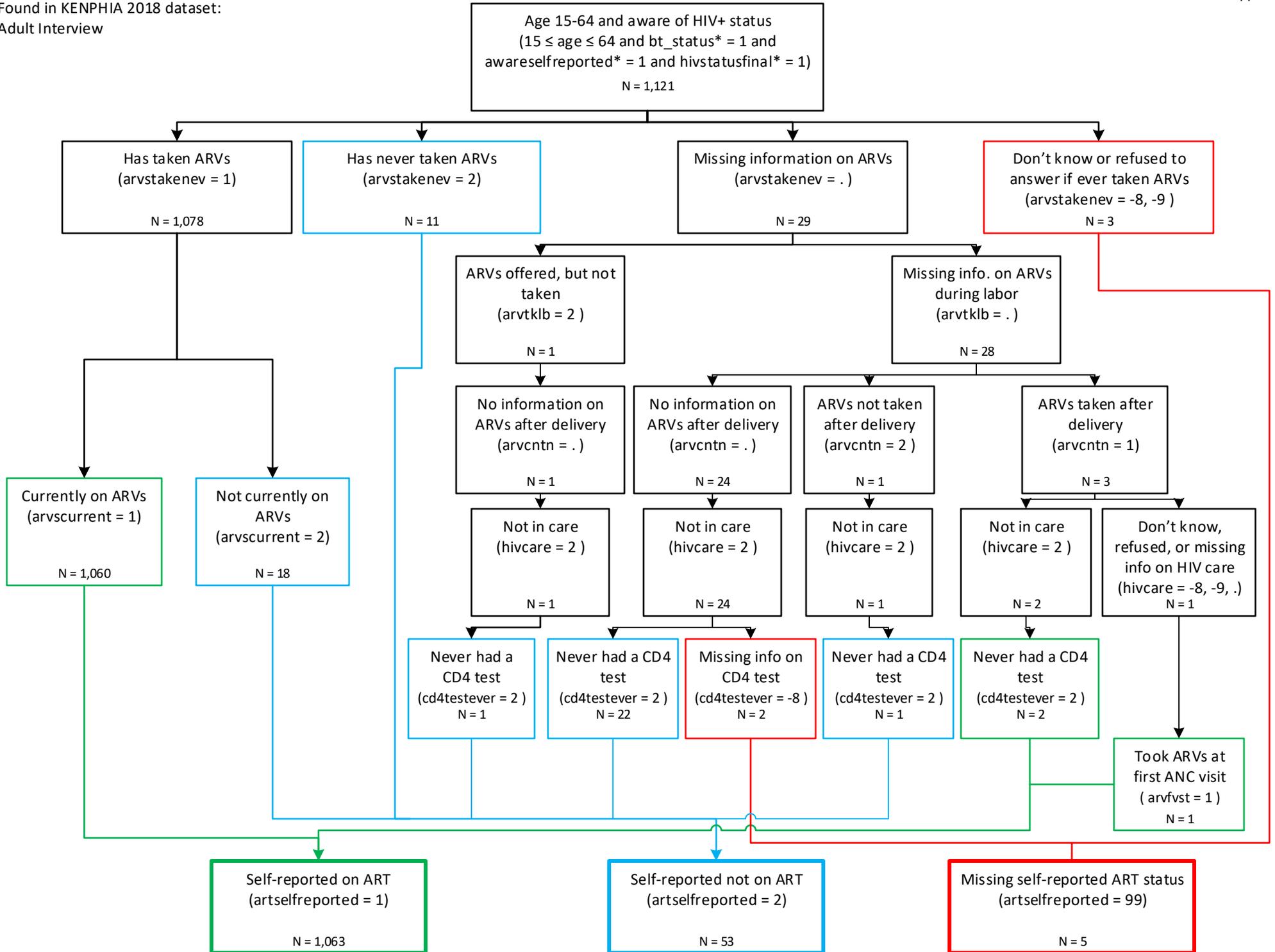
awareselfreported

arvstatus

**Variable: artselfreported**

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: artselfreported**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

- age
- arvstakenev
- arvscurrent
- arvtklb†
- arvcntn†
- hivcare
- cd4testever

Adult Biomarker dataset

- bt\_status
- hivstatusfinal
- awareselfreported
- artselfreported

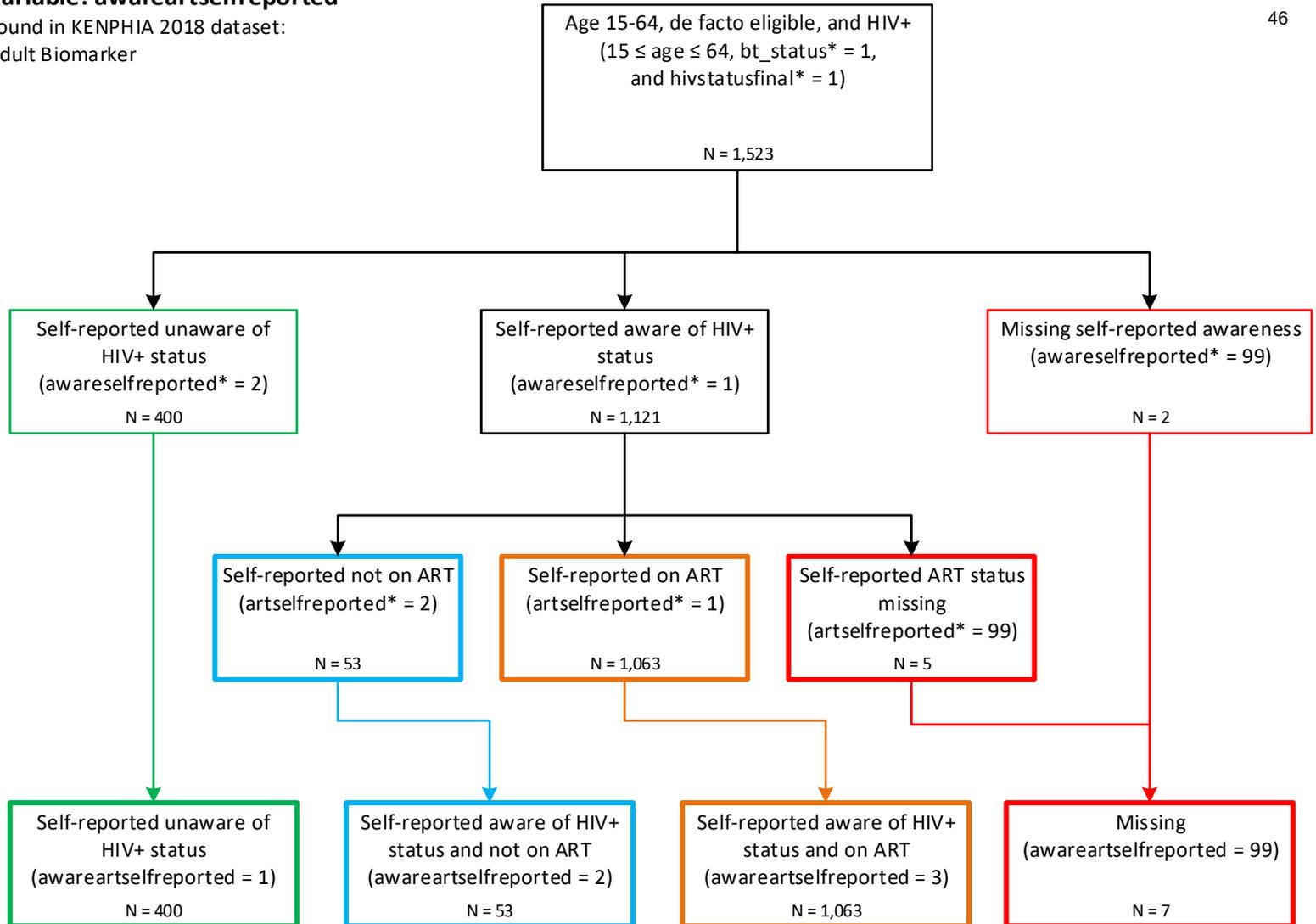
† Variable redacted from final dataset due to small counts and disclosure risk

## Variable: awareartselfreported

Found in KENPHIA 2018 dataset:

Adult Biomarker

46



**Variable: awareartselfreported**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

age

bt\_status

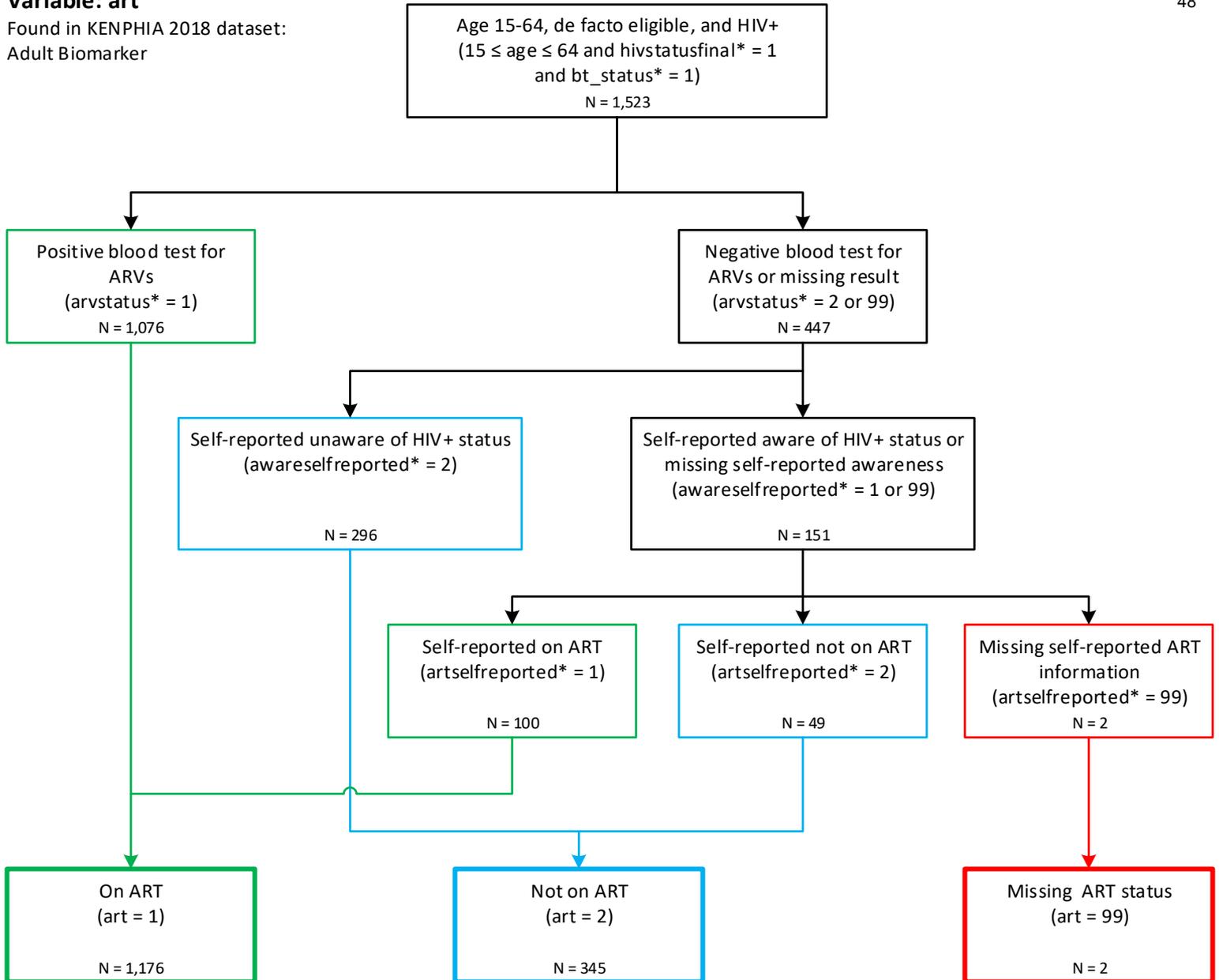
hivstatusfinal

awareselfreported

artselfreported

**Variable: art**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



**Variable: art**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

bt\_status

age

hivstatusfinal

awareselfreported

artselfreported

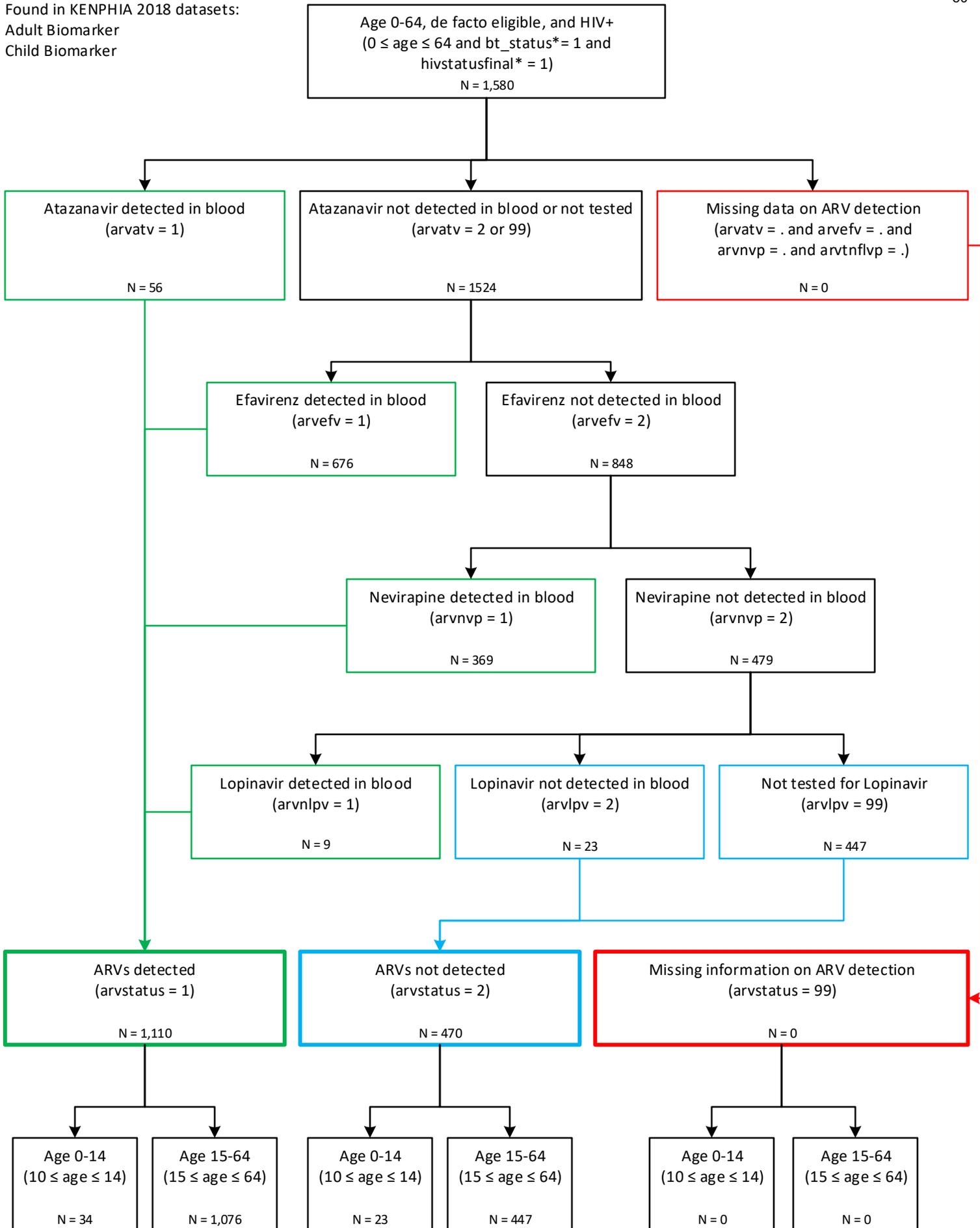
arvstatus

**Variable: arvstatus**

Found in KENPHIA 2018 datasets:

Adult Biomarker

Child Biomarker



**Variable: arvstatus**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

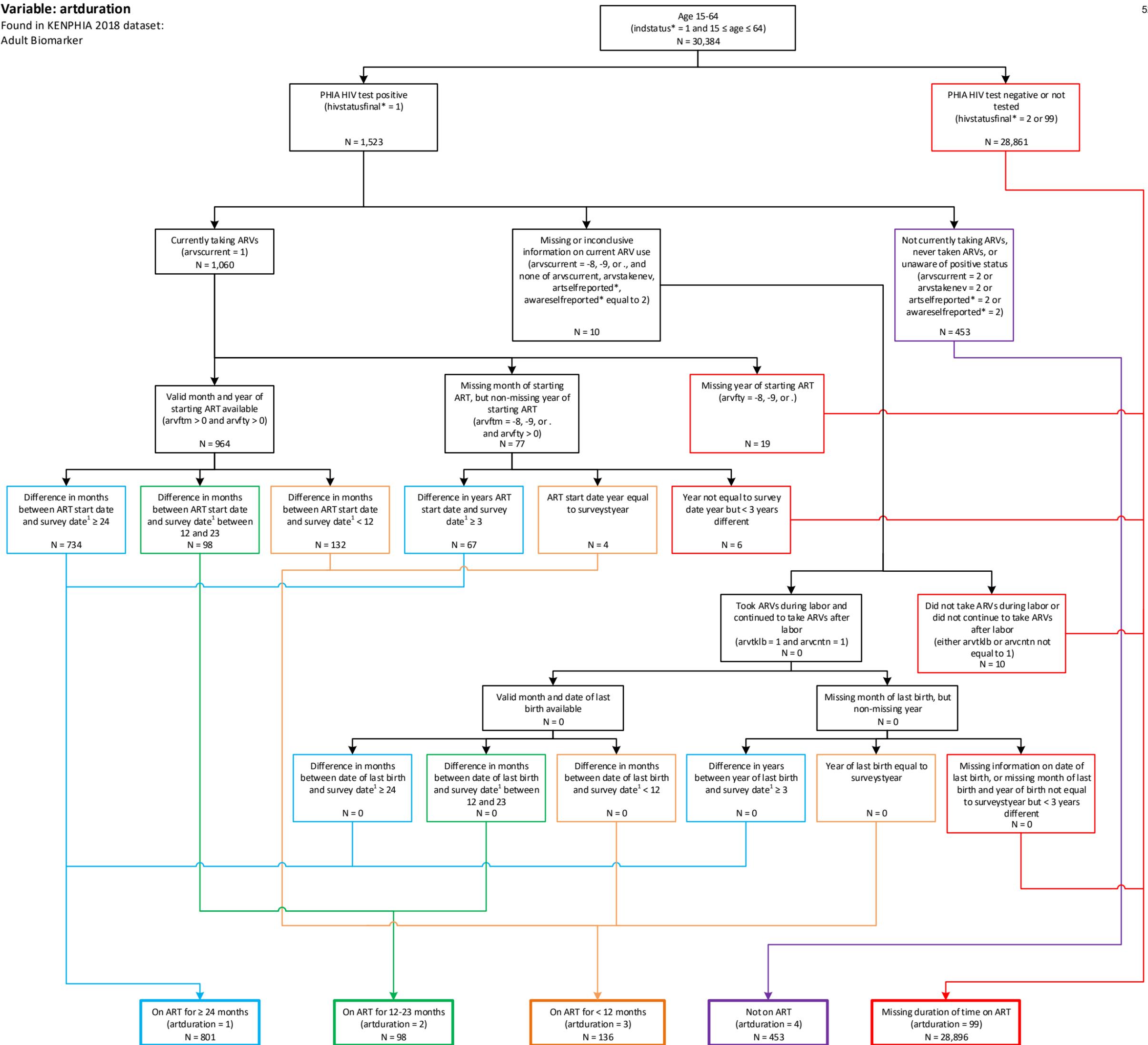
- age
- hivstatusfinal
- bt\_status
- arvstatus
- arvatv
- arvefv
- arvnvp
- arvlpv

Child Biomarker dataset

- age
- hivstatusfinal
- bt\_status
- arvstatus
- arvatv
- arvefv
- arvnvp
- arvlpv

**Variable: artduration**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



1. Survey date is derived from surveystday, surveystmonth and surveystyear. Birth date derived from birthday/birthmon/birthyear arrays.

**Variable: artduration**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

age

hivstatusfinal

artselfreported

awareselfreported

Adult Interview dataset

indstatus

arvscurrent

arvstakenev

arvftm

arvfty

arvklb†

arvcntn†

birthyr1

birthyr2-5†

birthmon1-5†

birthday1-5†

surveystday†

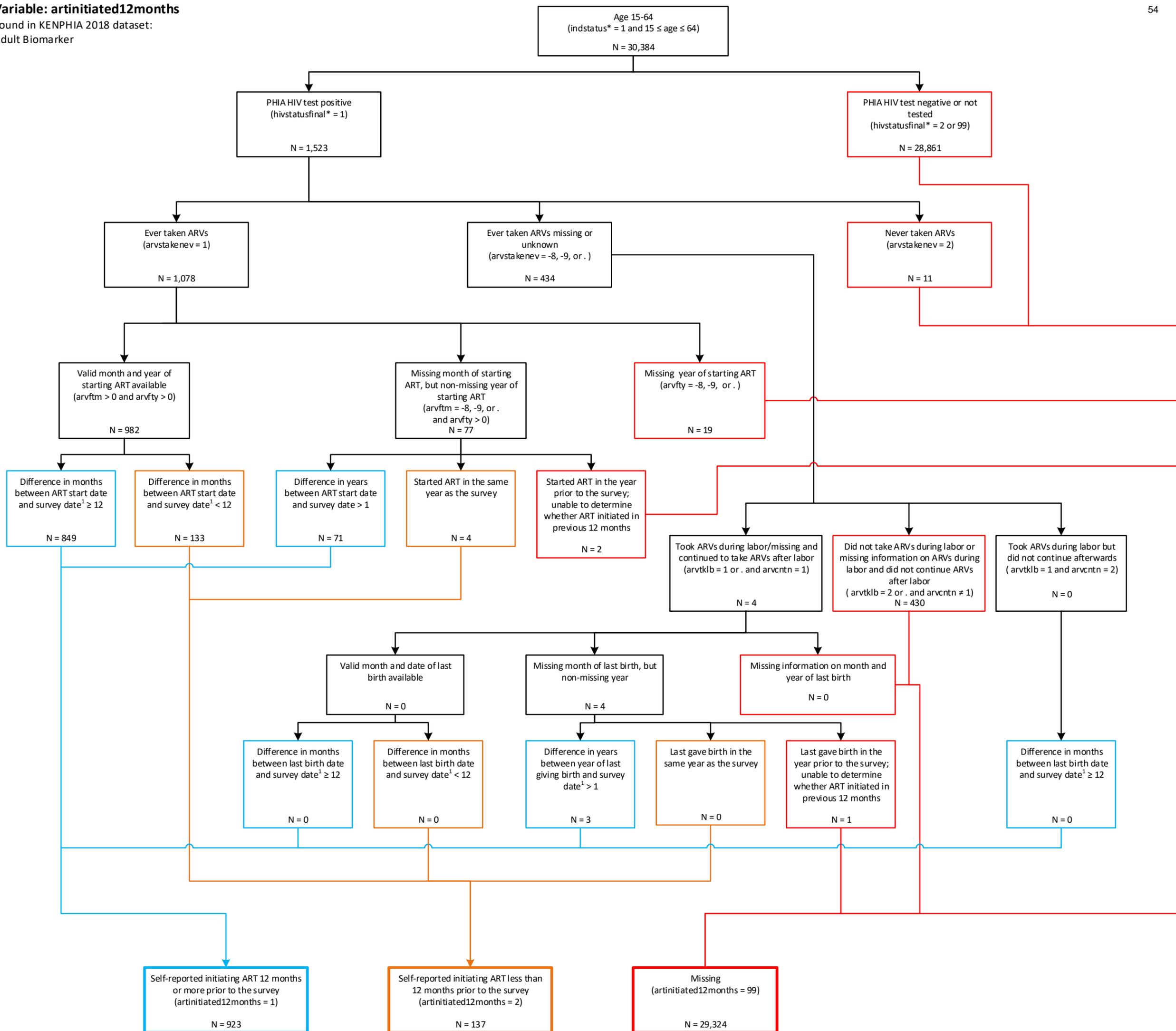
surveystmonth

surveystyear

† Variable redacted from final dataset due to small counts and disclosure risk

**Variable: artinitiated12months**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



1. Survey date is derived from surveystday, surveystmonth and surveystyear. Birth date derived from birthday/birthmon/birthyear arrays.

