Framingham Heart Study
Longitudinal Data Documentation

The Framingham Heart Study is a long term prospective study of the etiology of cardiovascular disease among a population of free living subjects in the community of Framingham, Massachusetts. The Framingham Heart Study was a landmark study in epidemiology in that it was the first prospective study of cardiovascular disease and identified the concept of risk factors and their joint effects. The study began in 1948 and 5,209 subjects were initially enrolled in the study. Participants have been examined biennially (every other year) since the inception (start) of the study and all subjects are continuously followed through regular surveillance for cardiovascular outcomes. Clinic examination data has included cardiovascular disease risk factors and markers of disease such as blood pressure, blood chemistry, lung function, smoking history, health behaviors, ECG tracings, Echocardiography, and medication use. Through regular surveillance of area hospitals, participant contact, and death certificates, the Framingham Heart Study reviews and adjudicates (judges) events for the occurrence of Angina Pectoris, Myocardial Infarction, Heart Failure, and Cerebrovascular disease.

Risk factors

The enclosed dataset is a subset of the data collected as part of the Framingham study and includes laboratory, clinic, questionnaire, and adjudicated event data on 4,434 participants. Participant clinic data was collected during three examination periods, approximately 6 years apart, from roughly 1956 to 1968. Each participant was followed for a total of 24 years for the outcome of the following events: Angina Pectoris, Myocardial Infarction, Atherothrombotic Infarction or Cerebral Hemorrhage (Stroke) or death. **(NOTE: Although the enclosed dataset contains Framingham data 'as collected' by Framingham investigators, specific methods were employed to ensure an anonymous dataset that protects patient confidentiality; therefore, this dataset is inappropriate for publication purposes).**

Methods

Outcomes

The data is provided in Longitudinal form (Repeated observations on the same variable, ex) person). Each participant has 1 to 3 observations depending on the number of exams the subject attended, and as a result there are 11,627 observations on the 4,434 participants. Event data for each participant has been added without regard for prevalent disease status or when examination data was collected. For example, consider the following participant:

Baseline

prevalent coronary heart disease

RANDID	age	SEX	time	period	prevchd	mi_fchd	timemifc
95148	52	2	0	1	0	1	3607
95148	58	2	2128	2	0	1	3607
95148	64	2	4192	3	1	1	3607

3 periods of examination

every 6 years

days

days

* After period 2 but before period 3. *

detectable at period 3.

Participant 95148 entered the study (time=0 or period=1) free of prevalent coronary heart disease (prevchd=0 at period=1); however, during followup, an MI event occurred at day 3607 following the baseline examination. The MI occurred after the second exam the subject attended (period=2 or time=2128 days), but before the third attended exam (period=3 or time=4192 days). Since the event occurred prior to the third exam, the subject was prevalent for CHD detectable (prevchd=1) at the third examination. Note that the event data (mi_fchd, timemifc) covers the entire followup period and does not change according to exam.

The following characteristics or risk factor data are provided in the dataset. Missing values in the dataset are indicated by a period (.). In SAS, missing values are numerically the smallest possible values (for example, <0 or < -99999999).

Variable	Description	Units	Range or count
RANDID	Unique identification number for each participant		2448-9999312
SEX	Participant sex	1=Men 2=Women	n=5022 n=6605
PERIOD	Examination Cycle	1=Period 1 2=Period 2 3=Period 3	n=4434 n=3930 n=3263
TIME	Number of days since baseline exam		0-4854
AGE	Age at exam (years)		32-81
SYSBP	Systolic Blood Pressure (mean of last two of three measurements) (mmHg)		83.5-295
DIABP	Diastolic Blood Pressure (mean of last two of three measurements) (mmHg)		30-150
BPMEDS	Use of Anti-hypertensive medication at exam	0=Not currently used 1=Current Use	n=10090 n=944
CURSMOKE	Current cigarette smoking at exam	0=Not current smoker 1=Current smoker	n=6598 n=5029
CIGPDAY	Number of cigarettes smoked each day	0=Not current smoker 1-90 cigarettes per day	
EDUC	Attained Education ↑Bad habits, lower income, barrier for healthier lifestyle ↓Understanding of disease severity: ↓Awarness.	1=0-11 years 2=High School Diploma, GED 3=Some College, Vocational School 4=College (BS, BA) degree or more	
TOTCHOL	Serum Total Cholesterol (mg/dL)		107-696
HDLC	High Density Lipoprotein Cholesterol (mg/dL)	available for period 3 only	10-189
LDLC	Low Density Lipoprotein Cholesterol (mg/dL)	available for period 3 only	20-565
BMI	Body Mass Index, weight in kilograms/height meters squared		14.43-56.8
GLUCOSE	Casual serum glucose (mg/dL)		39-478

