



*Malattie cardiometaboliche*  
*Le Best Practice degli ospedali con i Bollini*  
*Rosa*

**Prof Maria Penco**

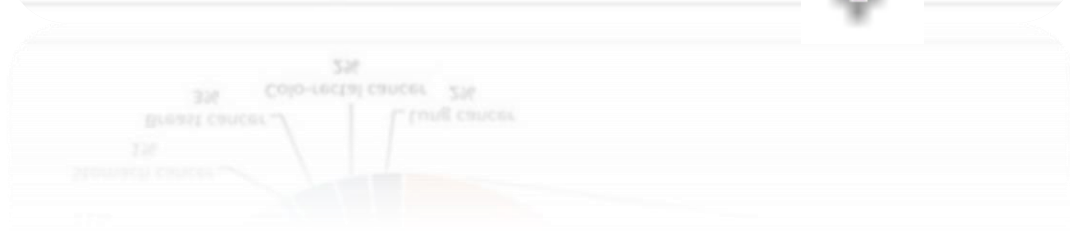
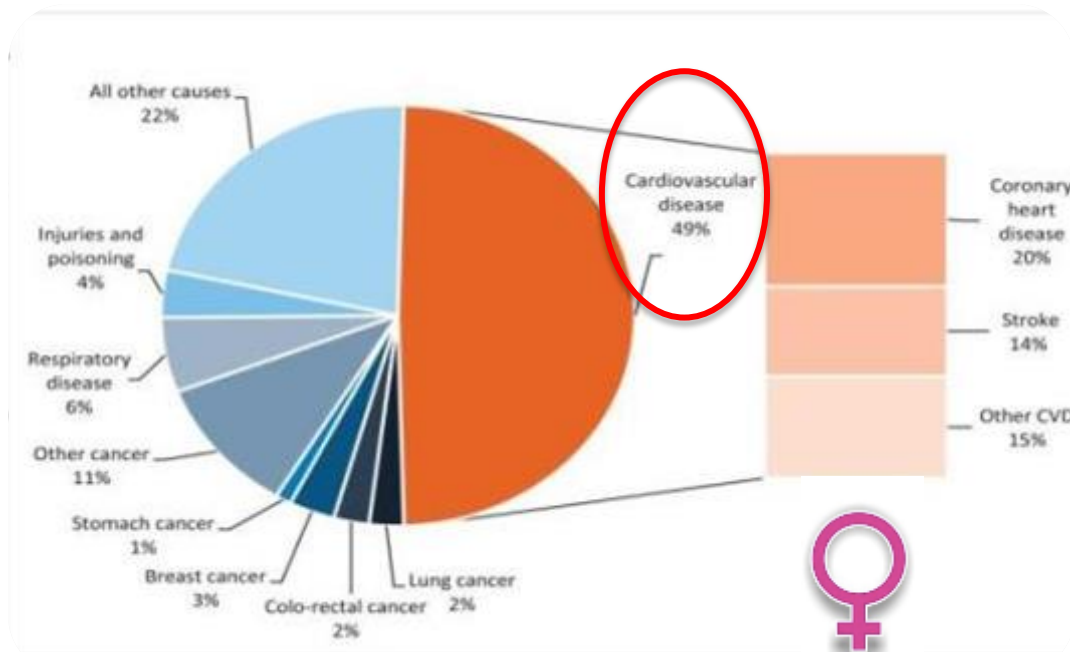
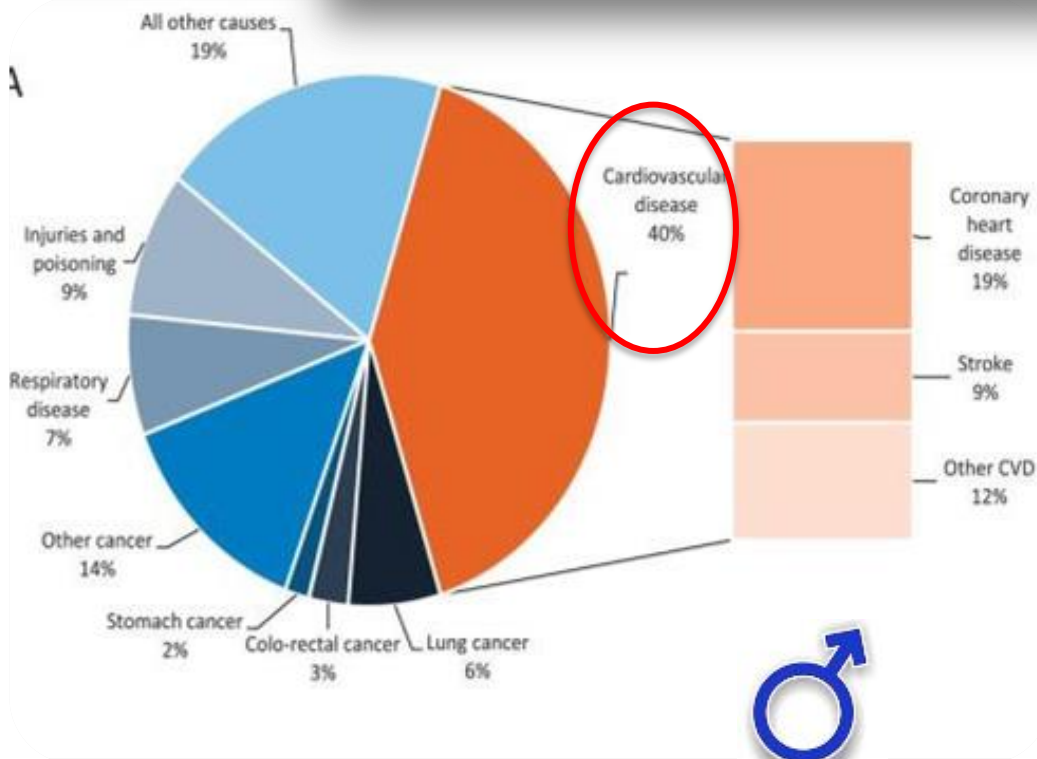
P.O. Cardiologia – Scuola Specializzazione  
Malattie App. Cardiovascolare