**Variable: artinitiated12months**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

hivstatusfinal

artinitiated12months

Adult Interview dataset

age

indstatus

arvstakenev

arvftm

arvfty

surveystday†

surveystmonth

survestyear

birthyr1

birthyr2-5†

birthmon2-5†

birthday2-5†

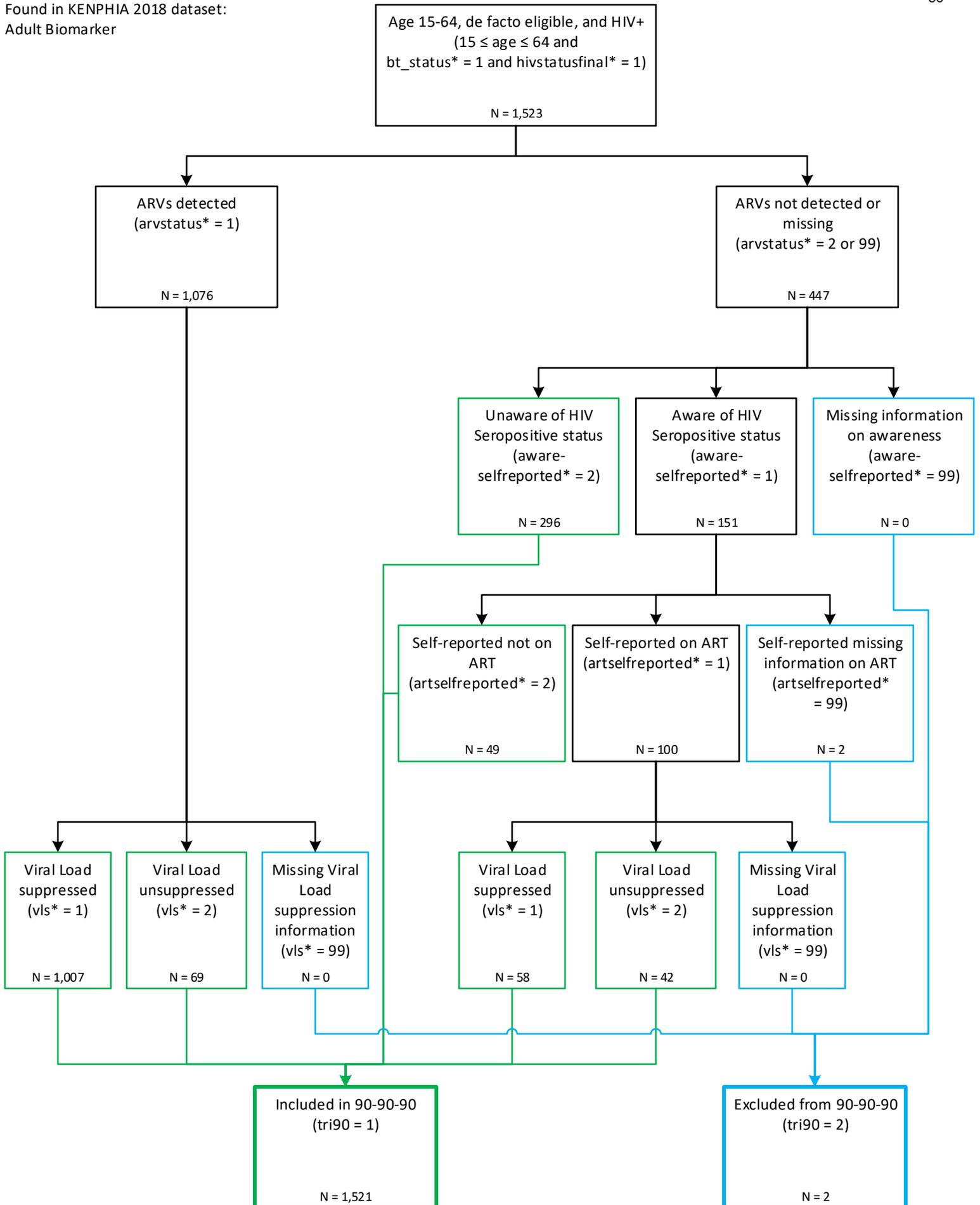
arvtklb†

arvcntn†

† Variable redacted from final dataset due to small counts and disclosure risk

**Variable: tri90**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



**Variable: tri90**

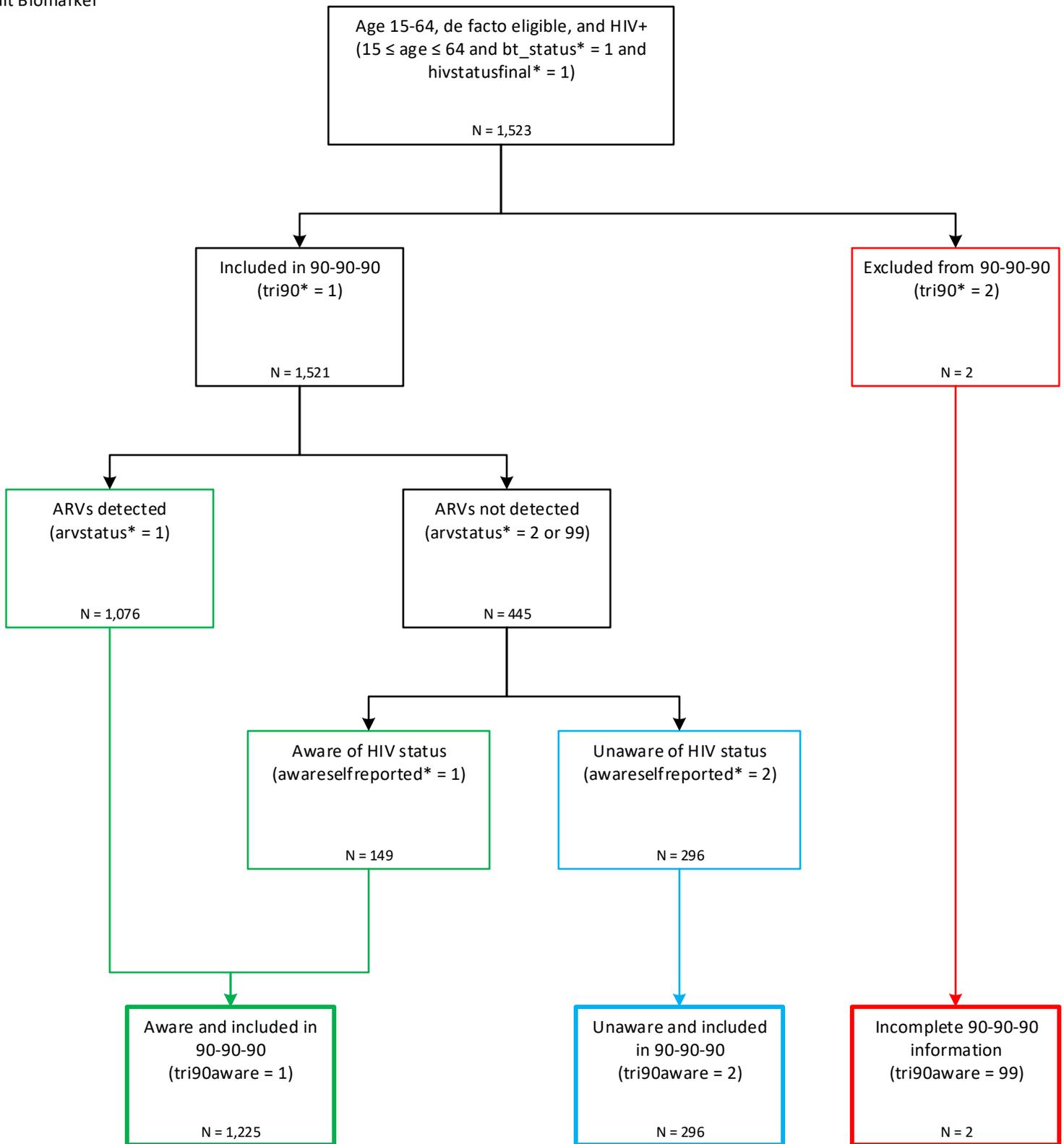
Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

- age
- hivstatusfinal
- bt\_status
- arvstatus
- awareselfreported
- artselfreported
- vls
- tri90

**Variable: tri90aware**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



**Variable: tri90aware**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

bt\_status

age

hivstatusfinal

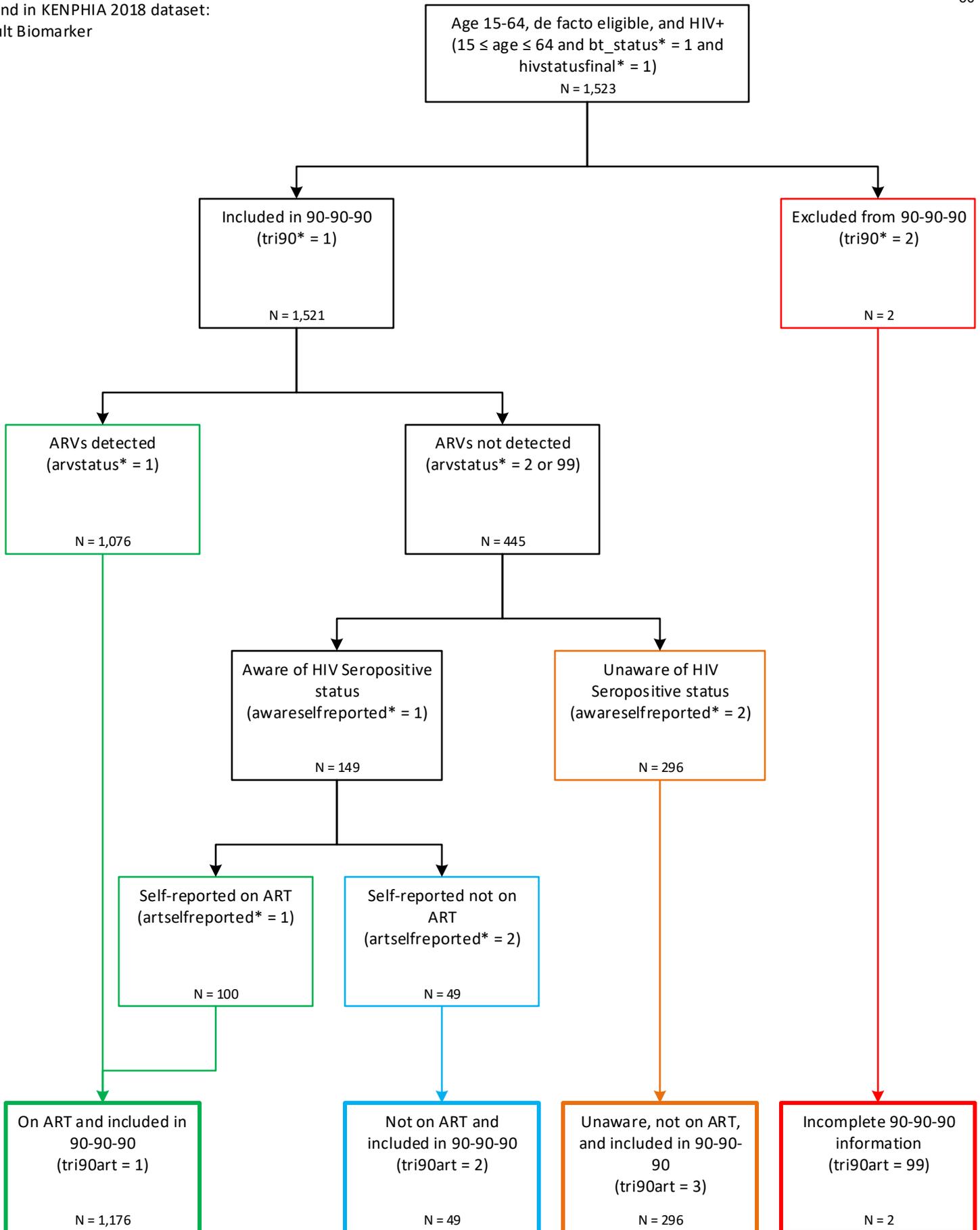
tri90

arvstatus

awareselfreported

**Variable: tri90art**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



**Variable: tri90art**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

bt\_status

age

hivstatusfinal

tri90

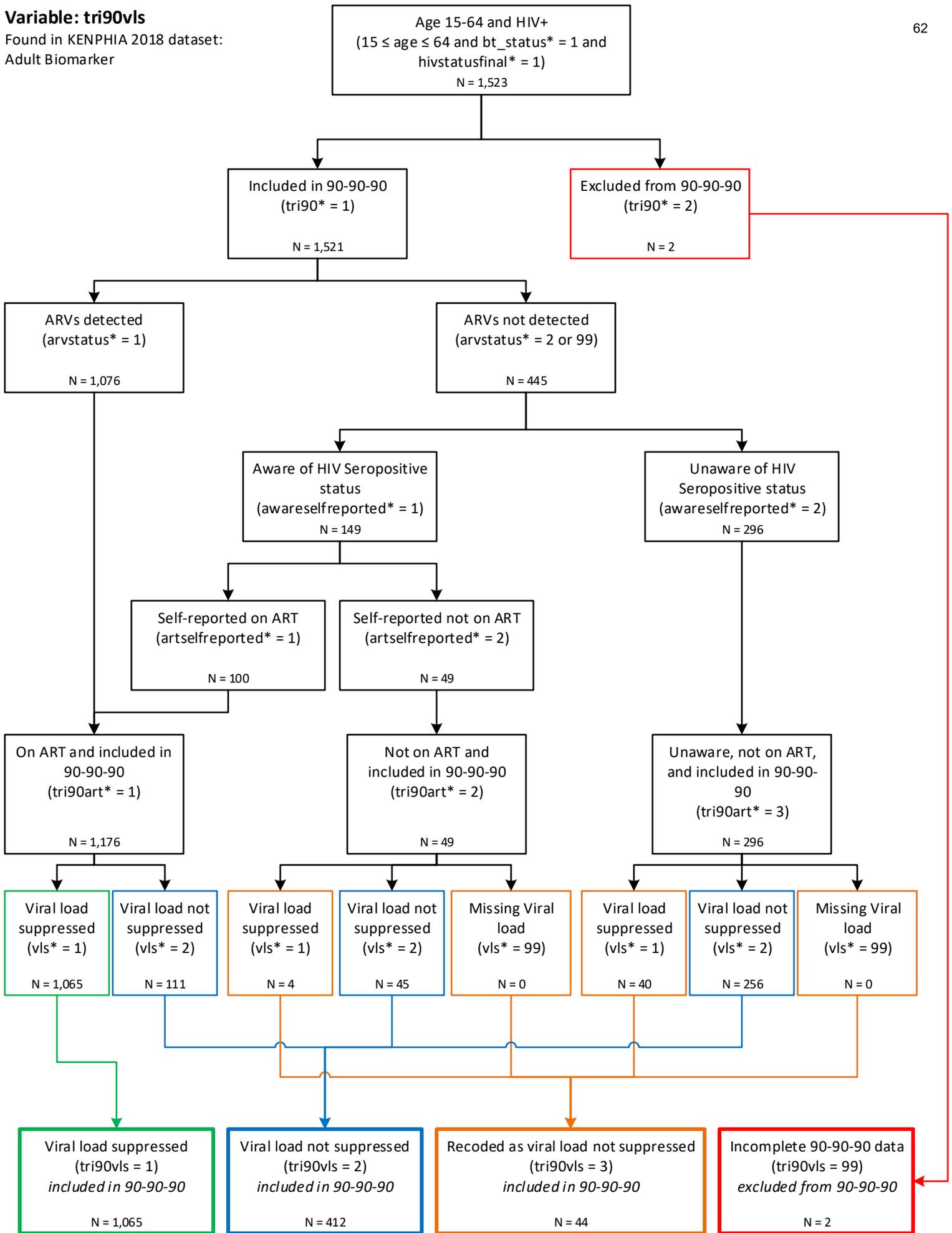
arvstatus

awareselfreported

artselfreported

**Variable: tri90vls**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



**Variable: tri90vls**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

bt\_status

age

hivstatusfinal

tri90

arvstatus

awareselfreported

artselfreported

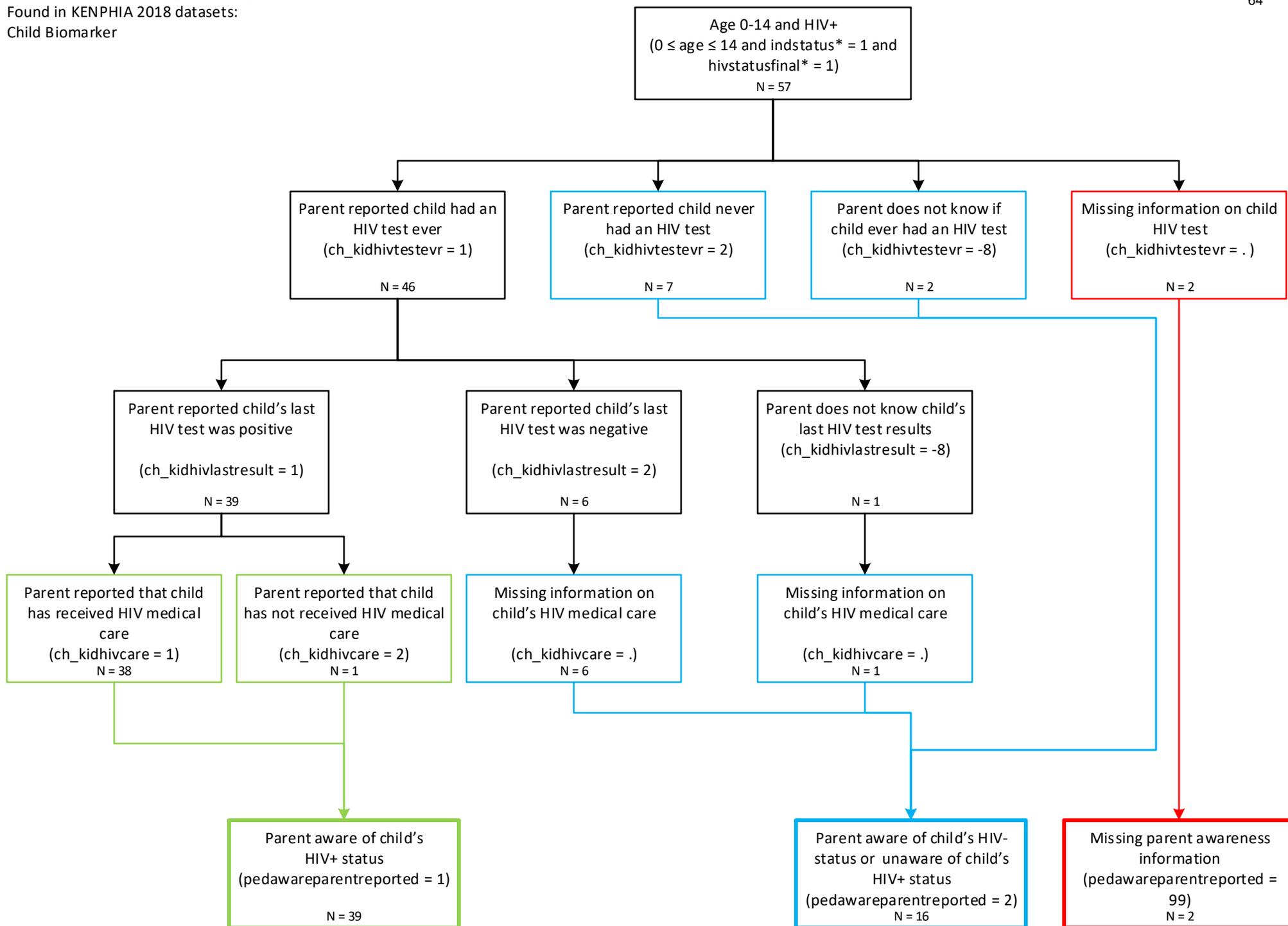
tri90art

vls

**Variable: pedawareparentreported**

Found in KENPHIA 2018 datasets:

Child Biomarker



**Variable: pedawareparentreported**

Uses the following KENPHIA 2018 variables:

Child Interview dataset

indstatus

age

hivstatusfinal

ch\_kidhivtestevr

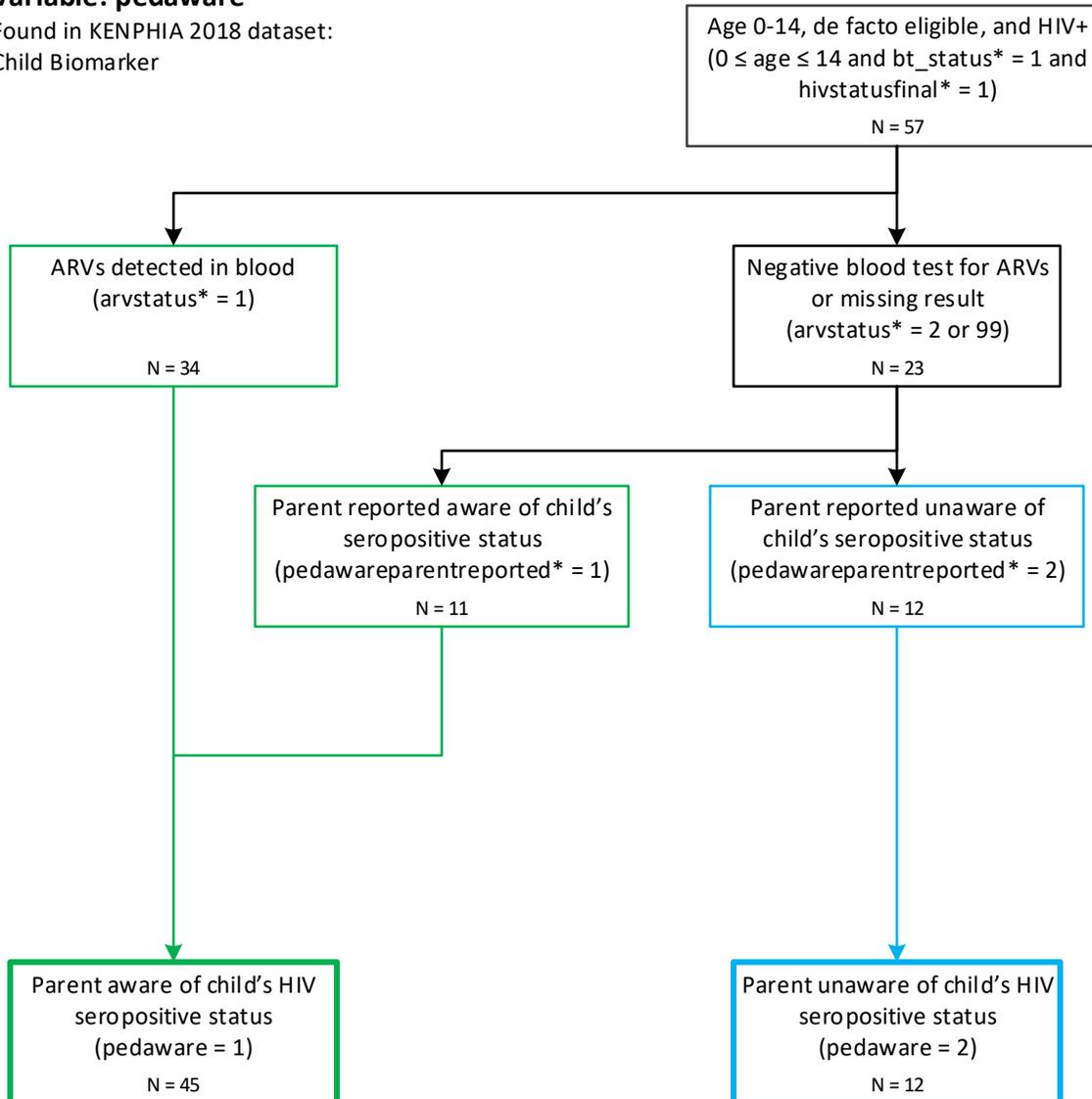
ch\_kidhivlastresult

ch\_kidhivcare†

† Variable redacted from final dataset due to small counts and disclosure risk

## Variable: pedaware

Found in KENPHIA 2018 dataset:  
Child Biomarker



## **Variable: pedaware**

Uses the following KENPHIA 2018 variables:

Child Biomarker dataset

bt\_status

hivstatusfinal

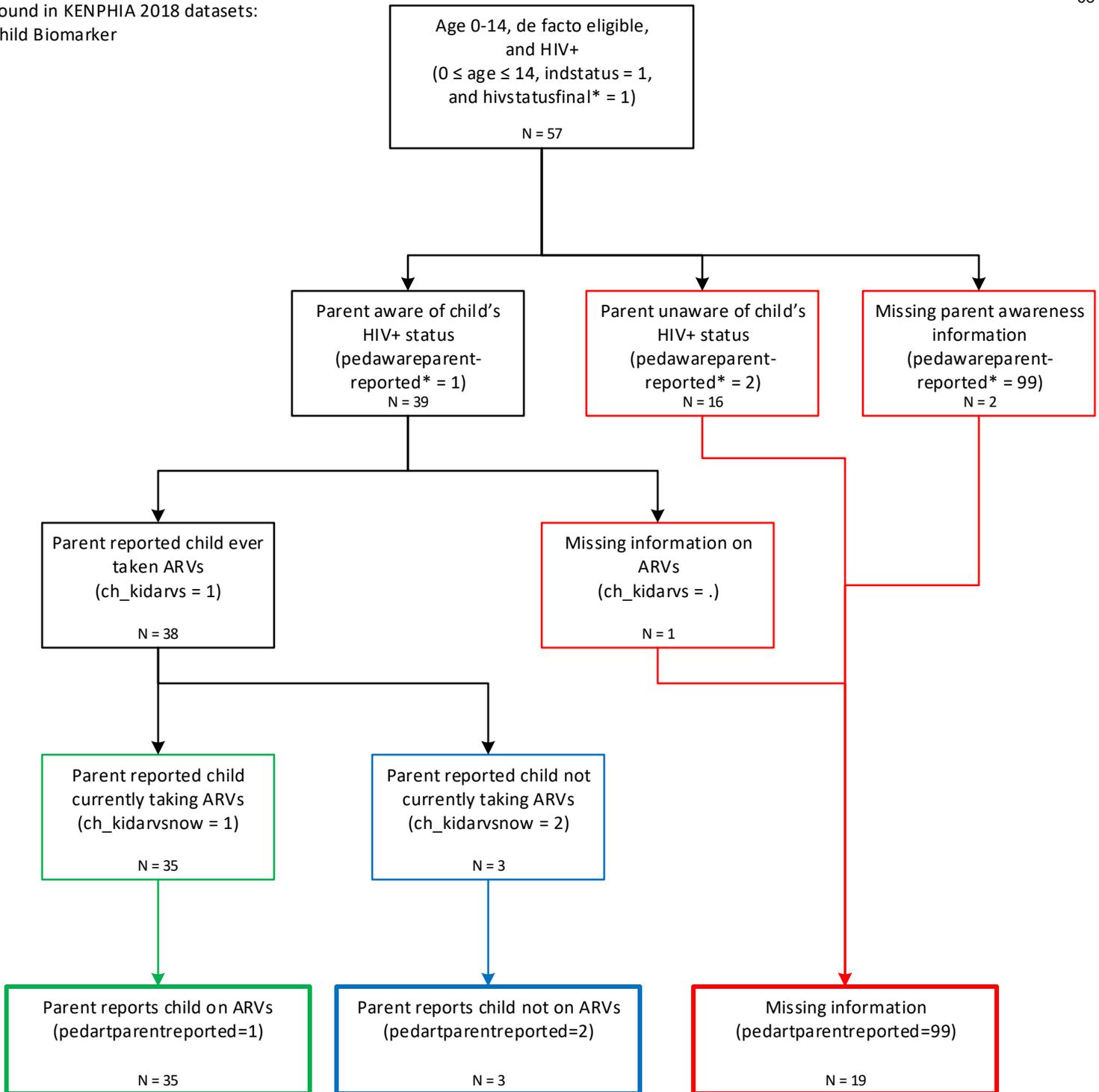
age

pedawareparentreported

arvstatus

**Variable: pedartparentreported**

Found in KENPHIA 2018 datasets:  
Child Biomarker



**Variable: pedartparentreported**

Uses the following KENPHIA 2018 variables:

Child Interview dataset

age

indstatus

hivstatusfinal

ch\_kidarvs

ch\_kidarvsnow

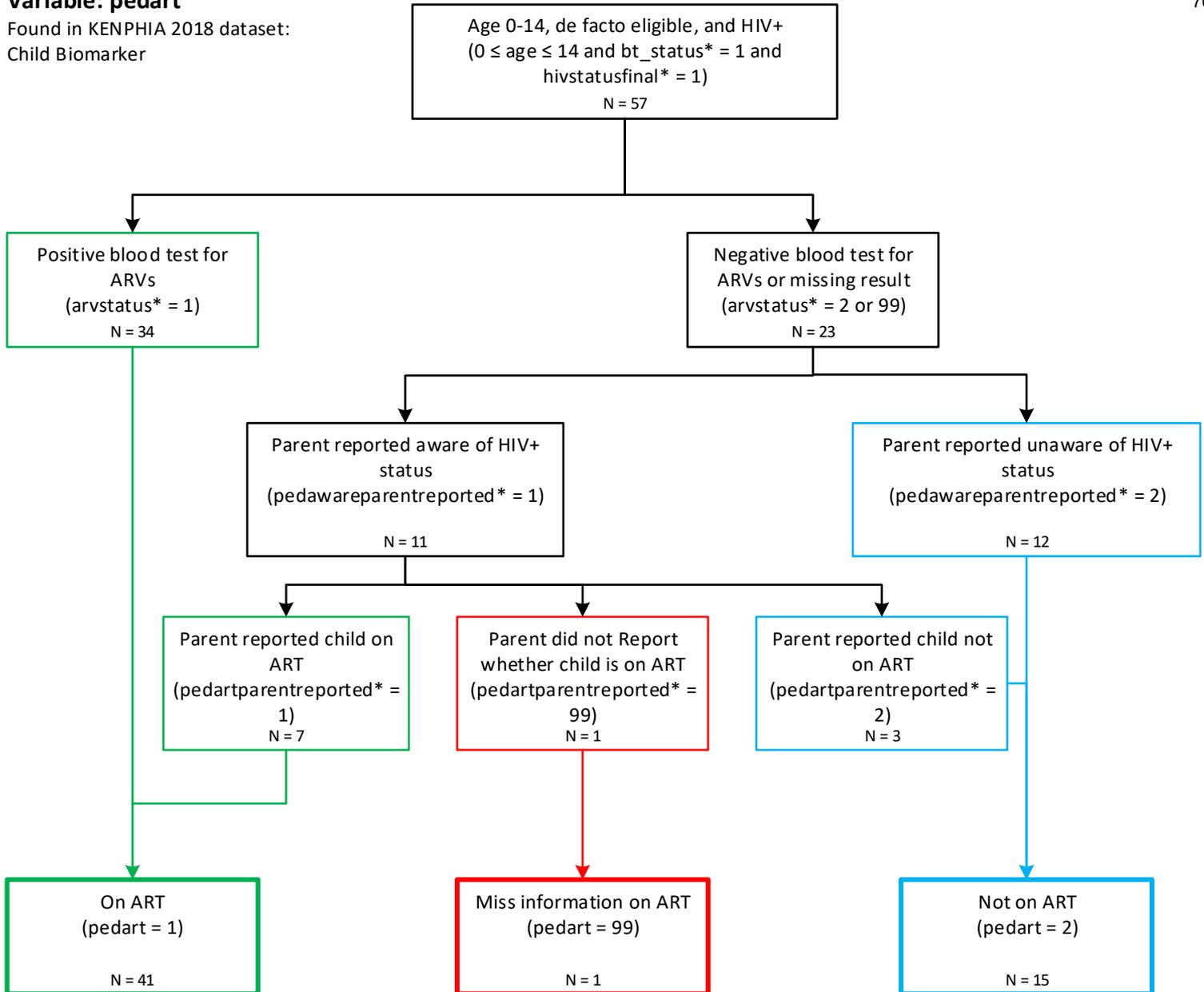
Child Biomarker dataset

pedaware

pedartparentreported

## Variable: pedart

Found in KENPHIA 2018 dataset:  
Child Biomarker



**Variable: pedart**

Uses the following KENPHIA 2018 variables:

Child Biomarker dataset

bt\_status

age

hivstatusfinal

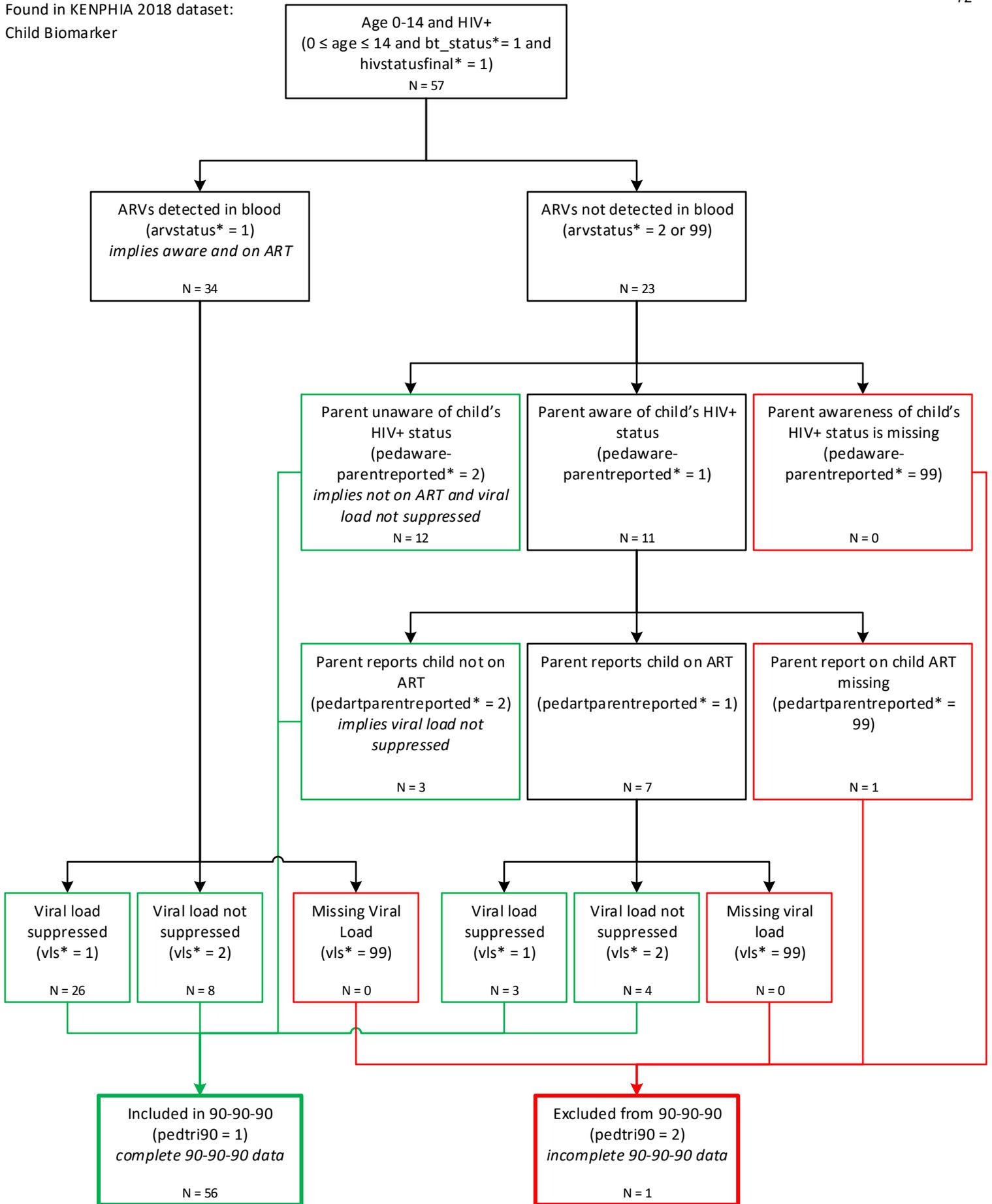
pedawareparentreported

pedartparentreported

arvstatus

**Variable: pedtri90**

Found in KENPHIA 2018 dataset:  
Child Biomarker



**Variable: pedtri90**

Uses the following KENPHIA 2018 variables:

Child Biomarker dataset

bt\_status

age

hivstatusfinal

arvstatus

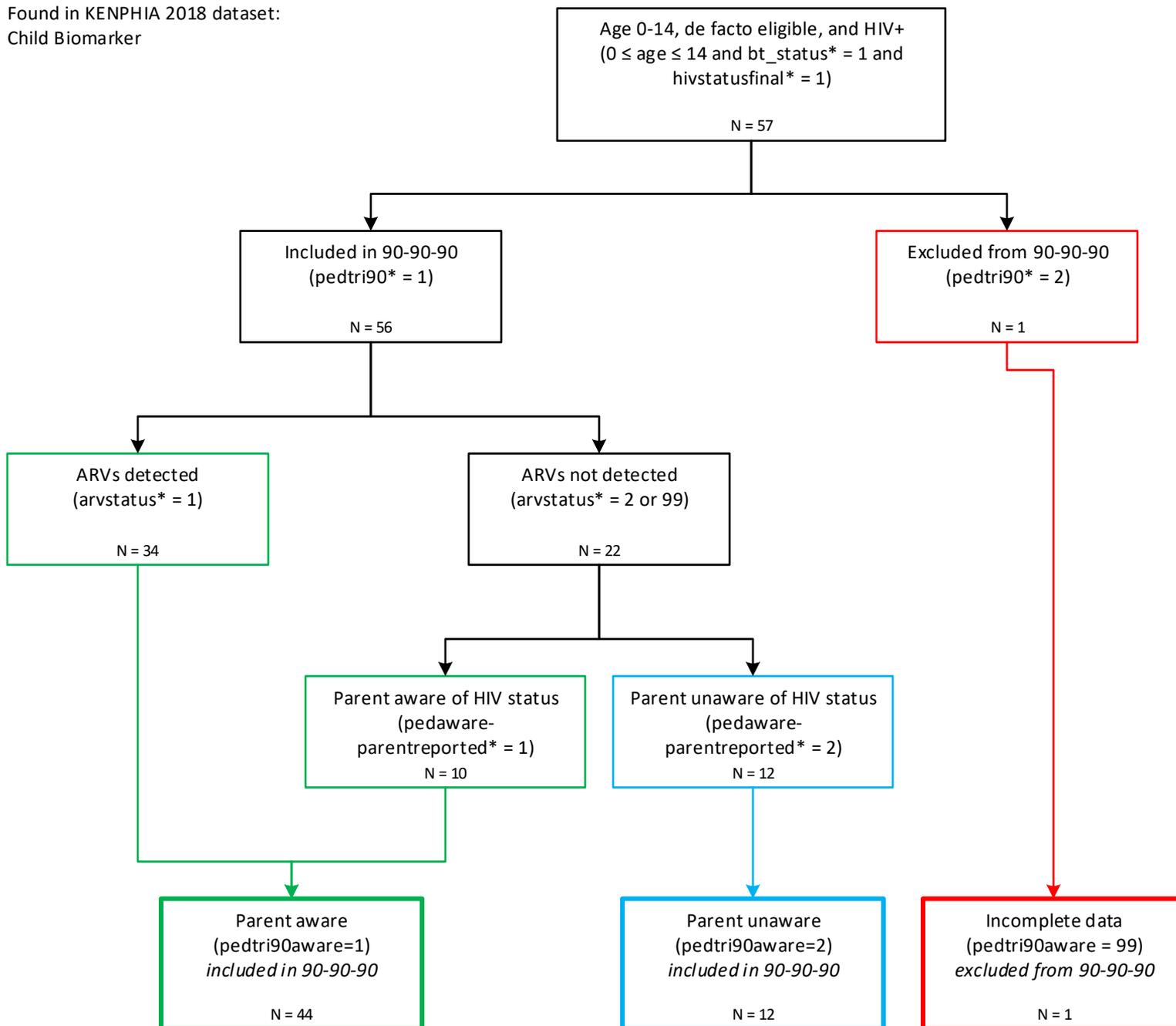
pedawareparentreported

pedartparentreported

vls

## Variable: pedtri90aware

Found in KENPHIA 2018 dataset:  
Child Biomarker



**Variable: pedtri90aware**

Uses the following KENPHIA 2018 variables:

Child Biomarker dataset

bt\_status

age

hivstatusfinal

pedtri90

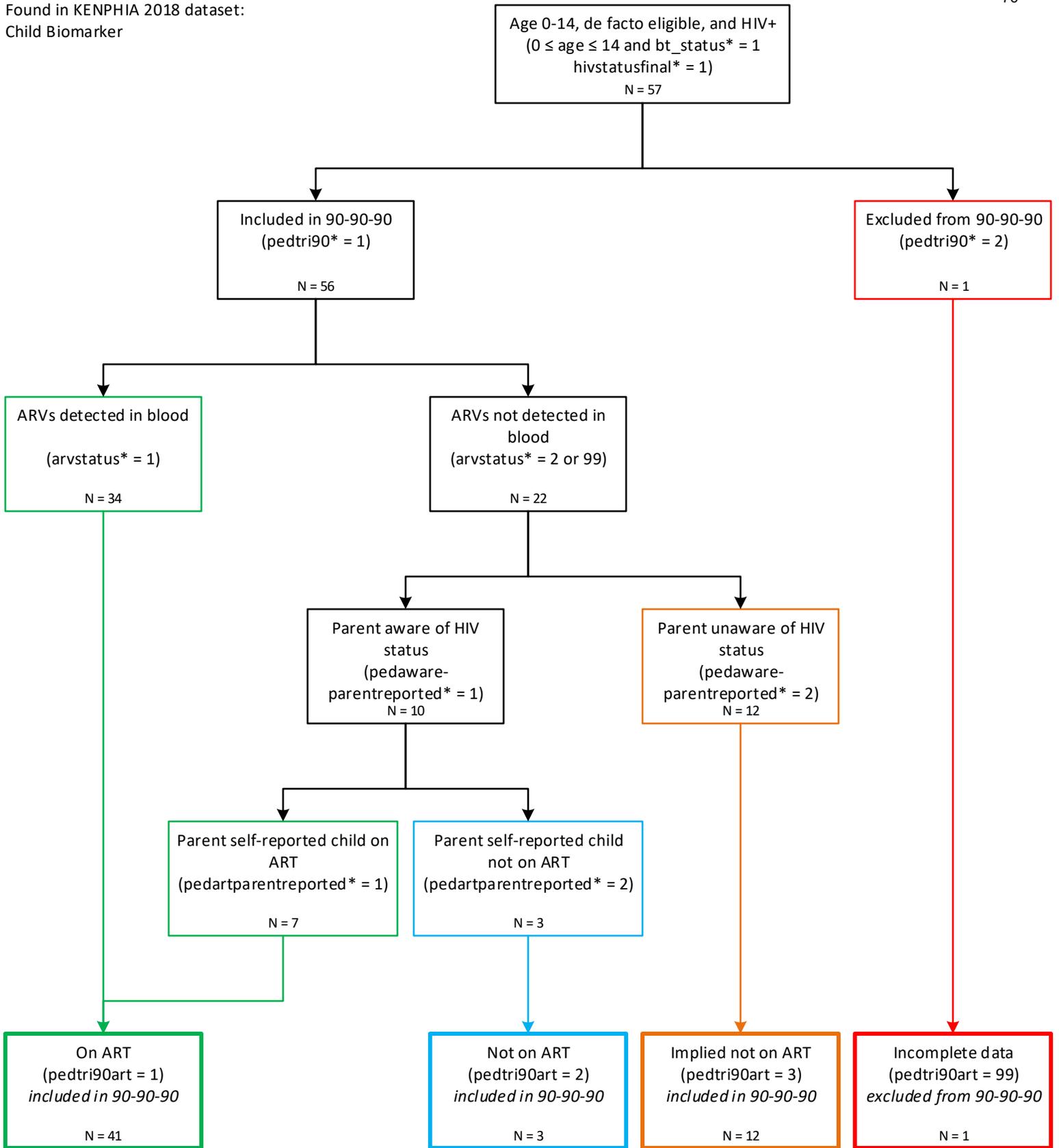
arvstatus

pedtri90aware

pedawareparentreported

**Variable: pedtri90art**

Found in KENPHIA 2018 dataset:  
Child Biomarker



**Variable: pedtri90art**

Uses the following KENPHIA 2018 variables:

Child Biomarker dataset

bt\_status

age

hivstatusfinal

pedtri90

arvstatus

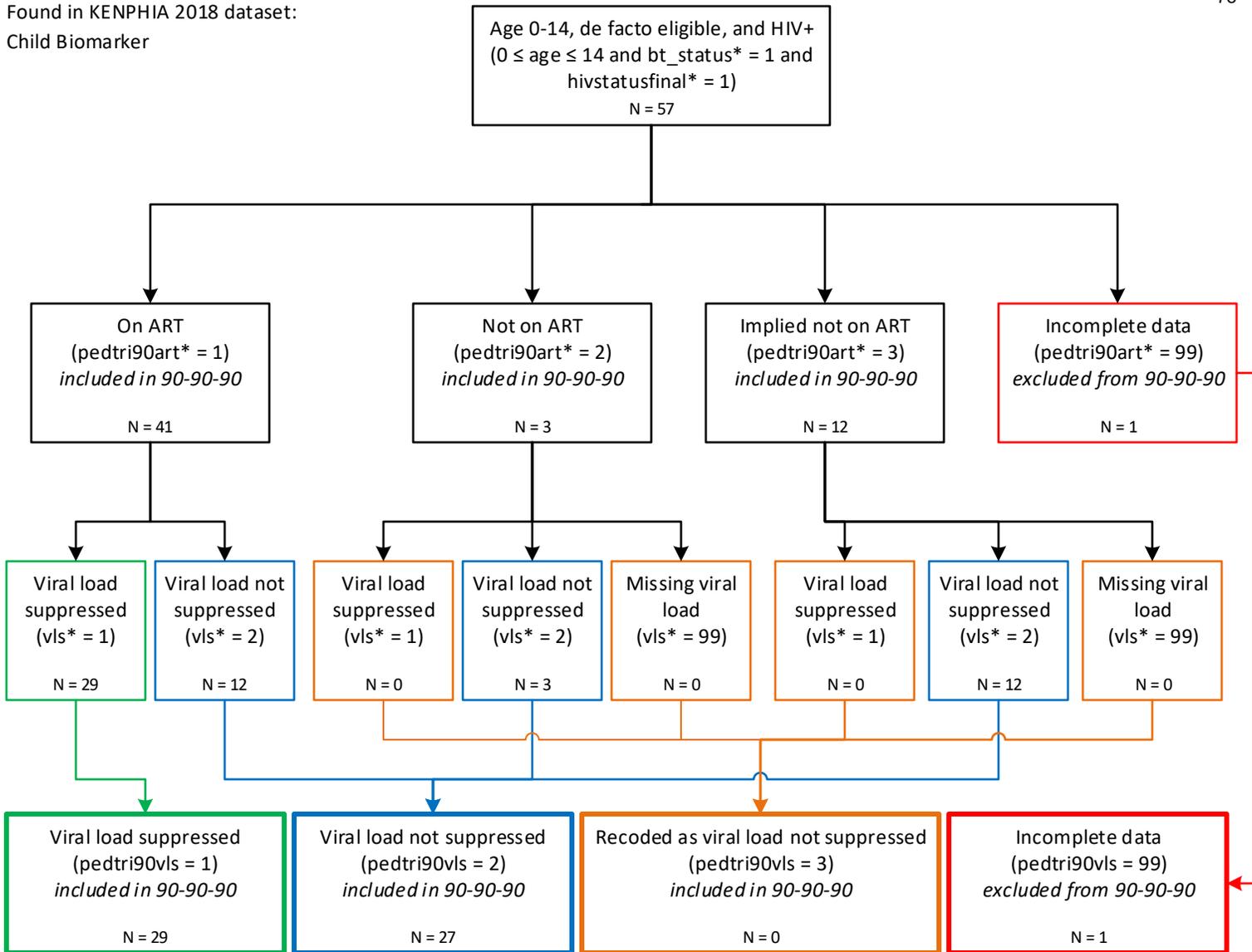
pedawareparentreported

pedartparentreported

**Variable: pedtri90vls**

Found in KENPHIA 2018 dataset:

Child Biomarker



**Variable: pedtri90vls**

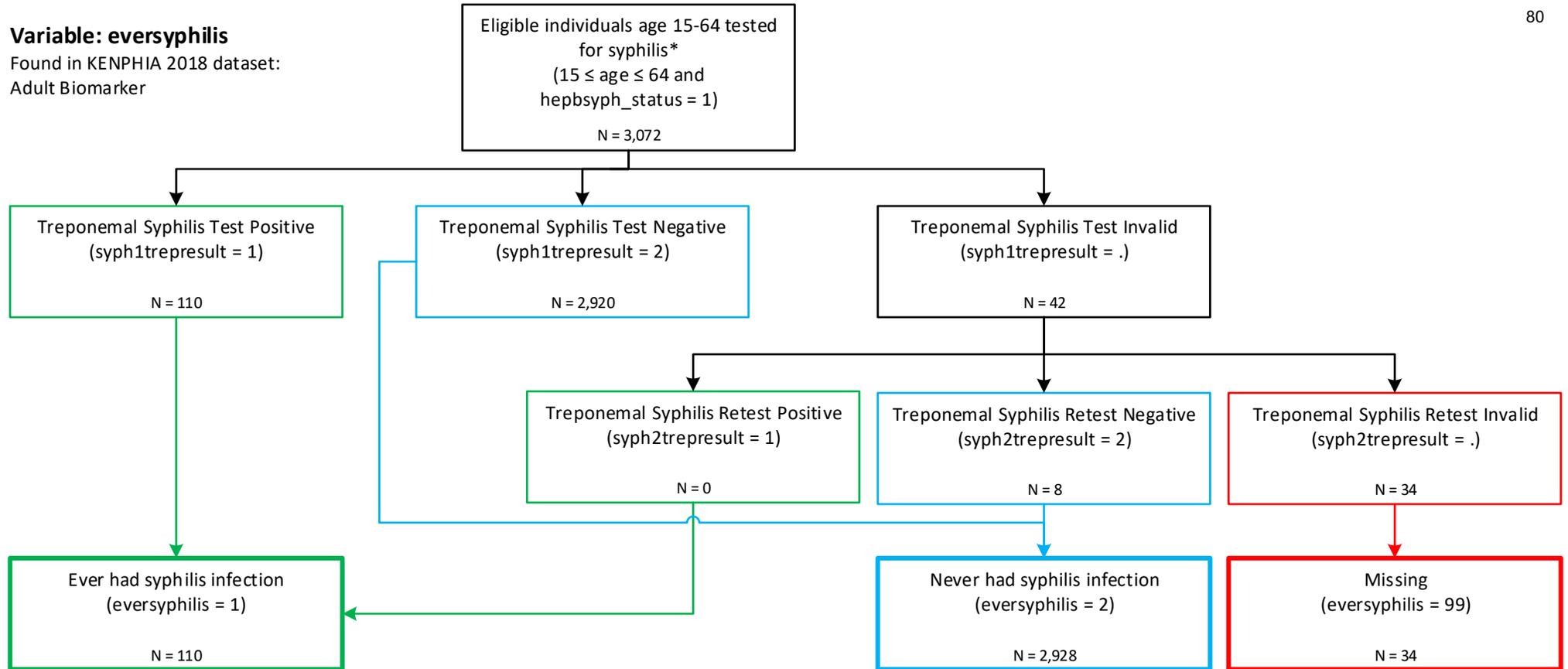
Uses the following KENPHIA 2018 variables:

Child Biomarker dataset

- bt\_status
- age
- hivstatusfinal
- pedtri90art
- vls
- pedtri90vls

**Variable: eversyphilis**

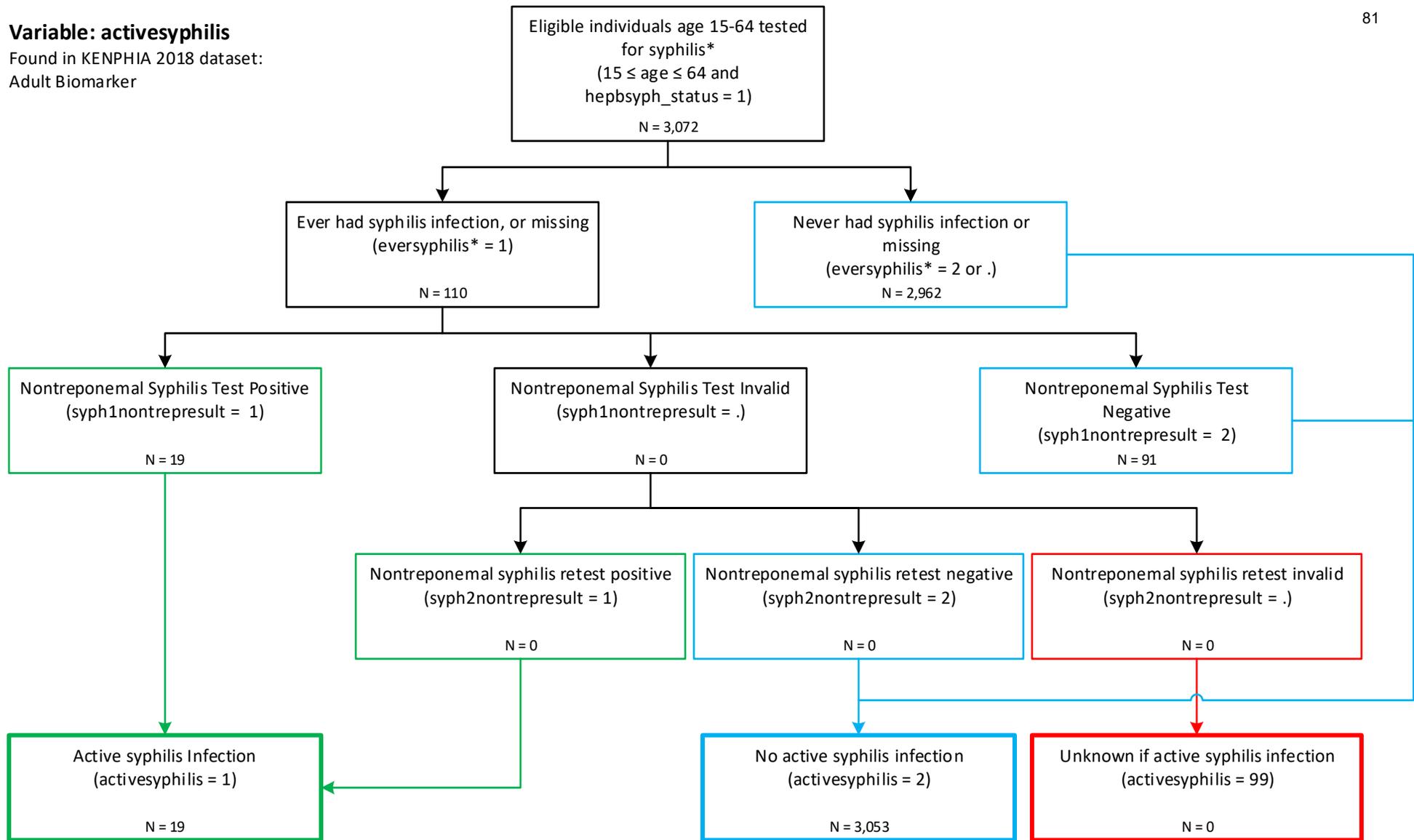
Found in KENPHIA 2018 dataset:  
Adult Biomarker



\* All survey eligible adults 15-64 years of age who (a) were tested in the household or (b) declined to be tested in the household but agreed to be tested in the laboratory were eligible to be selected for syphilis testing. All persons who tested HIV positive, as well as a random subsample of approximately 6 percent of adults who tested HIV negative, were tested for syphilis.

**Variable: activesyphilis**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



\* All survey eligible adults 15-64 years of age who (a) were tested in the household or (b) declined to be tested in the household but agreed to be tested in the laboratory were eligible to be selected for syphilis testing. All persons who tested HIV positive, as well as a random subsample of approximately 6 percent of adults who tested HIV negative, were tested for syphilis.

**Variables: activesyphilis, eversyphilis**

Use the following KENPHIA 2018 variables:

Adult Biomarker dataset

age

hepbsyph\_status

syph1treresult

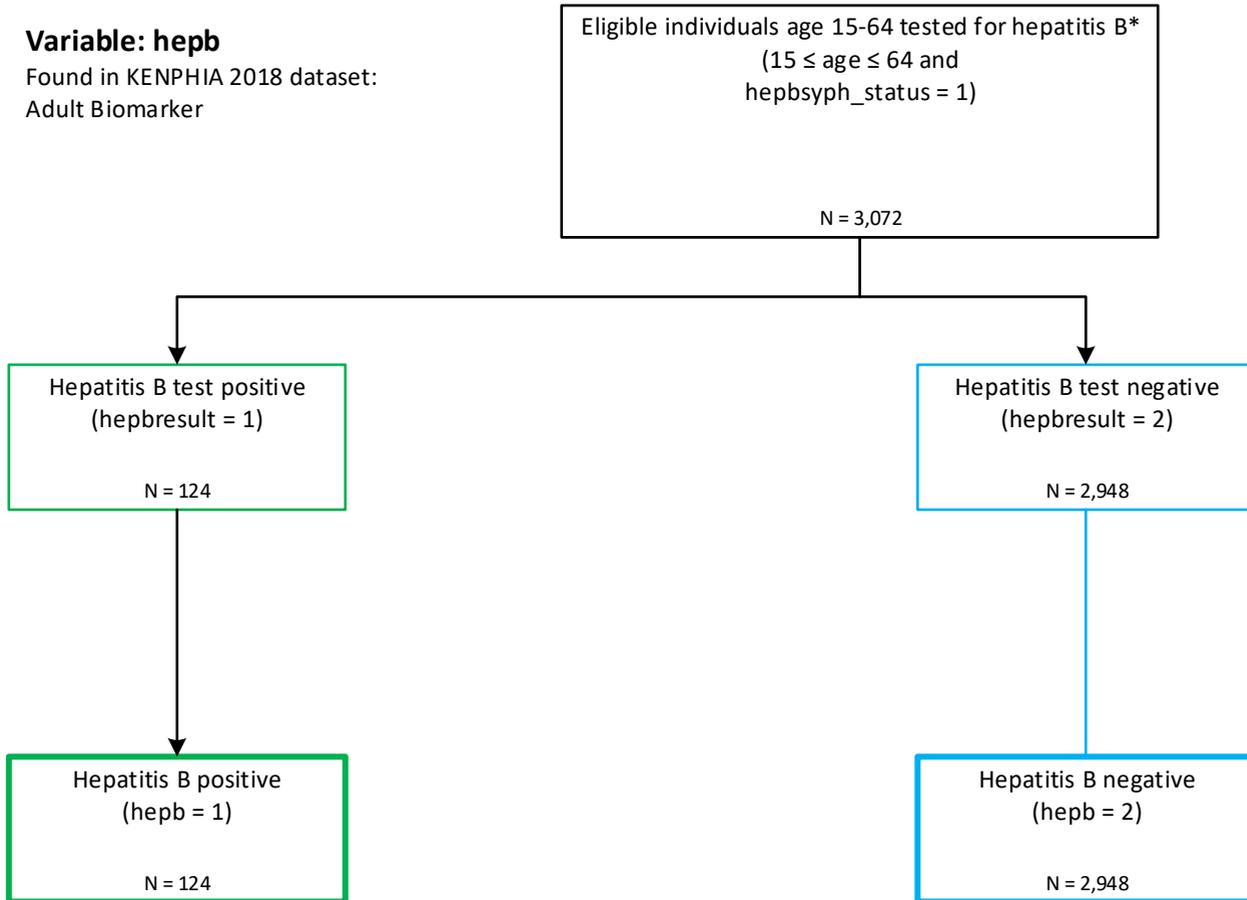
syph2treresult

syph1nontreresult

syph2nontreresult

**Variable: hepb**

Found in KENPHIA 2018 dataset:  
Adult Biomarker



\* All survey eligible adults 15-64 years of age who (a) were tested in the household or (b) declined to be tested in the household but agreed to be tested in the laboratory were eligible to be selected for hepatitis B testing. All persons who tested HIV positive, as well as a random subsample of approximately 6 percent of adults who tested HIV negative, were tested for hepatitis B.

**Variable: hepb**

Uses the following KENPHIA 2018 variables:

Adult Biomarker dataset

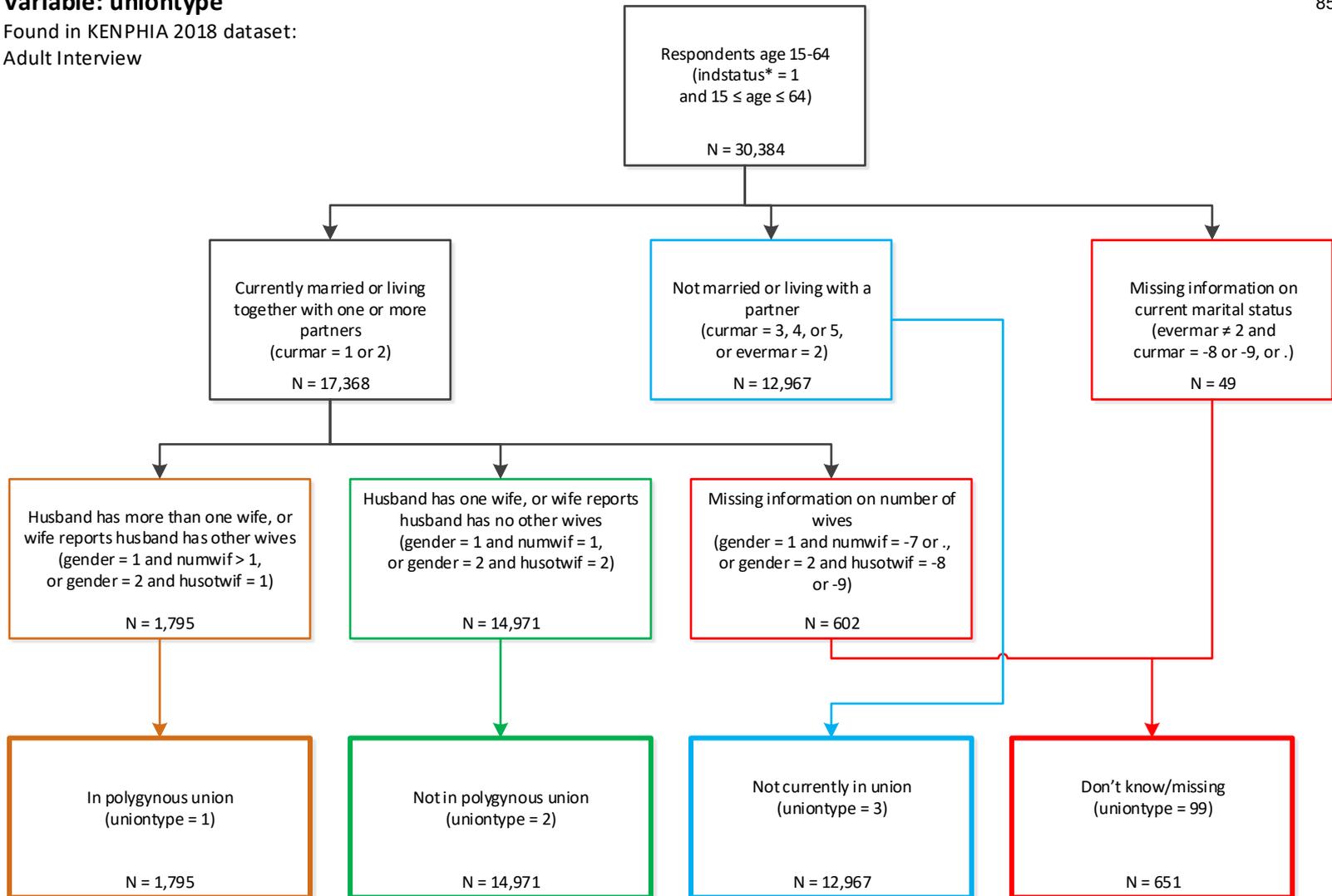
age

hepbsyph\_status

hepbresult

## Variable: uniontype

Found in KENPHIA 2018 dataset:  
Adult Interview



**Variable: uniontype**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

age

gender

indstatus

curmar

evermar

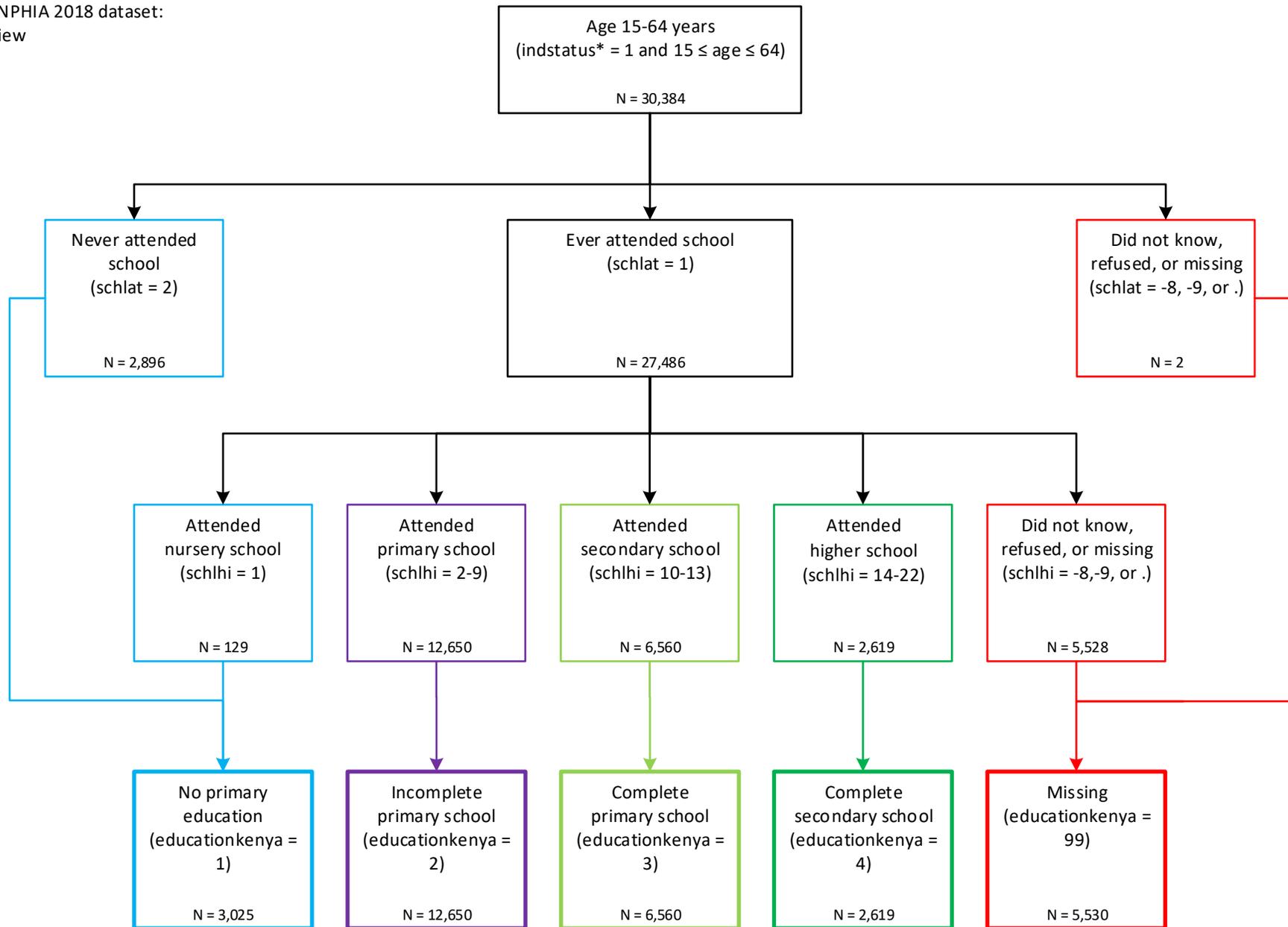
numwif

husotwif

**Variable: educationkenya**

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: educationkenya**

Uses the following KENPHIA 2018 variables :