Variable	Description	Units	Range or count
DIABETES	Diabetic according to criteria of first exam treated or first exam with casual glucose of 200 mg/dL or more	0=Not a diabetic 1=Diabetic	n=11097 n=530
HEARTRTE	Heart rate (Ventricular rate) in beats/min		37-220
PREVAP	Prevalent Angina Pectoris at exam	0=Free of disease 1=Prevalent disease	n=11000 n=627
PREVCHD	Prevalent Coronary Heart Disease defined as pre-existing Angina Pectoris, Myocardial Infarction (hospitalized, silent or unrecognized), or Coronary Insufficiency (unstable angina)	0=Free of disease 1=Prevalent disease	n=10785 n=842
PREVMI	Prevalent Myocardial Infarction	0=Free of disease 1=Prevalent disease	n=11253 n=374
PREVSTRK	Prevalent Stroke	0=Free of disease 1=Prevalent disease	n=11475 n=152
PREVHYP	Prevalent Hypertensive. Subject was defined as hypertensive if treated or if second exam at which mean systolic was >=140 mmHg or mean Diastolic >=90 mmHg	0=Free of disease 1=Prevalent disease	n=6283 n=5344

PRE - pre-existing

Requires regular attendance to have accurate results

For Each participant the following event data is provided. For each type of event, ‘0' indicates the event did not occur during followup, and ‘1' indicates an event did occur during followup. Only the first event occurring during the interval of baseline (PERIOD=1) to end of followup is provided:

Variable name	Description
ANGINA	Angina Pectoris
HOSPMI	Hospitalized Myocardial Infarction
MI_FCHD	Hospitalized Myocardial Infarction or Fatal Coronary Heart Disease
ANYCHD	Angina Pectoris, Myocardial infarction (Hospitalized and silent or unrecognized), Coronary Insufficiency (Unstable Angina), or Fatal Coronary Heart Disease
STROKE	Atherothrombotic infarction, Cerebral Embolism, Intracerebral Hemorrhage, or Subarachnoid Hemorrhage or Fatal Cerebrovascular Disease
CVD	Myocardial infarction (Hospitalized and silent or unrecognized), Fatal Coronary Heart Disease, Atherothrombotic infarction, Cerebral Embolism, Intracerebral Hemorrhage, or Subarachnoid Hemorrhage or Fatal Cerebrovascular Disease
HYPERTEN	Hypertensive. Defined as the first exam treated for high blood pressure or second exam in which either Systolic is ≥ 140 mmHg or Diastolic ≥ 90mmHg
DEATH	Death from any cause
TIMEAP	Number of days from Baseline exam to first Angina during the followup or Number of days from Baseline to censor date. Censor date may be end of followup, death or last known contact date if subject is lost to followup
TIMEMI	Defined as above for the first HOSPMI event during followup
TIMEMIFC	Defined as above for the first MI_FCHD event during followup
TIMECHD	Defined as above for the first ANYCHD event during followup
TIMESTRK	Defined as above for the first STROKE event during followup
TIMECVD	Defined as above for the first CVD event during followup
TIMEHYP	Defined as above for the first HYPERTEN event during followup
TIMEDTH	Number of days from Baseline exam to death if occurring during followup or Number of days from Baseline to censor date. Censor date may be end of followup, or last known contact date if subject is lost to followup

Note that defining Hypertensive requires exam participation and bias can therefore occur. Subjects attending exams regularly have a greater opportunity to be defined as hypertensive.