Università L'Aquila



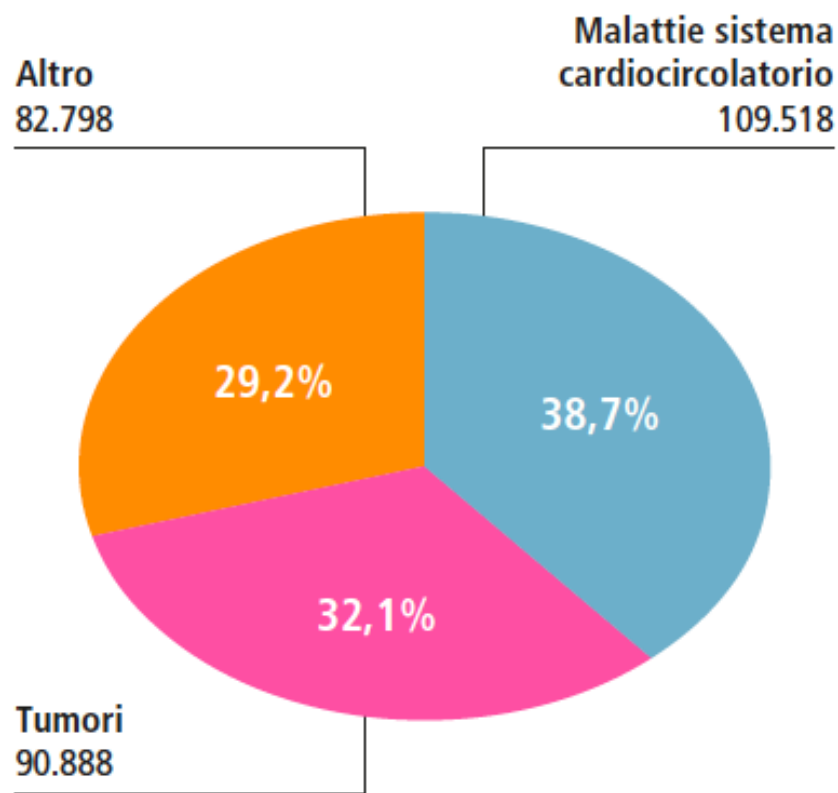
# Cardiovascular disease in Europe: epidemiological update 2016