Adult Interview dataset

age

indstatus

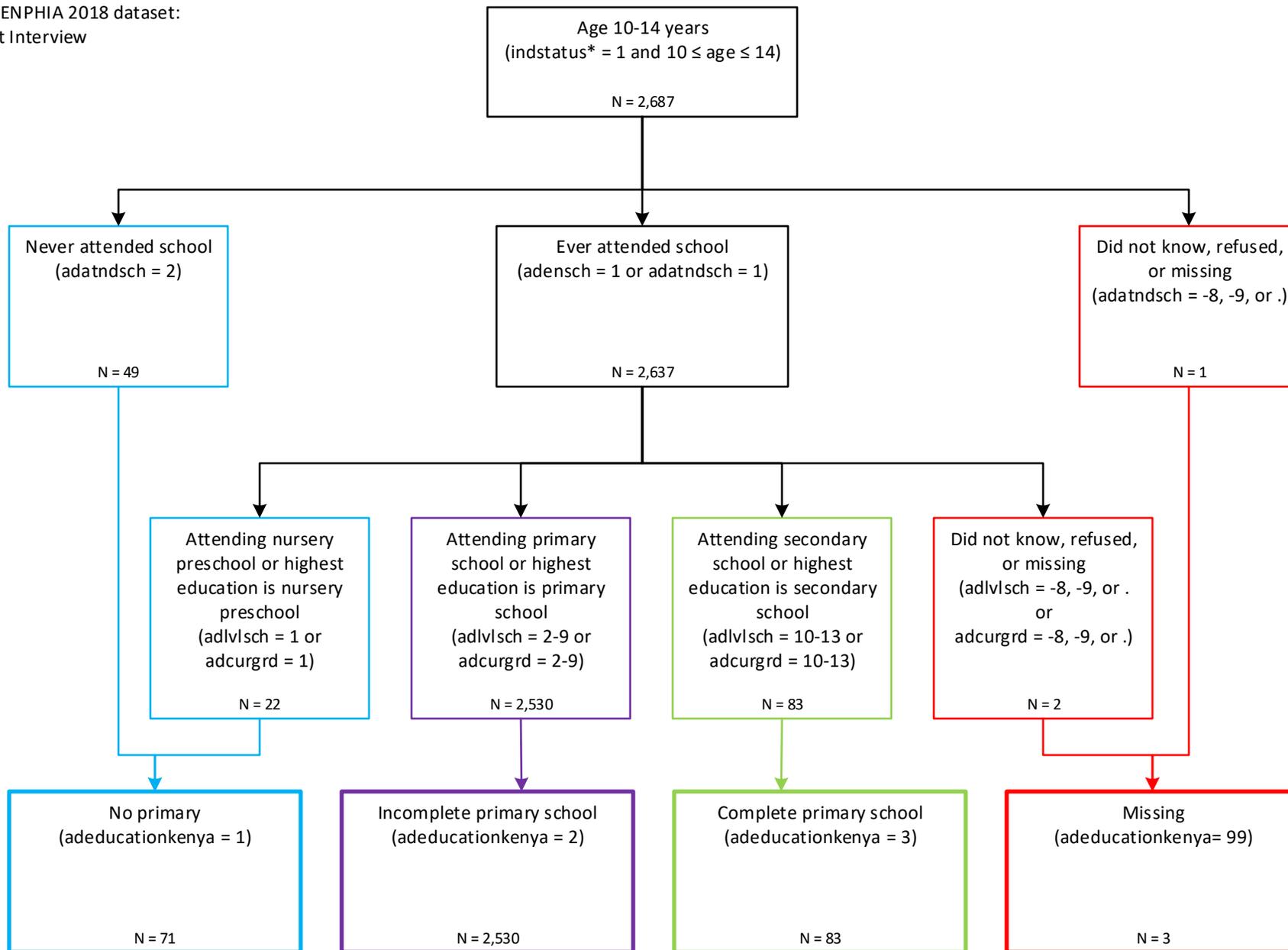
schlat

schlhi

**Variable: adeducationkenya**

Found in KENPHIA 2018 dataset:

Adolescent Interview



**Variable: adeducationkenya**

Uses the following KENPHIA 2018 variables :

Adolescent Interview dataset

age

indstatus

adensch

adatndsch†

adlvlsch†

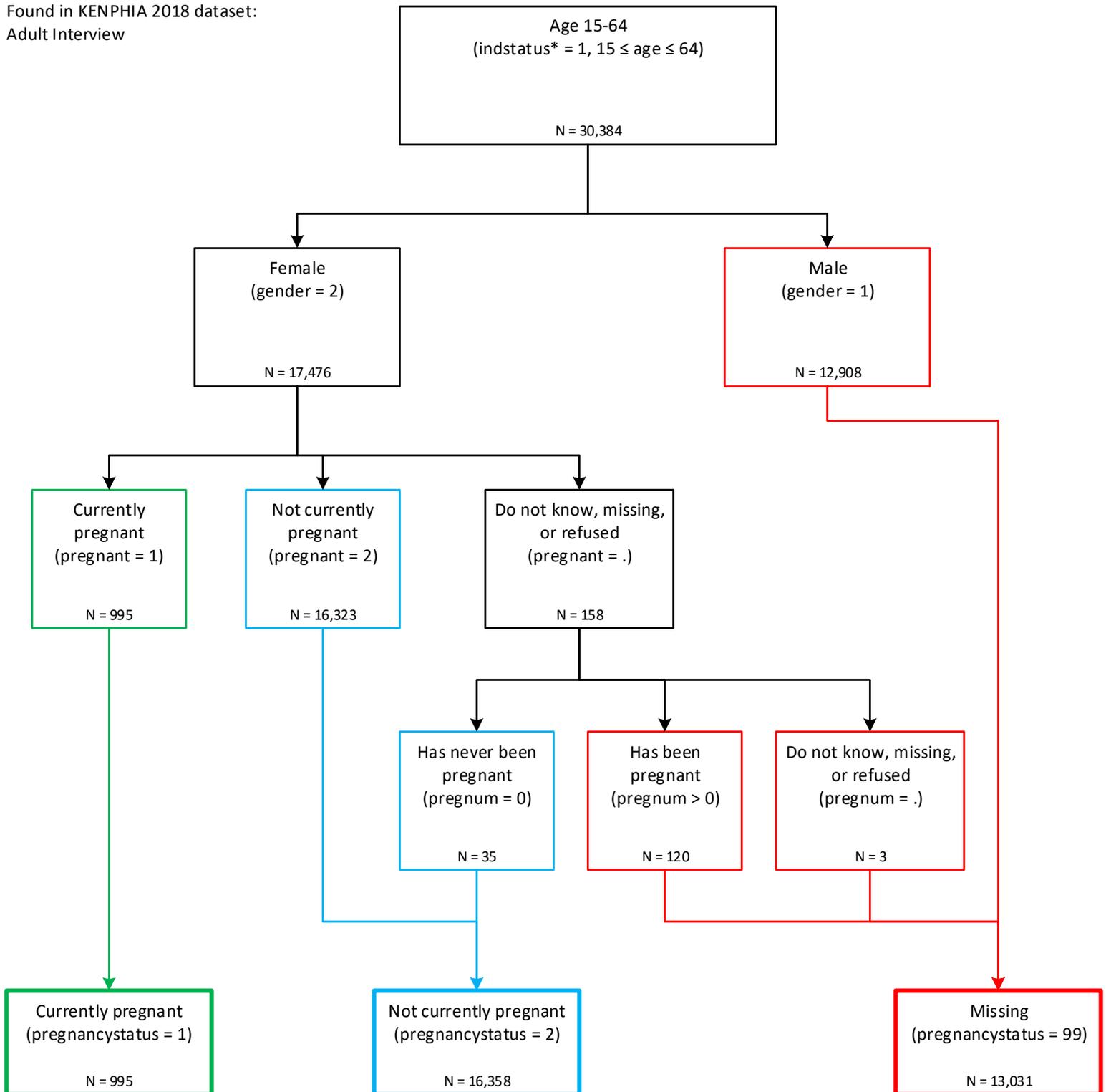
adcgrd

† Variable redacted from final dataset due to small counts and disclosure risk

# Variable: pregnancystatus

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: pregnancystatus**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

age

indstatus

gender

pregnant

pregnum



## Variable: testedpregnancyawaredetail

Uses the following KENPHIA 2018 variables:

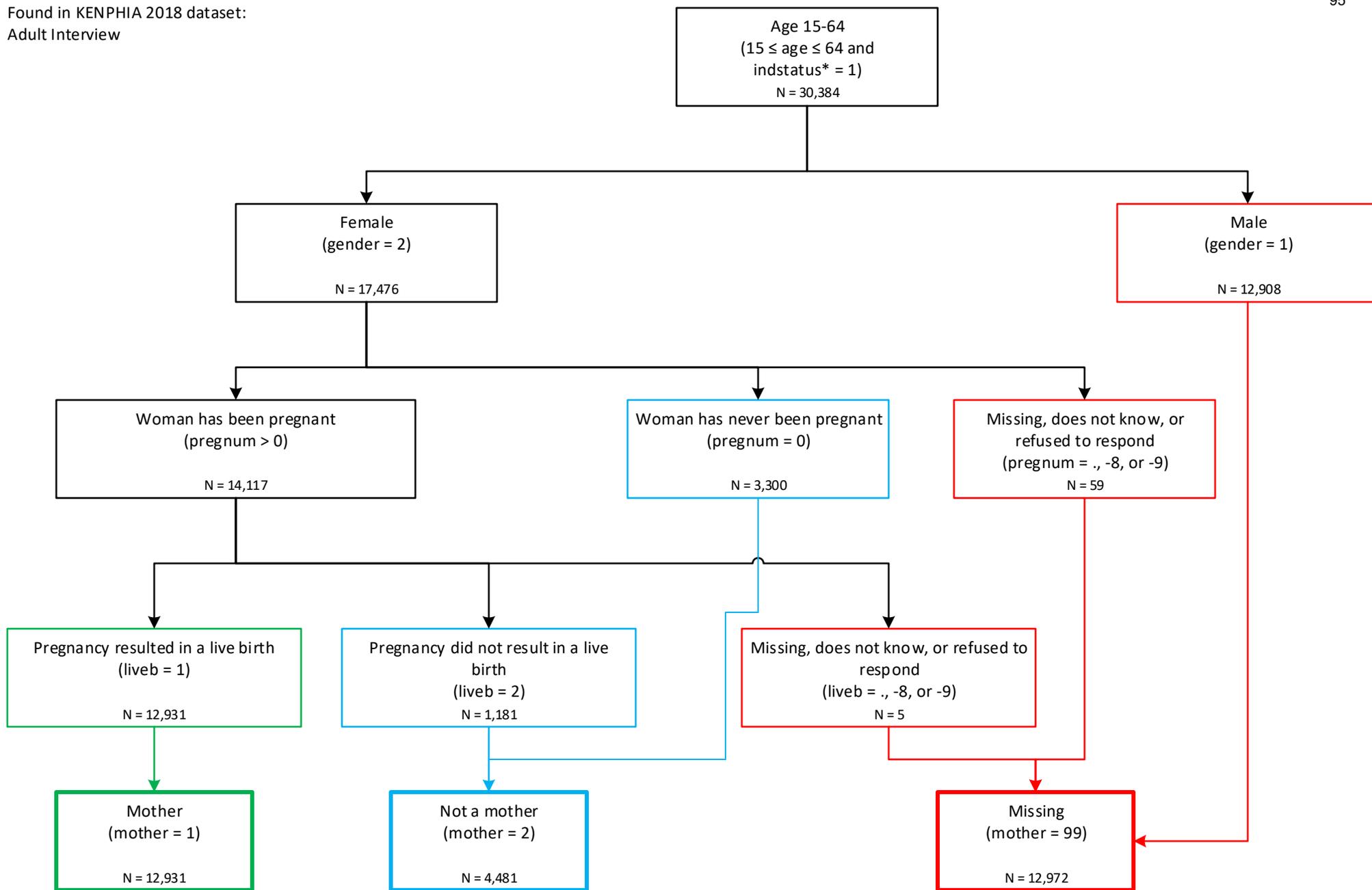
Adult Interview dataset

age  
indstatus  
gender  
childa2012  
hivtsbp  
hivpsbp  
hivtprg  
hivrtpg

**Variable: mother**

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: mother**

Uses the following KENPHIA 2018 variables:

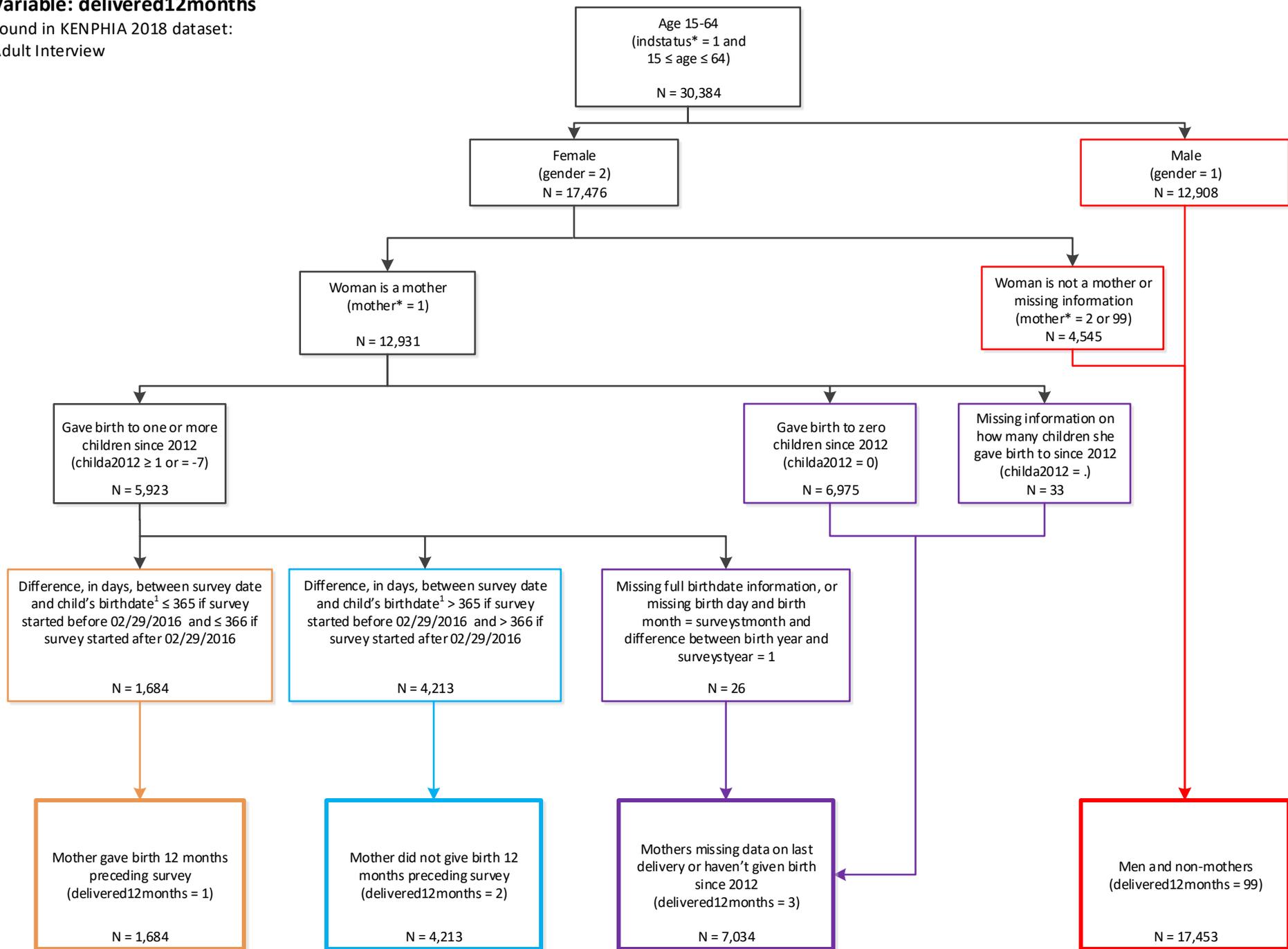
Adult Interview dataset

- age
- indstatus
- gender
- pregnum
- liveb

## Variable: delivered12months

Found in KENPHIA 2018 dataset:

Adult Interview



1. Birthdates coded using birth month (birthmon), birth day (birthday), and birth year (birthyr) provided for up to five children. Survey date is derived from surveystday, surveystmonth, and surveystyear.

**Variable: delivered12months**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

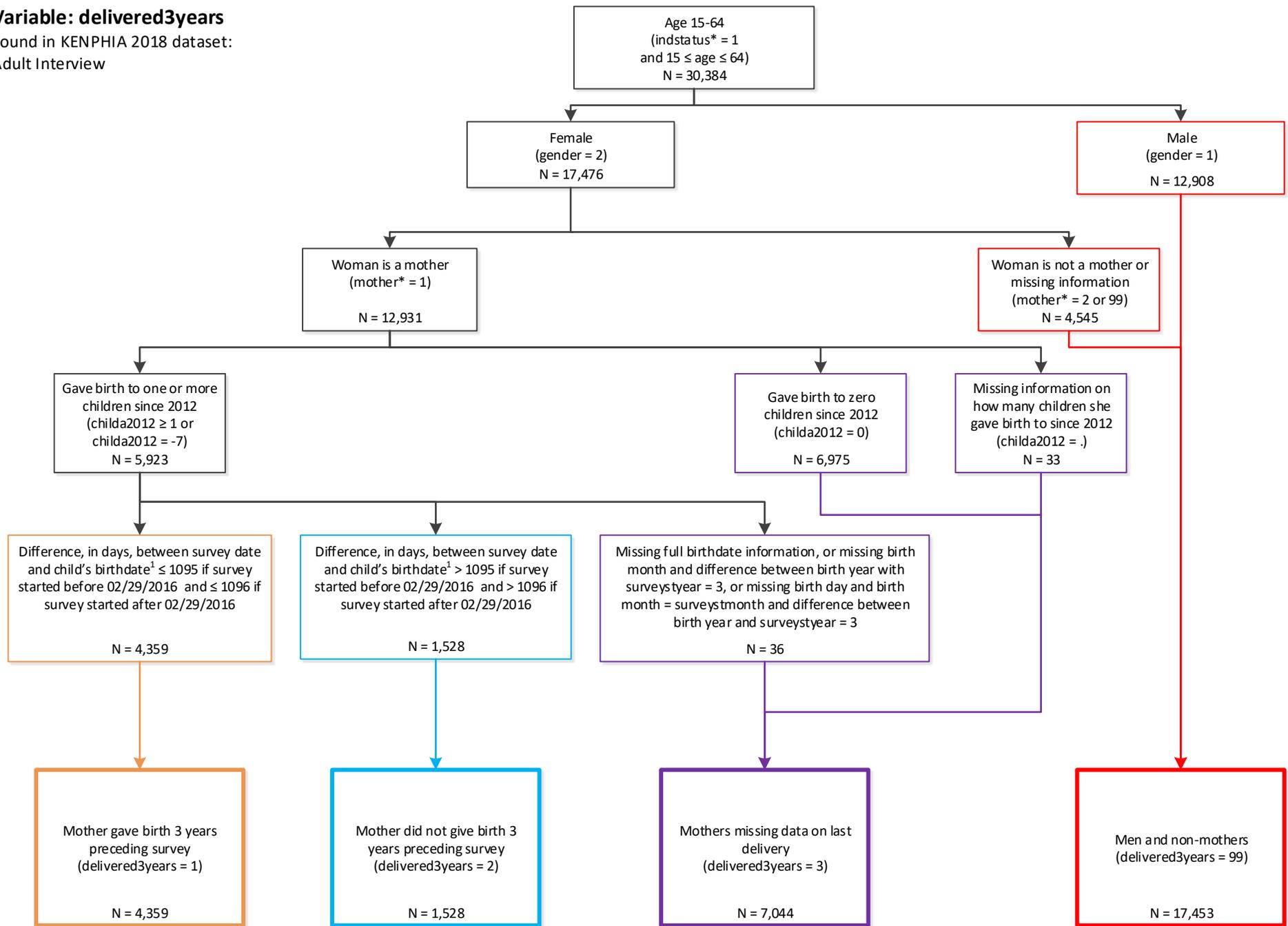
- age
- indstatus
- gender
- mother
- childa2012
- birthmon1-5†
- birthday1-5†
- birthyr1
- birthyr2-6†
- surveystday†
- surveystmonth
- surveystyear

† Variable redacted from final dataset due to small counts and disclosure risk

**Variable: delivered3years**

Found in KENPHIA 2018 dataset:

Adult Interview



1. Birthdates coded using birth month (birthmon), birth day (birthday), and birth year (birthyr) provided for up to six children. Survey date calculated from surveystday, surveystmonth, and surveystyear.