Subjects not attending exams would be assumed to be free of hypertension. Since Hypertension is highly prevalent, this misclassification could potentially be large.

Defining Incident events

Frequently, epidemiologists need to define the population at risk for some disease or event outcome, and individuals who have previously had an event need to be excluded from the analysis so that only new or first events are counted. Incidence or first event rates can be calculated using any of the three examinations as a baseline exam. The variables PREVAP, PREVMI, PREVCHD, PREVSTRK, and PREVHYP will define the population at risk for the outcome of interest. For example, assume we are interested in incident hospitalized myocardial infarction or fatal coronary heart disease. Consider again participant 95148 and participants 477082 and 1140225 whose data are given below.

RANDID	age	SEX	time	period	prevchd	mi_fchd	timemifc
95148	52	2	0	1	0	1	3607
95148	58	2	2128	2	0	1	3607
95148	64	2	4192	3	1	1	3607
477082	38	1	0	1	0	1	1718
477082	44	1	2119	2	1	1	1718
1140225	58	2	0	1	0	0	8766
1140225	64	2	2172	2	0	0	8766
1140225	69	2	4287	3	0	0	8766

MI after period 2
MI after period 1.
MI after period 3.
Not pre-existing

Participants are often enrolled in an observational study without regard to past medical history. The study investigators will review the medical record to determine if the participant had any pre-existing disease at the time of the first study examination. If pre-existing disease is found, then the data for that subject will reflect prevalent disease at the first exam; however, the subject will continue to be followed for any new events. All participants, regardless of their prevalent disease status, will continue to be followed and events recorded until the study ends, the participant dies, or the participant cannot be contacted to ascertain their status (lost to followup). For participants who enter the study free of disease, the incident events are used to determine prevalent disease status at later exams. For the three participants above, none entered the study with prevalent disease and using period 1 as the baseline exam, the population at risk could be defined using code similiar to the SAS code below:

```
data work; set frmgham; if period=1 and prevchd=0;
```

Pre-existing cases: MI detected at period 1.

The data would appear as the following:

Baseline

RANDID	age	SEX	time	period	prevchd	mi_fchd	timemifc
95148	52	2	0	1	0	1	3607
477082	38	1	0	1	0	1	1718
1140225	58	2	0	1	0	0	8766

Meaning did Not occur at period 1.

The population at risk consists of all three participants (prevchd=0) and followup time for the event of hospitalized MI or fatal CHD would be the time indicated under TIMEMIFC. The first two participants (95148 and 477082) would be regarded as having an incident event during followup. period 2 and period 3

Likewise, the second examination or period=2 could also be used as a baseline exam. The full dataset can be subset to include only those at risk at the start of the second period. For example:

```
data work; set frmgham; if period=2 and prevchd=0;
```

Since time to event is provided as days since the first visit, a new time variable would need to be created so that number of days under study extends from the second exam until the end of followup:

new time – period 1.

```
newtime=timemifc-time;
```

The revised dataset that includes the population at risk beginning at period=2 and extends until the end of followup would be:

Baseline

RANDID	age	SEX	time	period	prevchd	mi_fchd	timemifc	newtime
95148	58	2	2128	2	0	1	3607	1479
1140225	64	2	2172	2	0	0	8766	6594

The population at risk (those free of prevalent disease) now includes only participants 95148 and 1140225. The variable NEWTIME correctly reflects the number of days of followup from the second exam or period=2 until the first event or a censor point. Excludes 477082 b/c MI occured period 1. (Baseline at period 2 so out of range)

The same procedure can be used to define the third exam or period=3 as the baseline exam.

For more complex analyses, such as time-dependent analysis, or a counting process style of input, the user would have to subset the population to those free of disease at all exams and event data would have to be modified to reflect when the event occurred relative to the examinations. Consider the following SAS code which would modify the dataset to a counting process style of input for an analysis on the Hospitalized MI-Fatal CHD endpoint. The variable NEWEVNT is modified from MI_FCHD so that the event indicator is '1' only once for each participant. The variables TIME and ENDTIME define the interval the subject is at risk:

```
data analysis; set work; if prevchd=0;
proc sort data=analysis; by randid descending period;
data analysis; set analysis; by randid;
 newevnt=mi_fchd;
```

```
 retain exmtime;
 if first.randid then do; endtime=timemifc; exmtime=time; end;
   else do;
     newevnt=0; endtime=exmtime;exmtime=time;
   end;
proc sort data=analysis; by randid period;run;
```

The data would appear, for example, as follows for three participants :

Counting process style of input

RANDID	age	SEX	period	time	endtime	newevnt	mi_fchd	timemifc
11263	43	2	1	0	2178	0	1	5719
11263	49	2	2	2178	4351	0	1	5719
11263	55	2	3	4351	5719	1	1	5719
12629	63	2	1	0	8766	0	0	8766
9069458	42	2	1	0	4362	0	0	8766
9069458	54	2	3	4362	8766	0	0	8766

MI after period 3

survived

survived

start

end

start/end

start

end

Start + end of period

SAS PROC CONTENTS PROCEDURE ON FRAMINGHAM LONGITUDINAL DATASET

Data Set Name: WORK.FRMGHAM2 Observations: 11627
Member Type: DATA Variables: 39

-----Variables Ordered by Position-----

#	Variable	Type	Len	Label
1	RANDID	Num	8	Random ID
2	SEX	Num	4	SEX
3	TOTCHOL	Num	8	Serum Cholesterol mg/dL
4	AGE	Num	8	Age (years) at examination
5	SYSBP	Num	8	Systolic BP mmHg
6	DIABP	Num	8	Diastolic BP mmHg
7	CURSMOKE	Num	8	Current Cig Smoker Y/N
8	CIGPDAY	Num	8	Cigarettes per day
9	BMI	Num	8	Body Mass Index (kg/(M*M)
10	DIABETES	Num	8	Diabetic Y/N
11	BPMEDS	Num	8	Anti-hypertensive meds Y/N
12	HEARTRTE	Num	8	Ventricular Rate (beats/min)
13	GLUCOSE	Num	8	Casual Glucose mg/dL
14	EDUC	Num	8	0-11 years, HS or GED, Some Coll, Coll Grad+
15	PREVCHD	Num	8	Prevalent CHD (MI,AP,CI)
16	PREVAP	Num	8	Prevalent Angina
17	PREVMI	Num	8	Prevalent MI (Hosp,Silent)
18	PREVSTRK	Num	8	Prevalent Stroke (Infarct,Hem)
19	PREVHYP	Num	8	Prevalent Hypertension
20	TIME	Num	8	Days since Index Exam
21	PERIOD	Num	8	Examination cycle
22	HDLC	Num	8	HDL Cholesterol mg/dL
23	LDLC	Num	8	LDL Cholesterol mg/dL
24	DEATH	Num	8	Death indicator
25	ANGINA	Num	8	Incident Angina Pectoris
26	HOSPMI	Num	8	Incident Hospitalized MI
27	MI_FCHD	Num	8	Incident Hosp MI-Fatal CHD
28	ANYCHD	Num	8	Incident Hosp MI, AP, CI, Fatal CHD
29	STROKE	Num	8	Incident Stroke Fatal/non-fatal
30	CVD	Num	8	Incident Hosp MI or Stroke, Fatal or Non
31	HYPERTEN	Num	8	Incident Hypertension
32	TIMEAP	Num	8	Days Baseline-Inc Angina
33	TIMEMI	Num	8	Days Baseline-Inc Hosp MI
34	TIMEMIFC	Num	8	Days Baseline-Inc MI-Fatal CHD
35	TIMECHD	Num	8	Days Baseline-Inc Any CHD
36	TIMESTRK	Num	8	Days Baseline-Inc Stroke
37	TIMECVD	Num	8	Days Baseline-Inc CVD
38	TIMEDTH	Num	8	Days Baseline-Death
39	TIMEHYP	Num	8	Days Baseline-Inc Hypertension