**Variable: delivered3years**

Uses the following KENPHIA 2018 variables:

**Adult Interview**

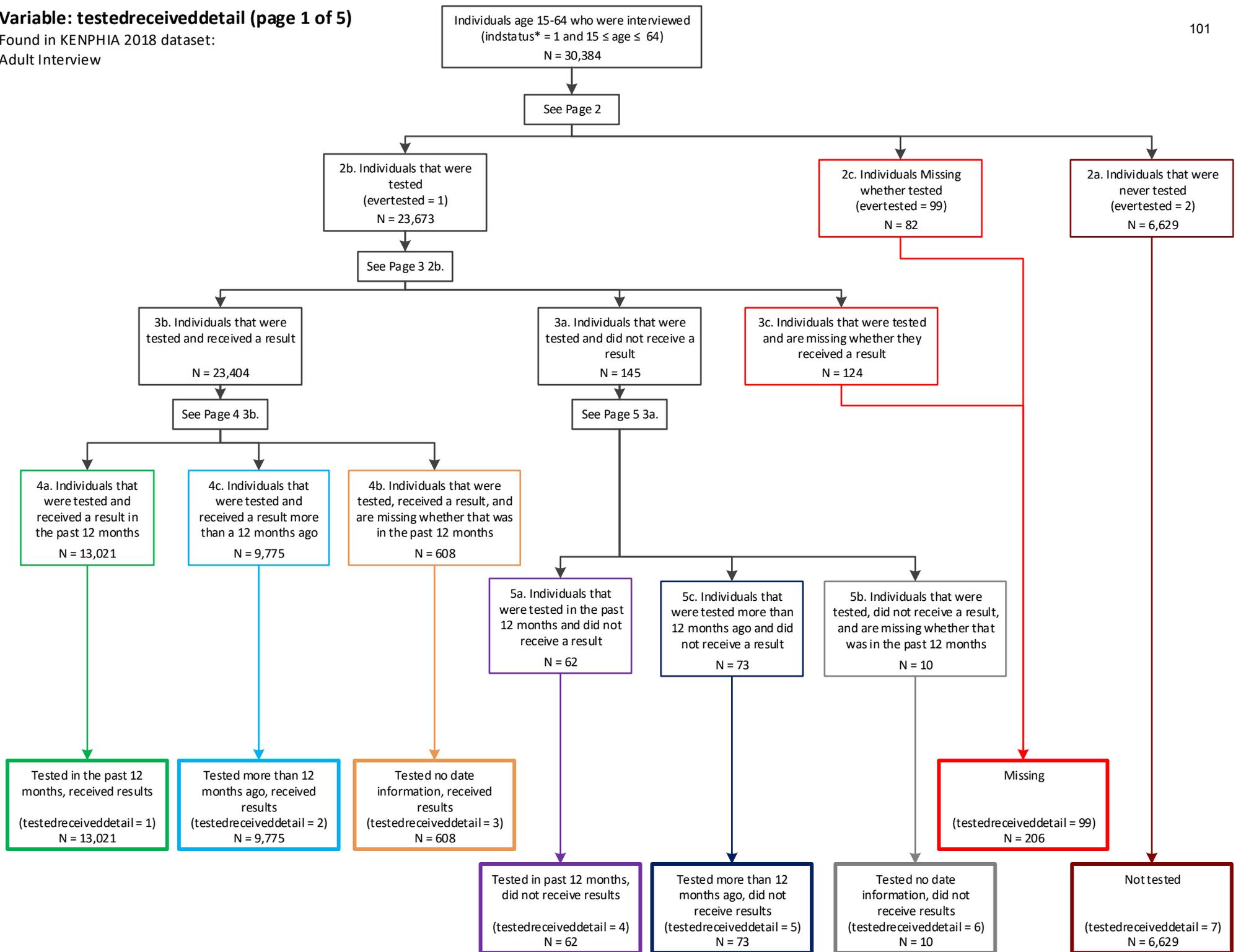
age  
indstatus  
gender  
mother  
childa2012  
birthyr1  
birthyr2-5†  
birthmon1-5†  
birthday1-5†  
surveystday†  
surveystmonth  
surveystyear

† Variable redacted from final dataset due to small counts and disclosure risk

**Variable: testedreceiveddetail (page 1 of 5)**

Found in KENPHIA 2018 dataset:

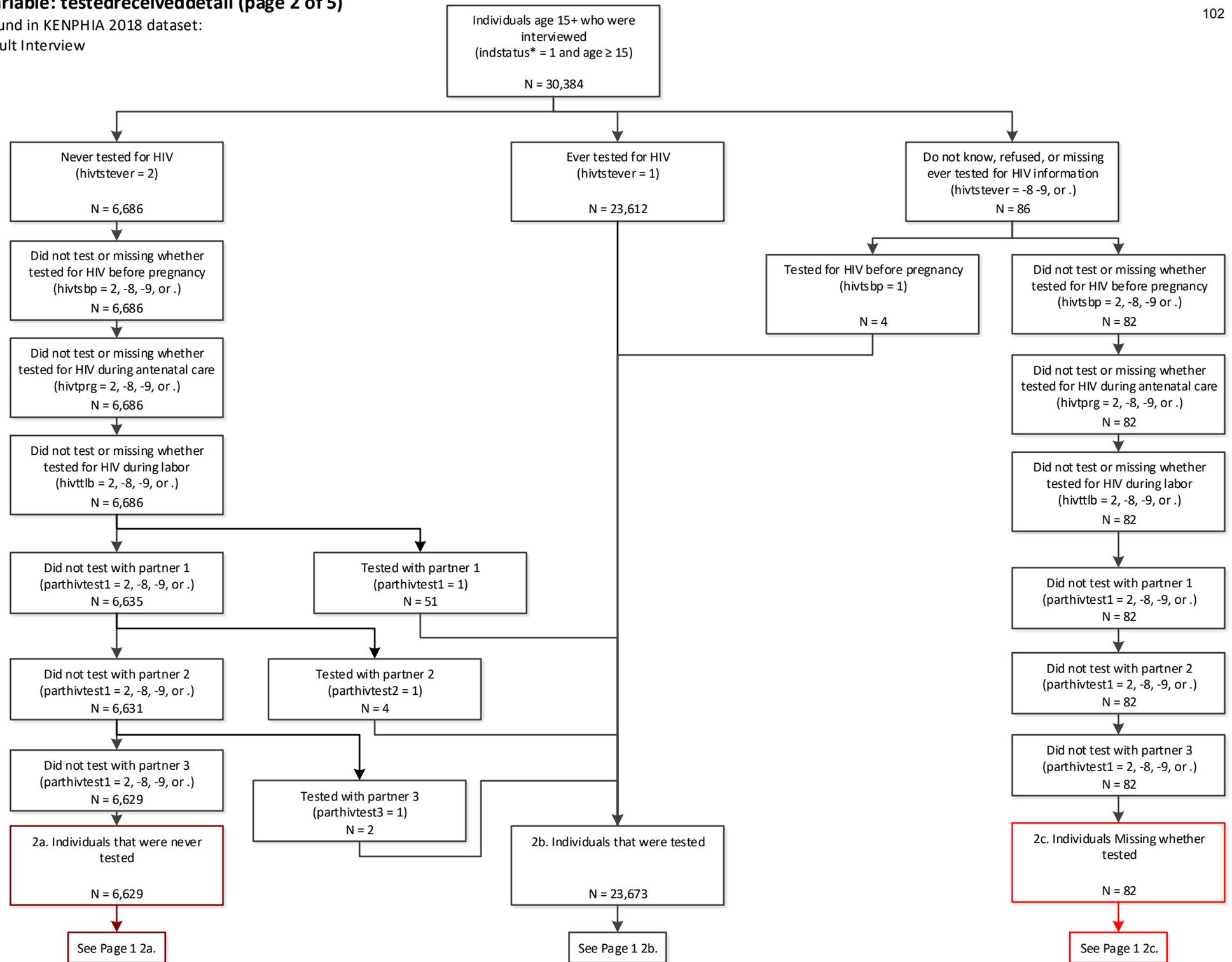
Adult Interview



**Variable: testedreceiveddetail (page 2 of 5)**

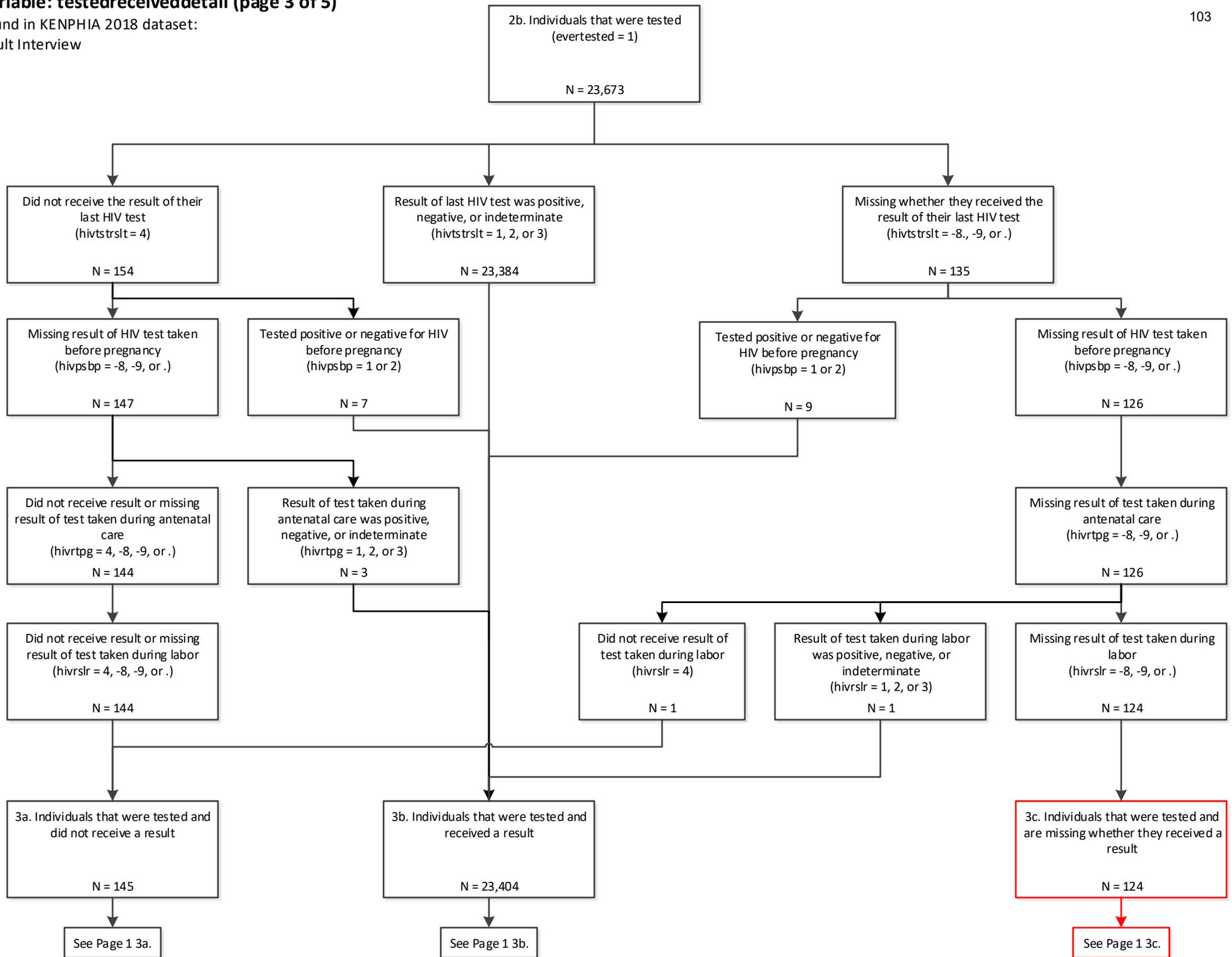
Found in KENPHIA 2018 dataset:

Adult Interview



Variable: testedreceiveddetail (page 3 of 5)

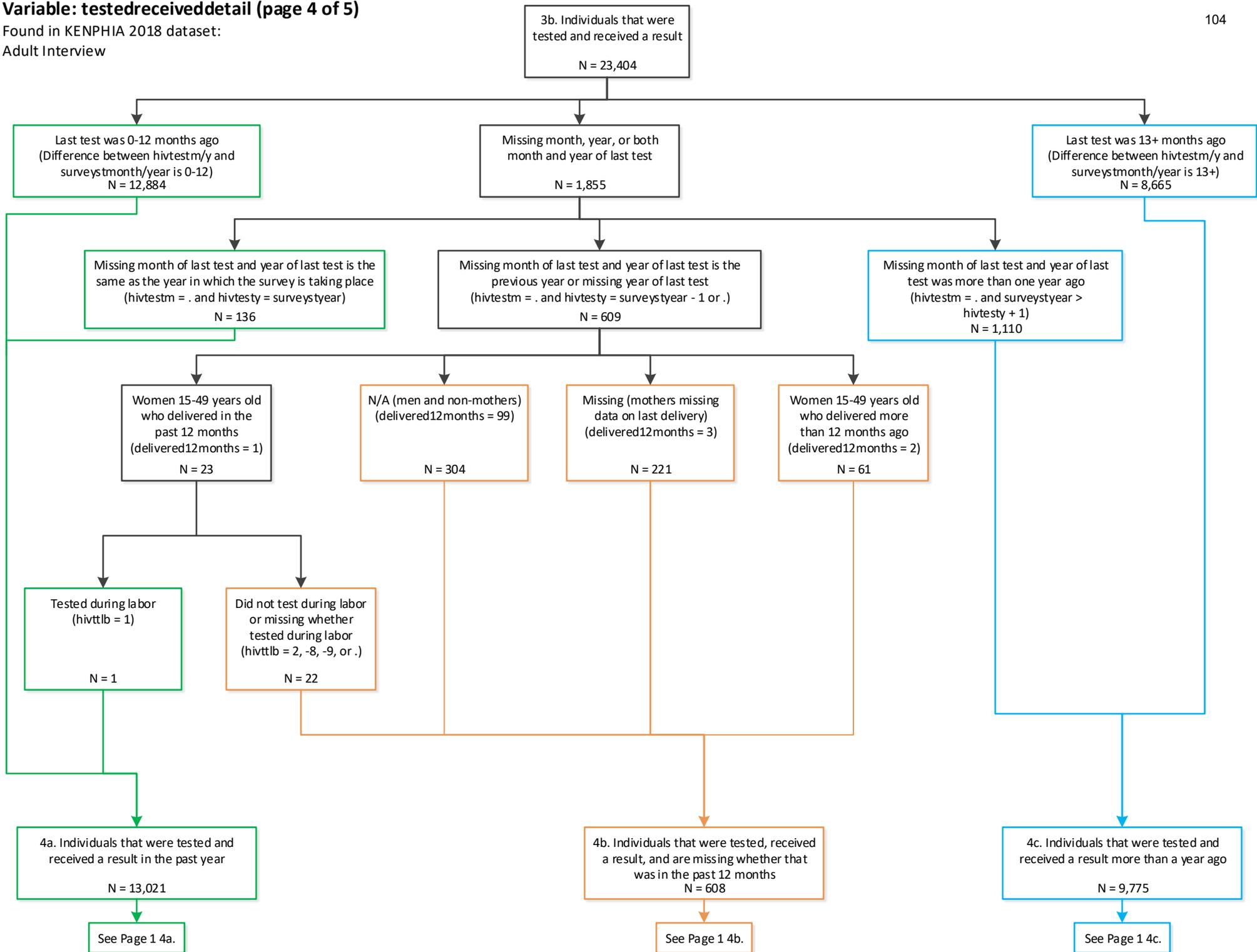
Found in KENPHIA 2018 dataset:  
Adult Interview



**Variable: testedreceiveddetail (page 4 of 5)**

Found in KENPHIA 2018 dataset:

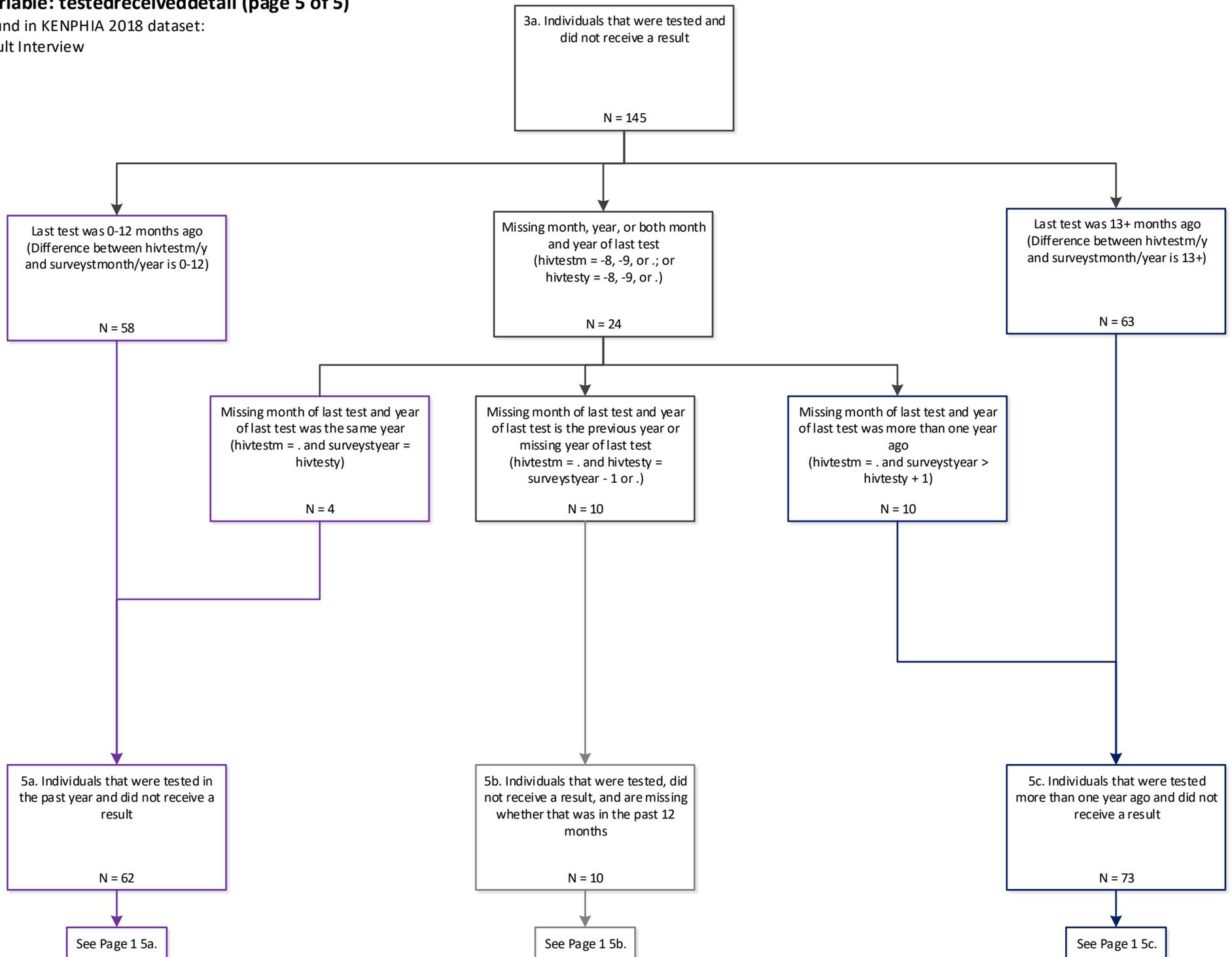
Adult Interview



**Variable: testedreceiveddetail (page 5 of 5)**

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: testedreceiveddetail**

Uses the following KENPHIA 2018 variables:

**Adult Interview**

age  
indstatus  
hivtstever  
hivtsbp  
hivtprg  
hivttlb  
parthivtest1  
parthivtest2  
parthivtest3  
hivtstrslt  
hivpsbp  
hivrtpg  
hivrslr†  
hivtestm  
hivtesty  
delivered12months  
birthyr1  
birthyr2-5†  
birthmon1-5†  
birthday1-5†  
surveystday†  
surveystmonth  
surveystyear

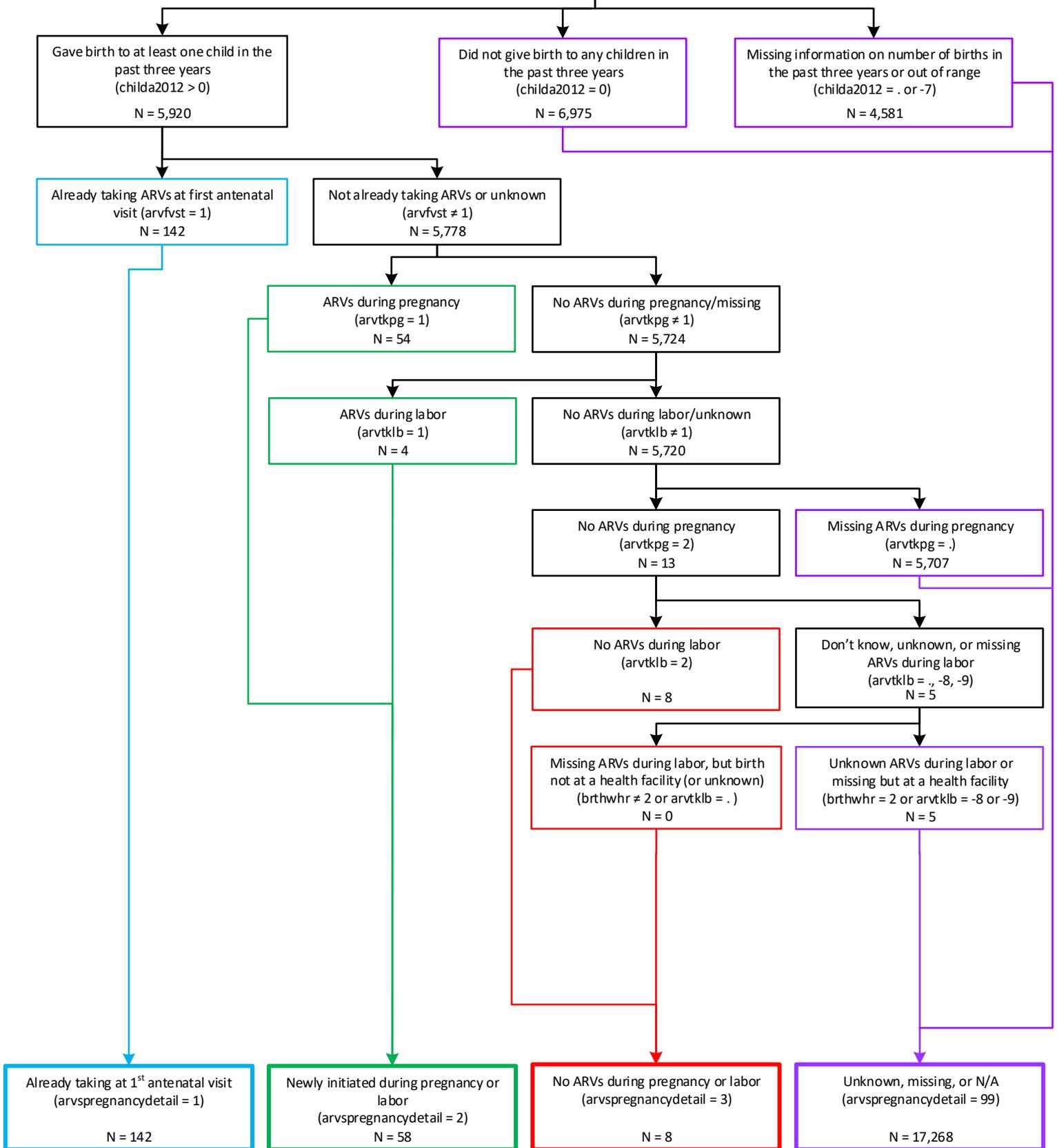
† Variable redacted from final dataset due to small counts and disclosure risk