Distributions of selected variables by period and sex

Examination cycle 1

Means selected Risk factors	N	NMiss	Mean	Std	Min	P25	Median	P75	Max
Men									
Days since Index Exam	1944	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Age (years) at examination	1944	0	49.79	8.72	33.00	42.00	49.00	57.00	69.00
Body Mass Index (kg/(M*M)	1939	5	26.17	3.41	15.54	23.97	26.08	28.32	40.38
Systolic BP mmHg	1944	0	131.74	19.44	83.50	118.00	129.00	141.50	235.00
Diastolic BP mmHg	1944	0	83.71	11.44	48.00	76.00	82.00	90.00	136.00
Serum Cholesterol mg/dL	1937	7	233.58	42.36	113.00	206.00	231.00	259.00	696.00
HDL Cholesterol mg/dL	0	1944	.	.	.	.	.	.	.
LDL Cholesterol mg/dL	0	1944	.	.	.	.	.	.	.
Casual Glucose mg/dL	1824	120	82.32	24.72	40.00	71.00	78.00	87.00	394.00
Cigarettes per day	1928	16	13.23	13.78	0.00	0.00	10.50	20.00	70.00
Ventricular Rate (beats/min)	1943	1	74.40	11.90	44.00	66.00	75.00	80.00	130.00
Women									
Days since Index Exam	2490	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Age (years) at examination	2490	0	50.03	8.64	32.00	43.00	49.00	57.00	70.00
Body Mass Index (kg/(M*M)	2476	14	25.59	4.56	15.96	22.54	24.83	27.82	56.80
Systolic BP mmHg	2490	0	133.82	24.46	83.50	116.00	128.50	146.50	295.00
Diastolic BP mmHg	2490	0	82.60	12.50	50.00	74.00	81.00	89.00	142.50
Serum Cholesterol mg/dL	2445	45	239.68	46.22	107.00	206.00	237.00	269.00	600.00
HDL Cholesterol mg/dL	0	2490	.	.	.	.	.	.	.
LDL Cholesterol mg/dL	0	2490	.	.	.	.	.	.	.
Casual Glucose mg/dL	2213	277	82.07	24.14	40.00	72.00	78.00	86.00	394.00
Cigarettes per day	2474	16	5.65	8.96	0.00	0.00	0.00	10.00	50.00
Ventricular Rate (beats/min)	2490	0	77.06	12.15	46.00	69.00	75.00	85.00	143.00
Examination cycle 2									
Men									
Days since Index Exam	1691	0	2173.67	72.44	1577.00	2142.00	2174.00	2205.00	2520.00
Age (years) at examination	1691	0	55.10	8.51	39.00	48.00	54.00	62.00	75.00
Body Mass Index (kg/(M*M)	1685	6	26.23	3.40	16.24	24.05	26.09	28.23	39.46
Systolic BP mmHg	1691	0	135.48	19.90	88.00	120.00	132.00	148.00	216.00
Diastolic BP mmHg	1691	0	84.61	10.91	53.00	78.00	84.00	91.00	124.00
Serum Cholesterol mg/dL	1666	25	241.82	42.14	115.00	214.00	240.00	266.00	614.00
HDL Cholesterol mg/dL	0	1691	.	.	.	.	.	.	.
LDL Cholesterol mg/dL	0	1691	.	.	.	.	.	.	.
Casual Glucose mg/dL	1518	173	82.24	23.31	40.00	70.00	77.00	88.00	362.00
Cigarettes per day	1682	9	12.23	15.04	0.00	0.00	2.00	20.00	90.00
Ventricular Rate (beats/min)	1691	0	75.92	12.66	42.00	68.00	75.00	83.00	130.00
Women									
Days since Index Exam	2239	0	2176.22	76.20	1633.00	2144.00	2175.00	2207.00	2765.00
Age (years) at examination	2239	0	55.66	8.56	39.00	48.00	55.00	62.00	76.00
Body Mass Index (kg/(M*M)	2229	10	25.65	4.58	15.33	22.54	24.88	27.85	56.80
Systolic BP mmHg	2239	0	138.06	24.30	88.00	121.00	134.00	151.00	282.00
Diastolic BP mmHg	2239	0	83.57	11.79	47.00	76.00	82.00	90.00	150.00
Serum Cholesterol mg/dL	2121	118	255.67	47.53	122.00	223.00	252.00	285.00	638.00
HDL Cholesterol mg/dL	0	2239	.	.	.	.	.	.	.
LDL Cholesterol mg/dL	0	2239	.	.	.	.	.	.	.
Casual Glucose mg/dL	1931	308	81.76	21.32	39.00	71.00	78.00	87.00	420.00
Cigarettes per day	2215	24	5.97	10.00	0.00	0.00	0.00	10.00	60.00
Ventricular Rate (beats/min)	2238	1	78.36	12.76	45.00	70.00	75.00	85.00	220.00

Means selected Risk factors	N	NMiss	Mean	Std	Min	P25	Median	P75	Max
Examination cycle 3									
Men									
Days since Index Exam	1387	0	4353.75	97.74	3748.00	4312.00	4361.00	4403.00	4816.00
Age (years) at examination	1387	0	60.35	8.19	45.00	53.00	60.00	67.00	80.00
Body Mass Index (kg/(M*M)	1380	7	26.22	3.49	14.43	24.02	26.09	28.25	45.43
Systolic BP mmHg	1387	0	139.26	21.15	91.00	123.00	136.00	152.00	225.00
Diastolic BP mmHg	1387	0	82.55	11.29	30.00	75.00	81.50	90.00	123.00
Serum Cholesterol mg/dL	1312	75	225.74	41.13	130.00	198.00	222.00	252.00	413.00
HDL Cholesterol mg/dL	1304	83	43.71	13.30	10.00	35.00	42.00	51.00	138.00
LDL Cholesterol mg/dL	1304	83	170.55	44.66	34.00	140.00	167.50	199.00	376.00
Casual Glucose mg/dL	1163	224	91.17	28.99	49.00	77.00	85.00	97.00	423.00
Cigarettes per day	1380	7	8.70	13.51	0.00	0.00	0.00	20.00	80.00
Ventricular Rate (beats/min)	1387	0	75.88	12.73	43.00	66.00	75.00	85.00	150.00
Women									
Days since Index Exam	1876	0	4353.61	93.13	3919.00	4313.00	4362.00	4402.50	4854.00
Age (years) at examination	1876	0	60.87	8.37	44.00	54.00	60.00	67.00	81.00
Body Mass Index (kg/(M*M)	1866	10	25.65	4.45	14.53	22.59	24.80	27.94	56.80
Systolic BP mmHg	1876	0	140.92	24.14	86.00	123.00	138.00	156.00	267.00
Diastolic BP mmHg	1876	0	81.23	11.23	46.00	73.00	80.00	88.00	130.00
Serum Cholesterol mg/dL	1737	139	245.00	45.08	112.00	214.00	242.00	270.00	625.00
HDL Cholesterol mg/dL	1723	153	53.64	15.90	11.00	43.00	52.00	62.00	189.00
LDL Cholesterol mg/dL	1722	154	180.95	48.00	20.00	149.00	177.00	208.00	565.00
Casual Glucose mg/dL	1538	338	88.72	27.48	46.00	76.00	84.00	95.00	478.00
Cigarettes per day	1869	7	5.35	9.78	0.00	0.00	0.00	8.00	60.00
Ventricular Rate (beats/min)	1872	4	78.45	12.20	37.00	70.00	77.00	85.00	130.00