**Variable: arvspregnancydetail**

Found in KENPHIA 2018 dataset:

Adult Interview

Female respondents age 15-64  
(indstatus\* = 1, gender = 2, and 15 ≤ age ≤ 64)  
N = 17,476



**Variable: arvspregnancydetail**

Uses the following KENPHIA 2018 variables:

## Adult Interview

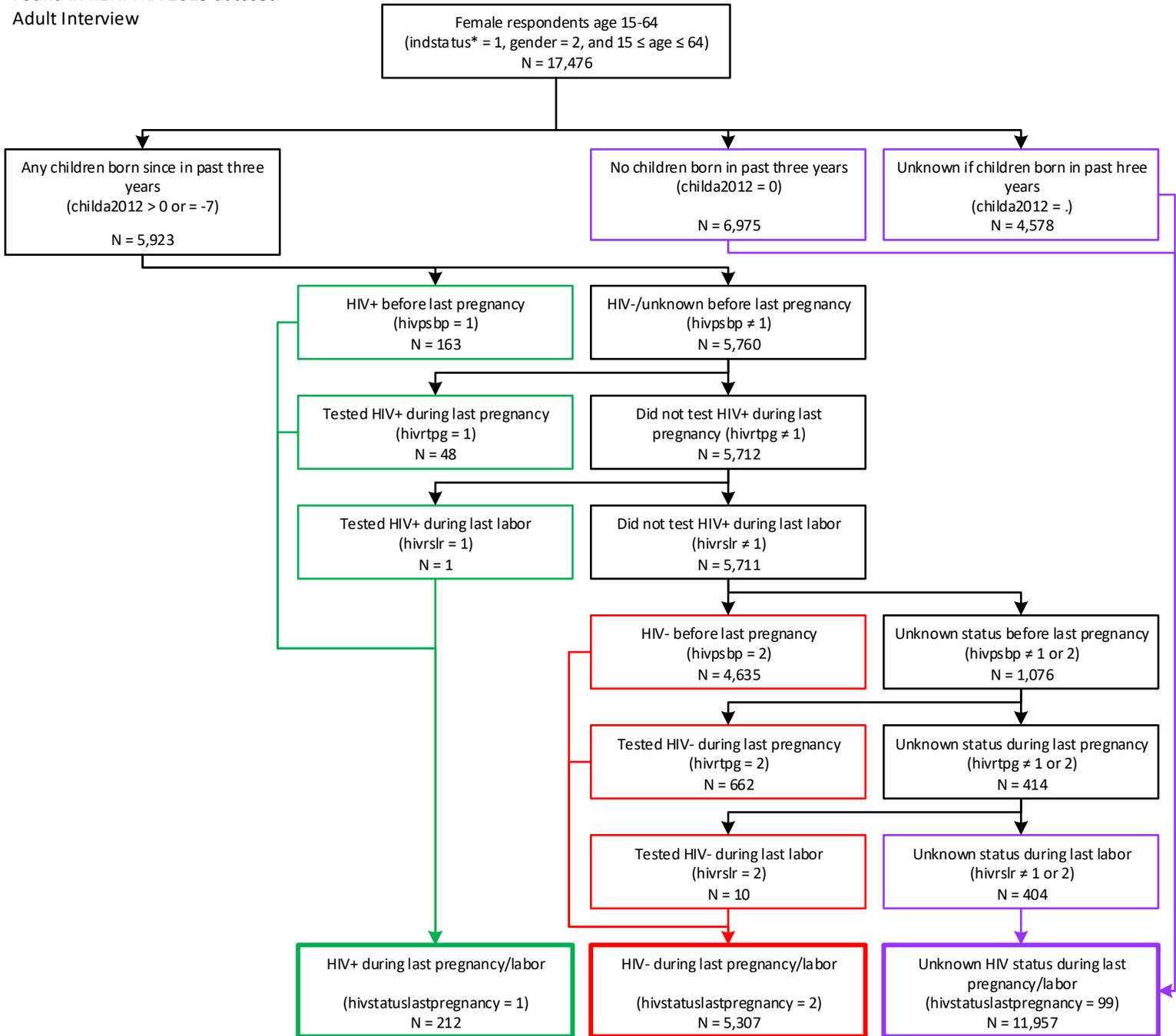
- age
- indstatus
- gender
- childa2012
- hivstatuslastpregnancy
- arvfvt
- arvtpg†
- arvklb†
- brthwhr
- delivered12months

† Variable redacted from final dataset due to small counts and disclosure risk

# Variable: hivstatuslastpregnancy

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: hivstatuslastpregnancy**

Uses the following KENPHIA 2018 variables:

Adult Interview

age

indstatus

gender

childa2012

hivpsbp

hivrtpg

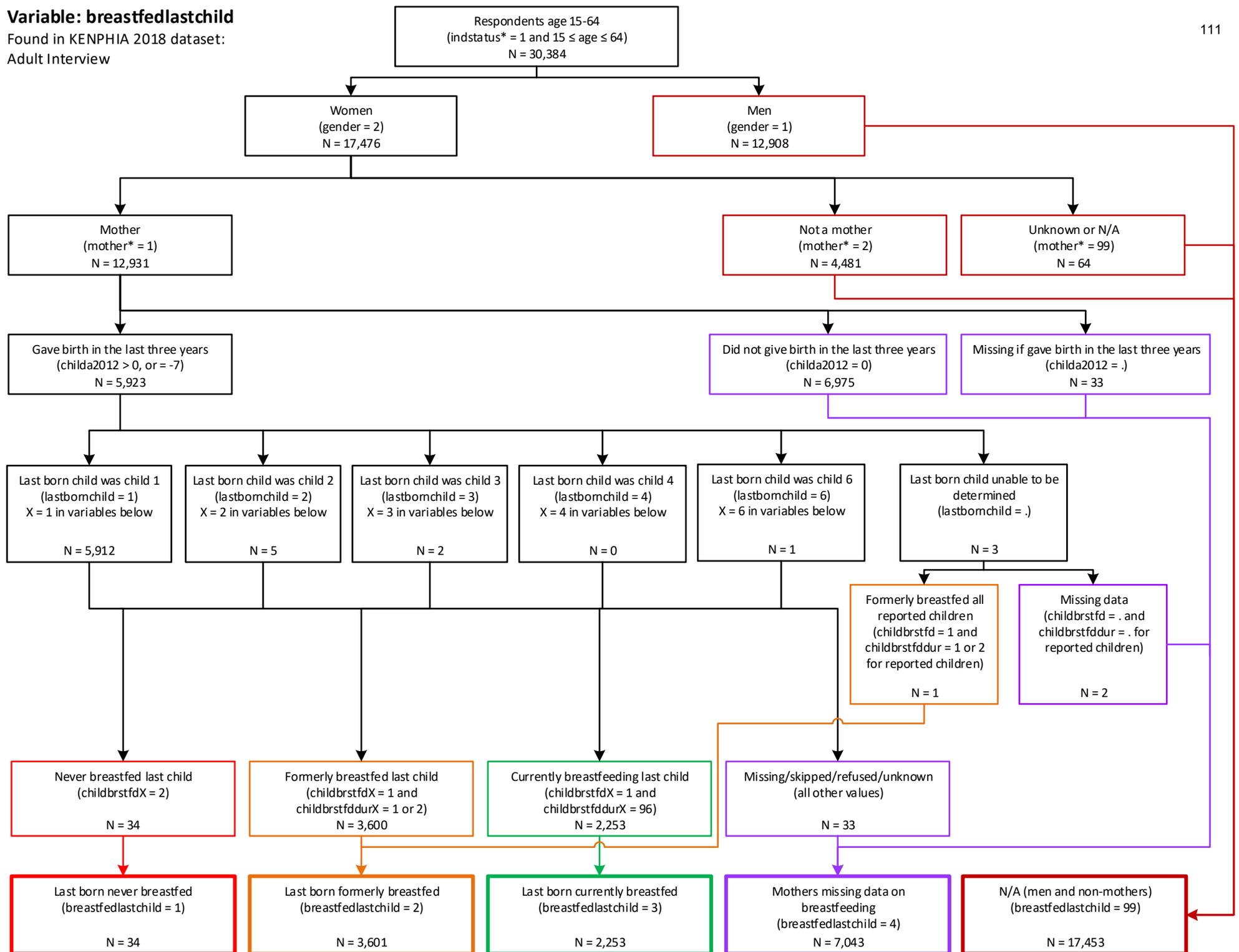
hivrslr†

† Variable redacted from final dataset due to small counts and disclosure risk

**Variable: breastfedlastchild**

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: breastfedlastchild**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

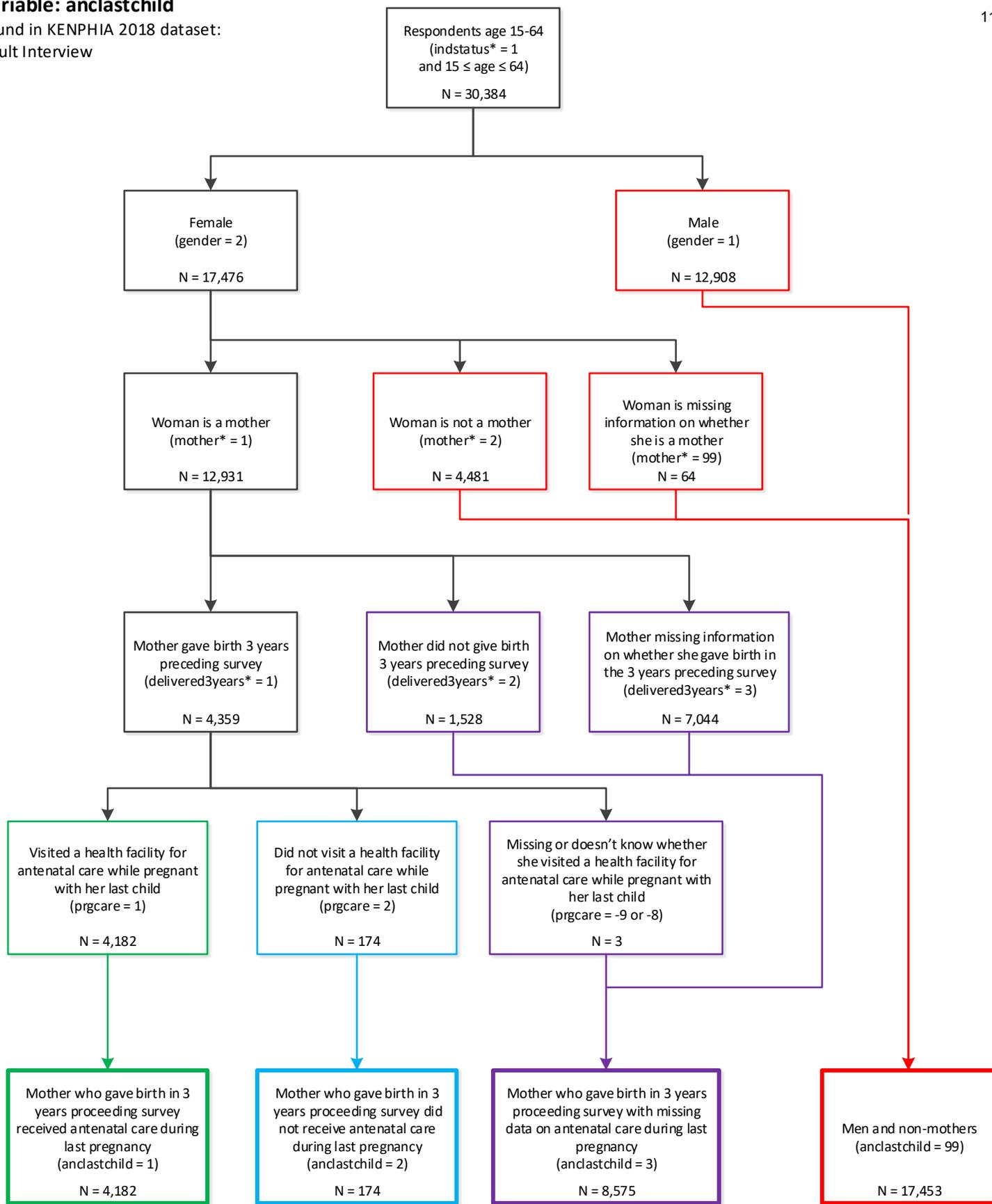
- age
- indstatus
- gender
- mother
- childa2012
- childbrstfd1
- childbrstfd2-6†
- childbrstfddur1-6†

† Variable redacted from final dataset due to small counts and disclosure risk

# Variable: anlastchild

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: anclastchild**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

age

indstatus

gender

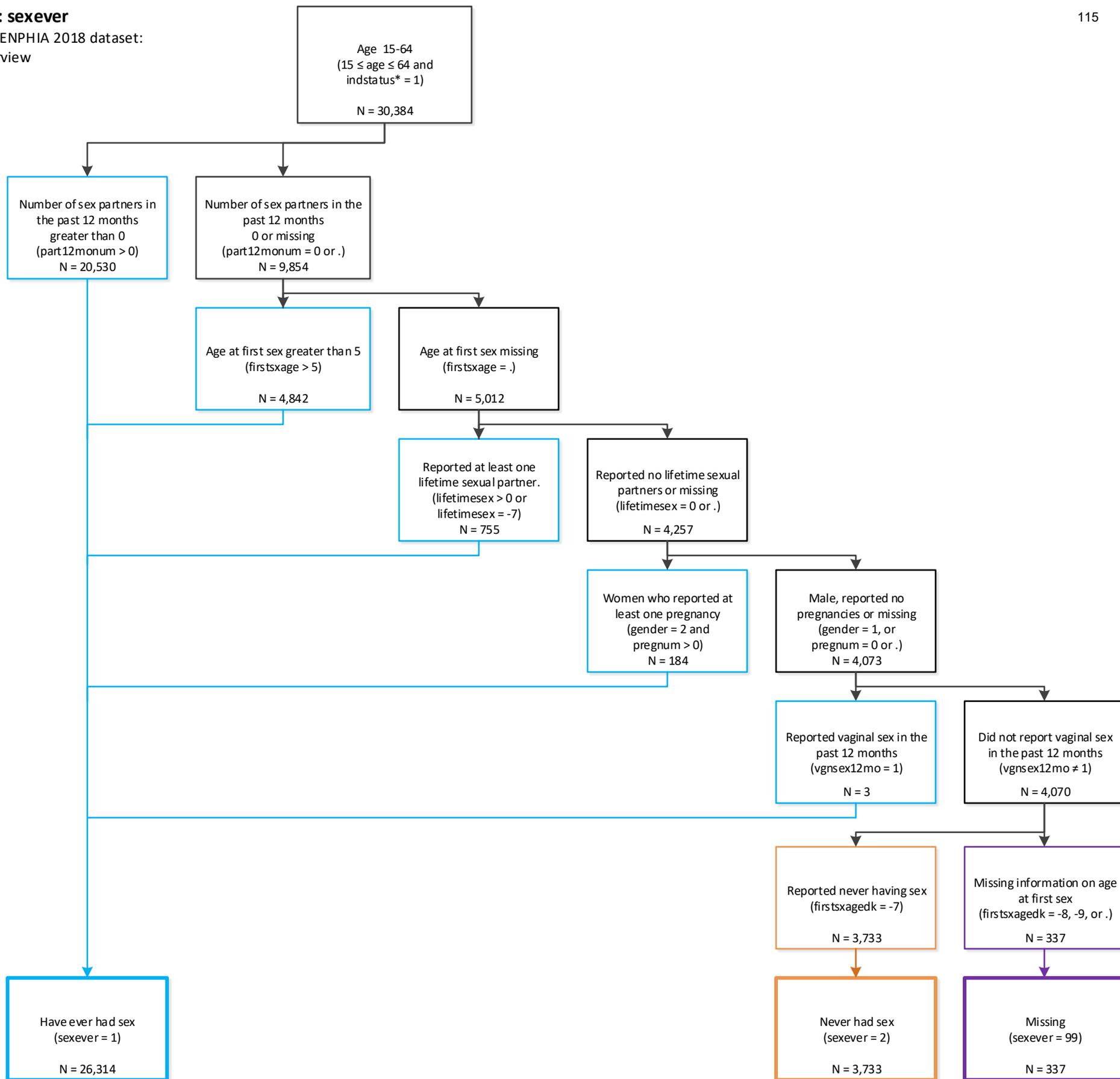
mother

delivered3years

prgcare

**Variable: sexever**

Found in KENPHIA 2018 dataset:  
Adult Interview



**Variable: sexever**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

age

indstatus

gender

pregnum

firstsxage

firstsxagedk

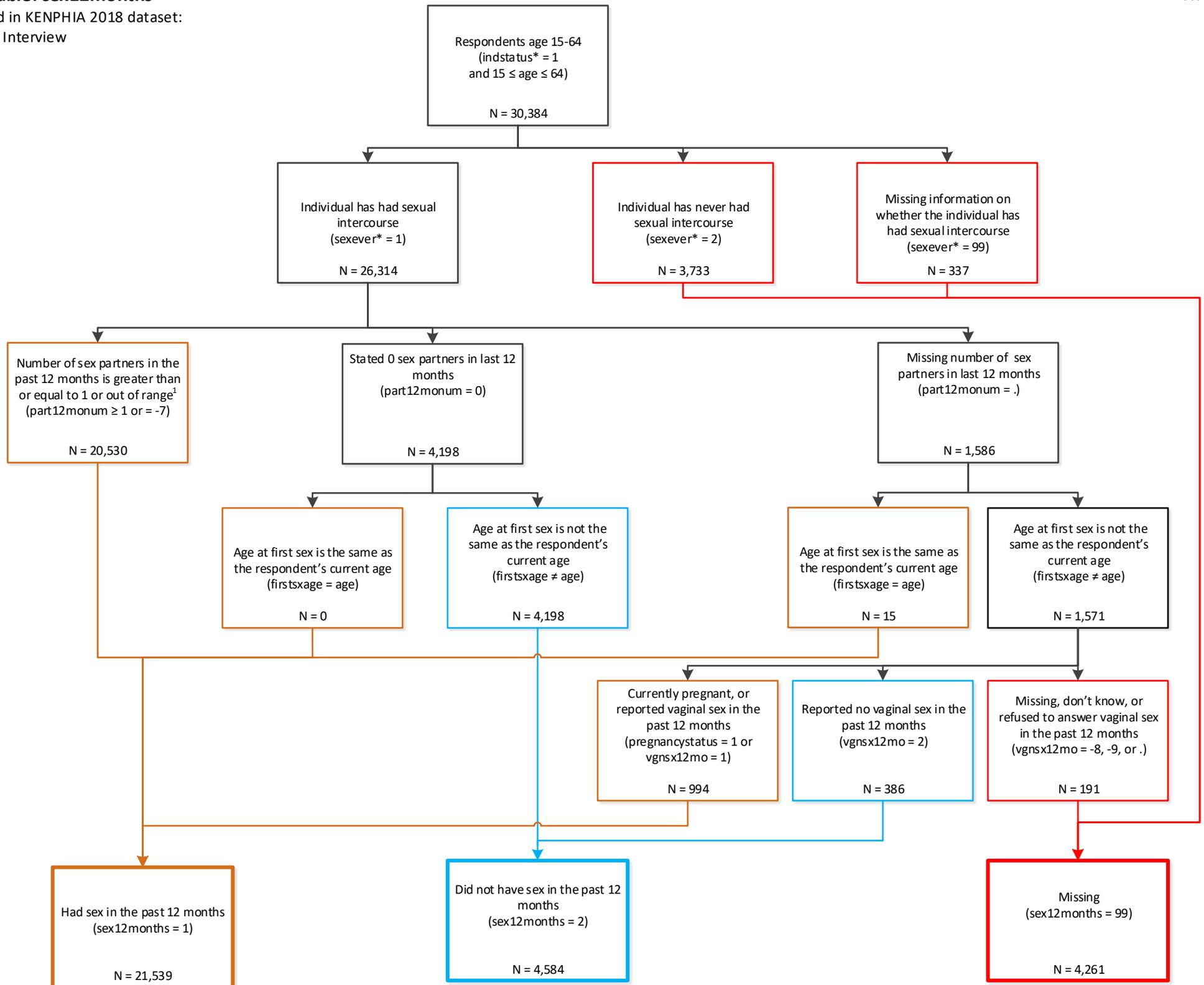
part12mo

lifetimesex

vgnsex12mo

**Variable: sex12months**

Found in KENPHIA 2018 dataset:  
Adult Interview



1. Number of sex partners in the past 12 months is out of range for women who had a child in the past 12 weeks and respondents who reported having bought or sold sex in the past 12 months that also reported having zero sex partners in the past 12 months.