	Examination cycle 1				2				3			
	Men		Women		Men		Women		Men		Women	
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Total	1944	100.00	2490	100.00	1691	100.00	2239	100.00	1387	100.00	1876	100.00
Current Cig Smoker Y/N												
No	769	39.56	1484	59.60	811	47.96	1392	62.17	848	61.14	1294	68.98
Yes	1175	60.44	1006	40.40	880	52.04	847	37.83	539	38.86	582	31.02
Diabetic Y/N												
No	1885	96.97	2428	97.51	1617	95.62	2158	96.38	1267	91.35	1742	92.86
Yes	59	3.03	62	2.49	74	4.38	81	3.62	120	8.65	134	7.14
Anti-hypertensive meds Y/N												
Missing	22	1.13	39	1.57	37	2.19	49	2.19	189	13.63	257	13.70
No	1880	96.71	2349	94.34	1553	91.84	1920	85.75	1060	76.42	1328	70.79
Yes	42	2.16	102	4.10	101	5.97	270	12.06	138	9.95	291	15.51
Education												
Missing	57	2.93	56	2.25	48	2.84	52	2.32	37	2.67	45	2.40
0-11 Yrs	843	43.36	979	39.32	719	42.52	868	38.77	564	40.66	717	38.22
HS, GED	509	26.18	772	31.00	465	27.50	697	31.13	390	28.12	577	30.76
Some Coll	239	12.29	477	19.16	200	11.83	427	19.07	176	12.69	366	19.51
Coll Grad+	296	15.23	206	8.27	259	15.32	195	8.71	220	15.86	171	9.12
Prevalent CHD (MI,AP,CI)												
No	1820	93.62	2420	97.19	1516	89.65	2126	94.95	1187	85.58	1716	91.47
Yes	124	6.38	70	2.81	175	10.35	113	5.05	200	14.42	160	8.53
Prevalent MI (Hosp,Silent)												
No	1874	96.40	2474	99.36	1588	93.91	2212	98.79	1272	91.71	1833	97.71
Yes	70	3.60	16	0.64	103	6.09	27	1.21	115	8.29	43	2.29
Prevalent Angina												
No	1852	95.27	2435	97.79	1564	92.49	2146	95.85	1254	90.41	1749	93.23
Yes	92	4.73	55	2.21	127	7.51	93	4.15	133	9.59	127	6.77
Prevalent Stroke (Infarct,Hem)												
No	1930	99.28	2472	99.28	1675	99.05	2204	98.44	1357	97.84	1837	97.92
Yes	14	0.72	18	0.72	16	0.95	35	1.56	30	2.16	39	2.08

	Examination cycle											
	1				2				3			
	Men		Women		Men		Women		Men		Women	
	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent	N	Percent
Prevalent Hypertension												
No	1313	67.54	1691	67.91	841	49.73	1130	50.47	542	39.08	766	40.83
Yes	631	32.46	799	32.09	850	50.27	1109	49.53	845	60.92	1110	59.17

Event Counts by sex

Counts of Endpoints by Sex	SEX			
	Men		Women	
	N	Percent	N	Percent
All	1944	100.00	2490	100.00
Incident Hypertension				
No	540	27.78	642	25.78
Yes	1404	72.22	1848	74.22
Incident Angina Pectoris				
No	1561	80.30	2148	86.27
Yes	383	19.70	342	13.73
Incident Hospitalized MI				
No	1624	83.54	2356	94.62
Yes	320	16.46	134	5.38
Incident Hosp MI-Fatal CHD				
No	1453	74.74	2250	90.36
Yes	491	25.26	240	9.64
Incident Stroke Fatal/non-fatal				
No	1751	90.07	2268	91.08
Yes	193	9.93	222	8.92
Incident Hosp MI, AP, CI, Fatal CHD				
No	1234	63.48	1960	78.71
Yes	710	36.52	530	21.29
Incident Hosp MI or Stroke, Fatal or Non				
No	1258	64.71	2019	81.08
Yes	686	35.29	471	18.92
Death indicator				
No	1101	56.64	1783	71.61
Yes	843	43.36	707	28.39