**Variable: sex12months**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

age

indstatus

sexever

part12monum

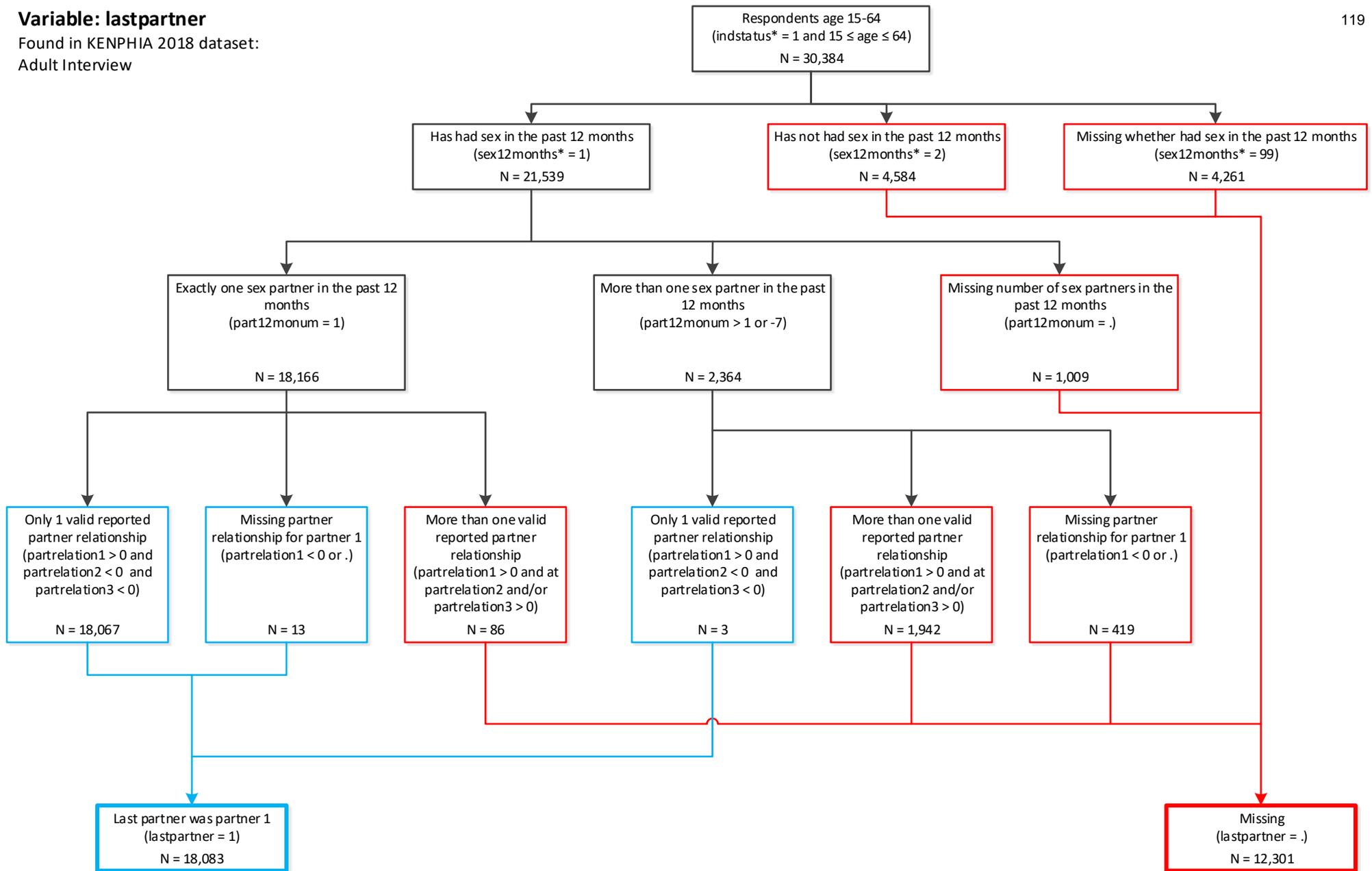
firstsxage

pregnancystatus

vgnsx12mo

# Variable: lastpartner

Found in KENPHIA 2018 dataset:  
Adult Interview



**Variable: lastpartner**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

age

indstatus

sex12months

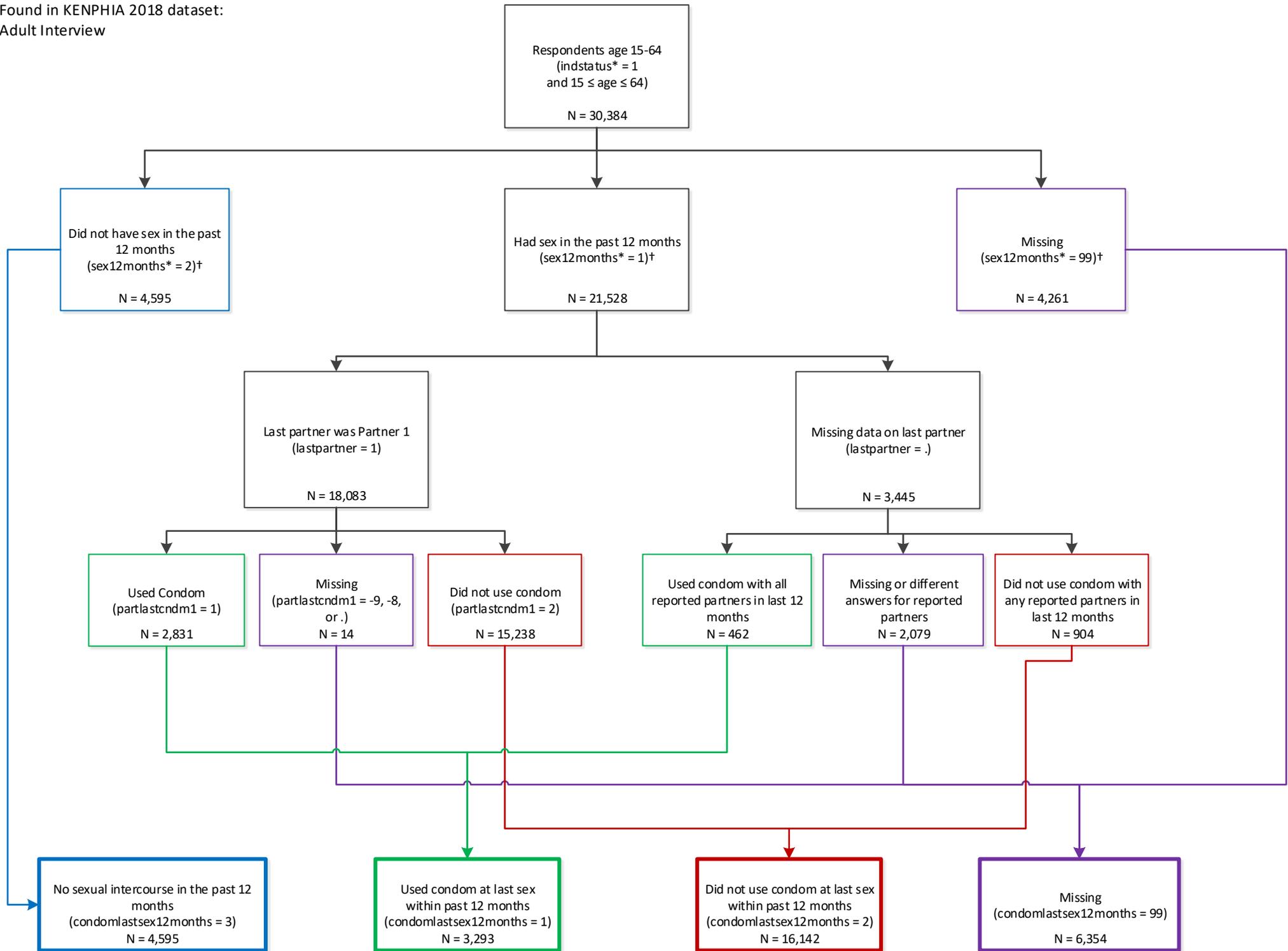
part12monum

partrelation1-3

## Variable: condomlastsex12months

Found in KENPHIA 2018 dataset:

Adult Interview



† Note that due to additional data cleaning in Kenya, individuals meeting the following condition are treated as not having had sex in the past 12 months for the purposes of coding the condomlastsex12months variable:  
 pregnant = 1 and vgnsex12mo = 2 and firstsage ≠ age and ((part12monum = -7) or (part12monum = . and lftimesex = .))

**Variable: condomlastsex12months**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

age

indstatus

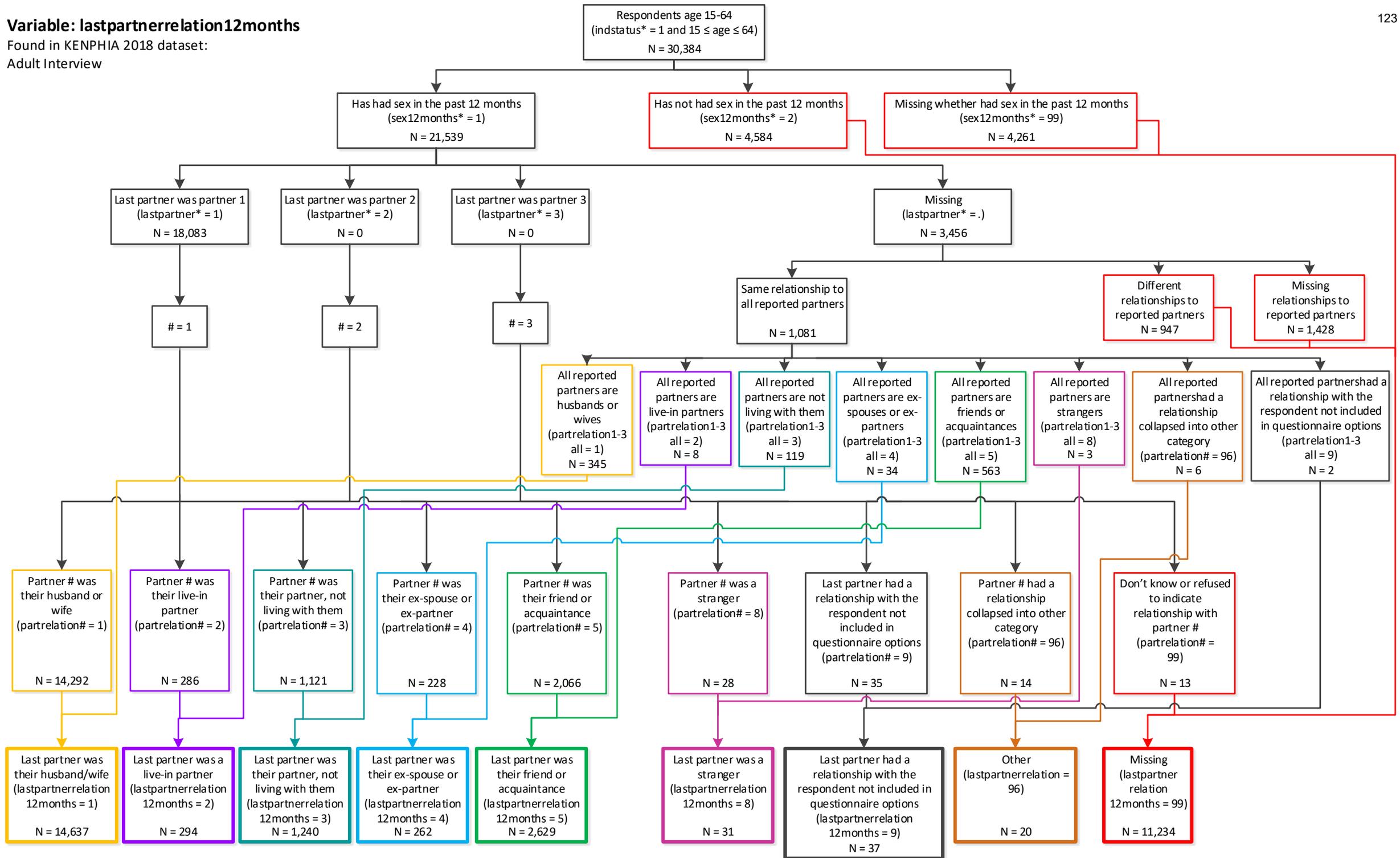
sex12months

lastpartner

partlastcondm1-3

**Variable: lastpartnerrelation12months**

Found in KENPHIA 2018 dataset:  
Adult Interview



**Variable: lastpartnerrelation12months**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

indstatus

age

sex12months

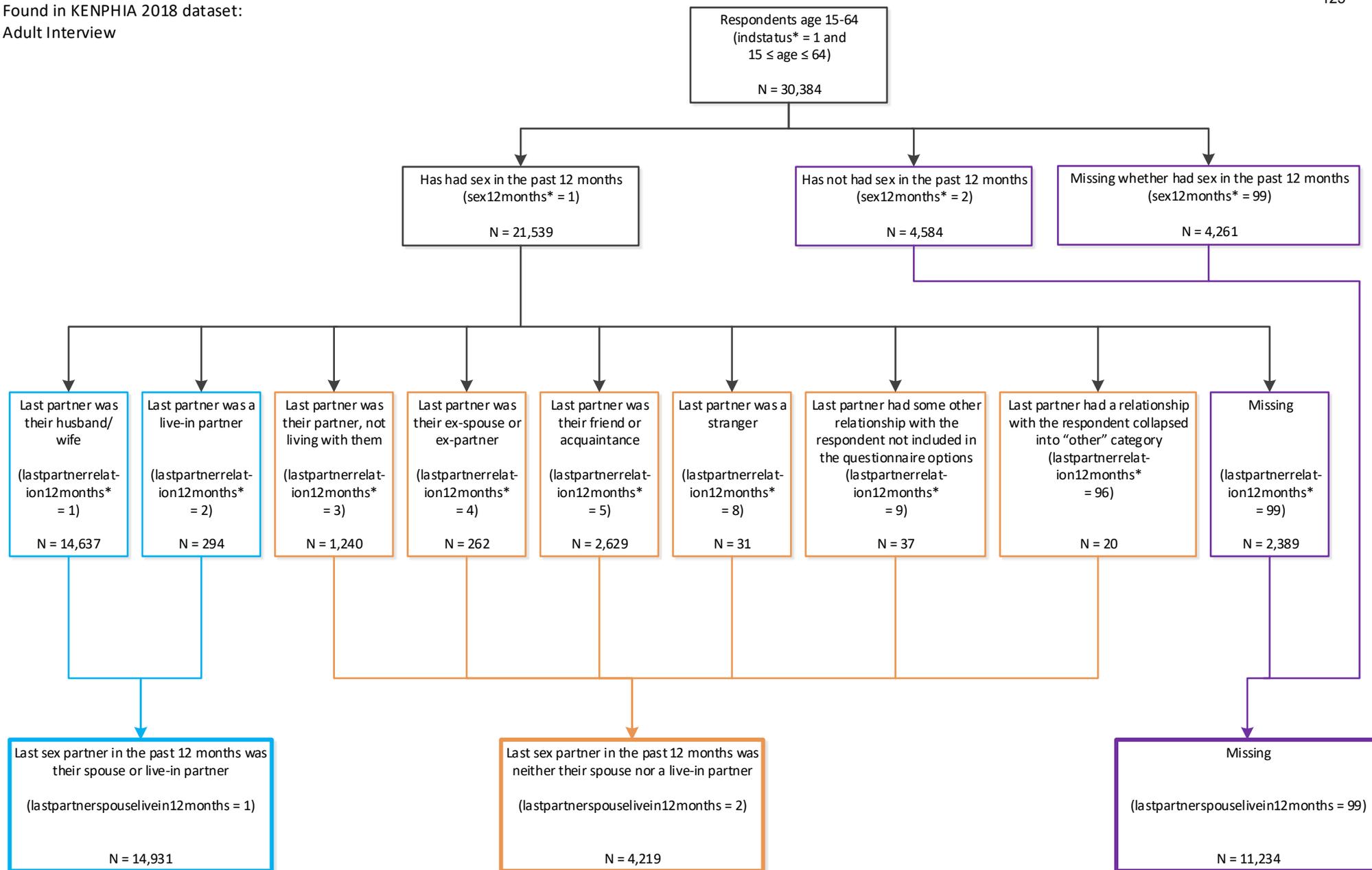
lastpartner

partrelation1-3

# Variable: lastpartnerspouselivein12months

Found in KENPHIA 2018 dataset:

Adult Interview



## **Variable: lastpartnerspouselivein12months**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

indstatus

age

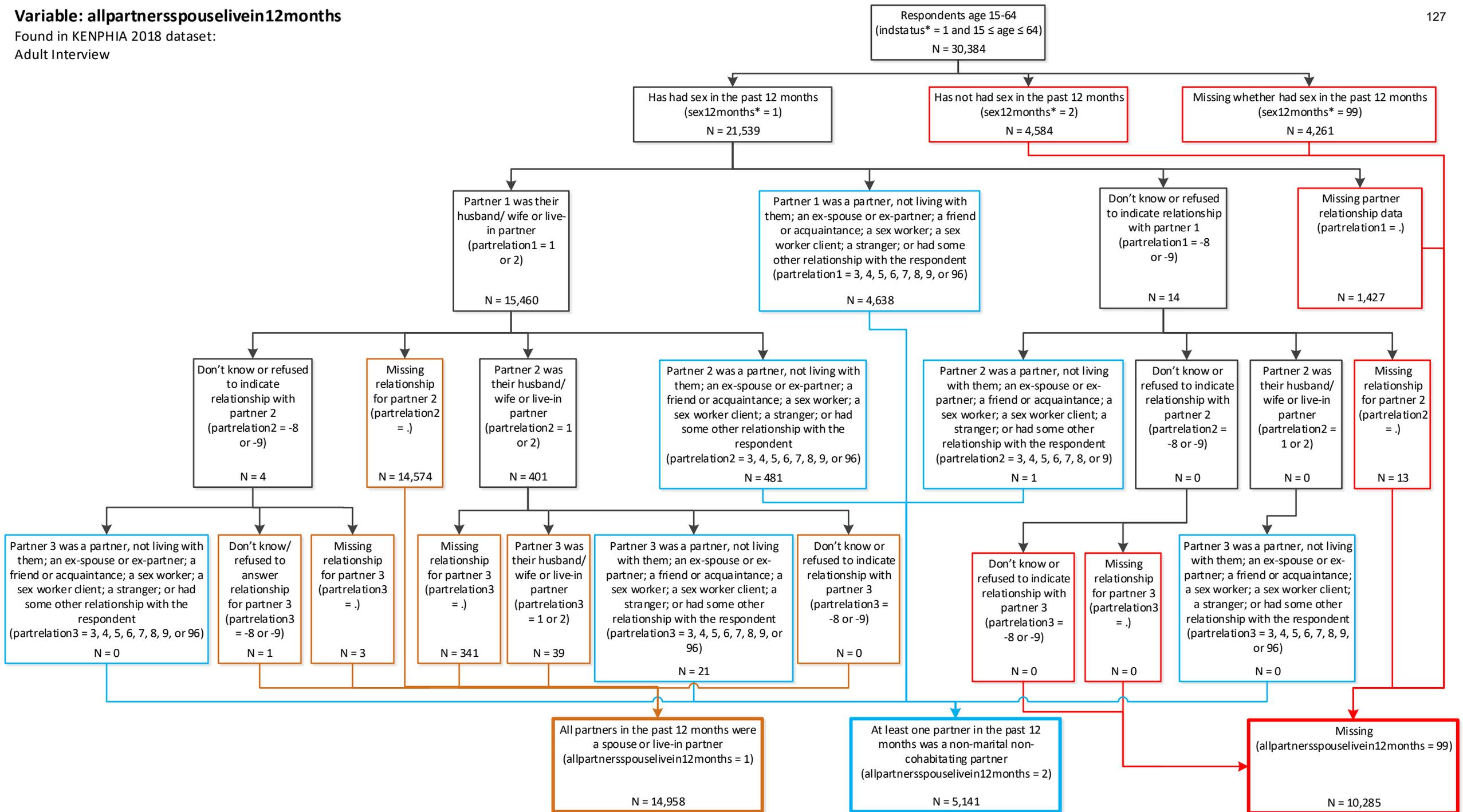
sex12months

lastpartnerrelation12months

**Variable: allpartnerspouselivein12months**

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: allpartnerspouselivein12months**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

indstatus

age

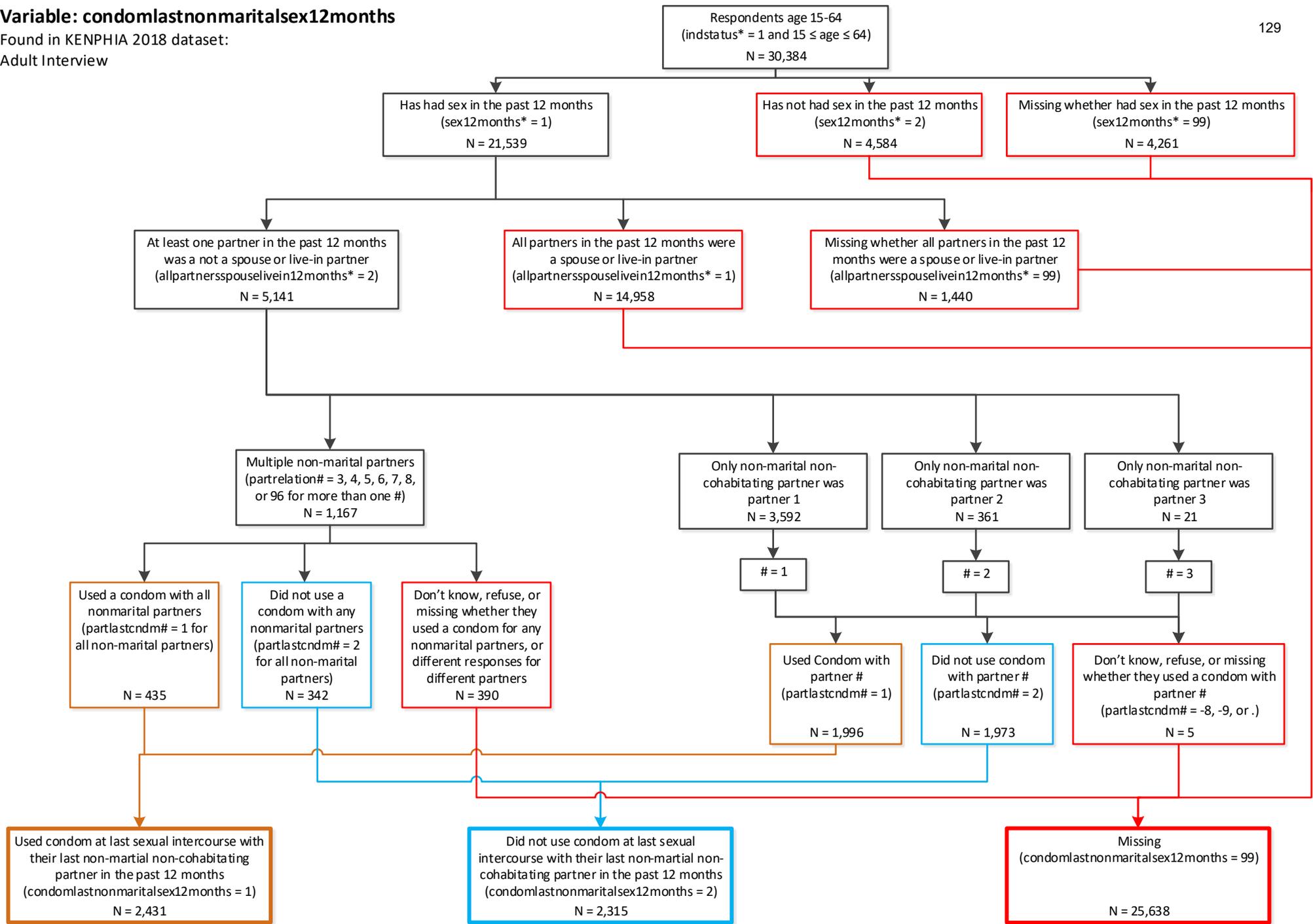
sex12months

partrelation1-3

# Variable: condomlastnonmaritalsex12months

Found in KENPHIA 2018 dataset:

Adult Interview



**Variable: condomlastnonmaritalsex12months**

Uses the following KENPHIA 2018 variables:

Adult Interview dataset

indstatus

age

sex12months

allpartnerspouselivein12months

partlastcondm1-3

partrelation1-3