Distributions of Time to Event by sex

Time to Event		N	NMiss	Mean	Std	Min	P25	Median	P75	Max
Men	Days Baseline-Inc Hypertension	1944	0	3313	3391	0	2156	6491	8766	8766
	Days Baseline-Inc Angina	1944	0	6507	2929	0	4572	8486	8766	8766
	Days Baseline-Inc Hosp MI	1944	0	6736	2771	0	5006	8766	8766	8766
	Days Baseline-Inc MI-Fatal CHD	1944	0	6655	2816	0	4822	8743	8766	8766
	Days Baseline-Inc Stroke	1944	0	7003	2509	0	5608	8766	8766	8766
	Days Baseline-Inc Any CHD	1944	0	6156	3067	0	3853	7653	8766	8766
	Days Baseline-Inc CVD	1944	0	6274	3015	0	4009	7895	8766	8766
	Days Baseline-Death	1944	0	7194	2386	0	6047	8766	8766	8766
Women	Days Baseline-Inc Hypertension	2490	0	3532	3496	26	0	2219	7340	8766
	Days Baseline-Inc Angina	2490	0	7209	2559	0	6132	8766	8766	8766
	Days Baseline-Inc Hosp MI	2490	0	7634	2154	0	7541	8766	8766	8766
	Days Baseline-Inc MI-Fatal CHD	2490	0	7600	2197	0	7452	8766	8766	8766
	Days Baseline-Inc Stroke	2490	0	7540	2262	0	7283	8766	8766	8766
	Days Baseline-Inc Any CHD	2490	0	7065	2656	0	5618	8766	8766	8766
	Days Baseline-Inc CVD	2490	0	7243	2549	0	6241	8766	8766	8766
	Days Baseline-Death	2490	0	7749	2037	0	8016	8766	8766	8766
			0			34				

Age Specific Angina and Hospitalized MI-Fatal CHD Incidence Rates by Sex

	Angina				Hospitalized MI - Fatal CHD			
	N*	Person Years	Events	Rate/ 1,000PY	N*	Person Years	Events	Rate/ 1,000PY
Men								
35-44	649	3,053	12	3.9	644	3,037	8	2.6
45-54	1,278	9,587	52	5.4	1,269	9,498	67	7.1
55-64	1,646	12,241	135	11.0	1,629	12,274	154	12.5
65-74	1,115	7,488	78	10.4	1,125	7,623	117	15.3
75-84	416	2,165	13	6.0	432	2,210	43	19.5
85+	52	93	1	10.8	54	97	6	62.0
Women								
35-44	783	3,765	3	0.8	783	3,769	2	0.5
45-54	1,634	12,316	26	2.1	1,631	12,400	12	1.0
55-64	2,229	17,261	123	7.1	2,238	17,675	60	3.4
65-74	1,640	11,679	98	8.4	1,705	12,421	78	6.3
75-84	707	3,815	35	9.2	769	4,262	55	12.9
85+	106	287	2	7.0	121	316	7	22.1

N* - Number of persons contributing person years to that age group. Incidence rates are calculated using derived age at time of event.

Age Specific Stroke and Cardiovascular Disease (Fatal and Non-Fatal) Incidence Rates by Sex

	Stroke				Cardiovascular Disease (CVD)			
	N*	Person Years	Events	Rate/ 1,000PY	N*	Person Years	Events	Rate/ 1,000PY
Men								
35-44	655	3,082	1	0.3	643	3,010	13	4.3
45-54	1,313	9,921	14	1.4	1,260	9,353	95	10.2
55-64	1,743	13,293	42	3.2	1,588	11,769	202	17.2
65-74	1,256	8,471	74	8.7	1,058	6,920	185	26.7
75-84	477	2,402	44	18.3	378	1,839	75	40.8
85+	50	97	4	41.1	41	65	9	138.0
Women								
35-44	782	3,761	2	0.5	781	3,759	5	1.3
45-54	1,638	12,420	10	0.8	1,621	12,282	31	2.5
55-64	2,283	17,932	47	2.6	2,209	17,180	133	7.7
65-74	1,760	12,713	83	6.5	1,631	11,588	148	12.8
75-84	774	4,230	52	12.3	695	3,737	85	22.7
85+	124	322	10	31.0	103	264	15	56.8

N* - Number of persons contributing person years to that age group. Incidence rates are calculated using derived age at time of event.

For CVD endpoint, population at risk defined by PREVCHD=0 AND PREVSTRK=0