Nick Townsend<sup>1\*</sup>, Lauren Wilson<sup>1</sup>, Prachi Bhatnagar<sup>1</sup>, Kremlin Wickramasinghe<sup>1</sup>, Mike Rayner<sup>1</sup>, and Melanie Nichols<sup>1,2</sup>





## Uomini



## Donne

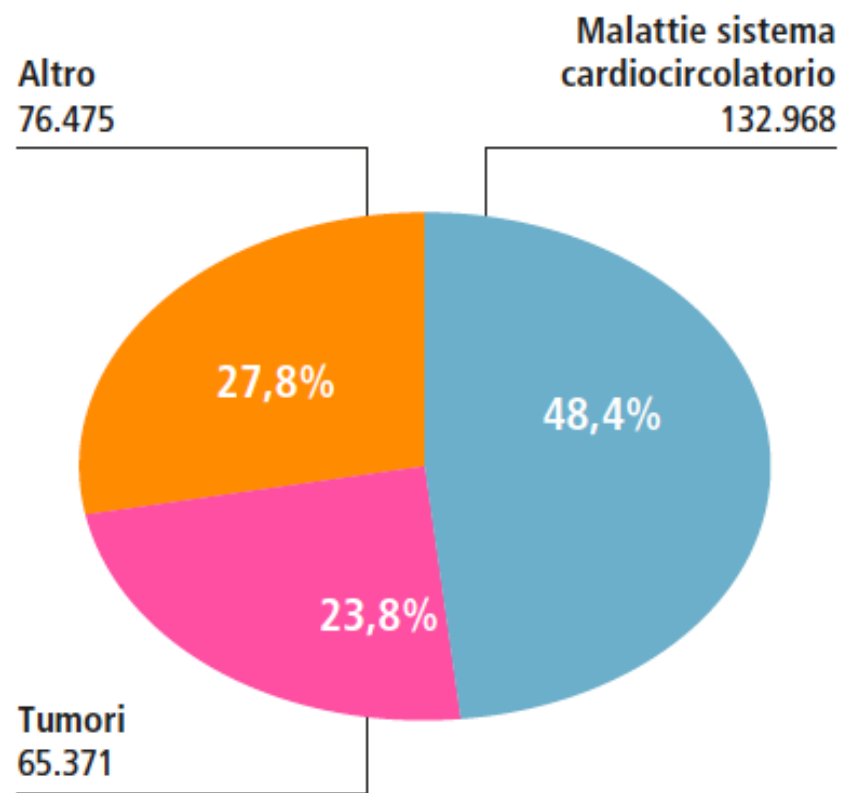


Figura 6.1 Principali cause di morte in Italia (Rapporti ISTISAN).

MASCHI				FEMMINE			
	Cause di morte	Numero decessi	% su totale		Cause di morte	Numero decessi	% su totale
1	Malattie ischemiche del cuore	37.958	12,8	1	Malattie cerebrovascolari	37.304	11,7
2	Tumori maligni della trachea, dei bronchi e dei polmoni	24.885	8,4	2	Malattie ischemiche del cuore	37.140	11,7
3	Malattie cerebrovascolari	23.951	8,1	3	Altre malattie del cuore	28.050	8,8
4	Altre malattie del cuore	20.334	6,9	4	Malattie ipertensive	20.367	6,4
5	Malattie croniche delle basse vie respiratorie	13.109	4,4	5	Demenza e Malattia di Alzheimer	18.226	5,7
6	Malattie ipertensive	10.880	3,7	6	Diabete mellito	12.264	3,8
7	Tumori maligni del colon-retto	10.406	3,5	7	Tumori maligni del seno	12.004	3,8
8	Diabete mellito	9.272	3,1	8	Tumori maligni del colon-retto	8.796	2,8
9	Demenza e Malattia di Alzheimer	8.333	2,8	9	Malattie croniche delle basse vie respiratorie	8.732	2,7
10	Tumori maligni della prostata	7.282	2,5	10	Tumori maligni della trachea, dei bronchi e dei polmoni	8.653	2,7
11	Tumori maligni del fegato e dei dotti biliari intraepatici	6.638	2,2	11	Tumori maligni del pancreas	5.568	1,8
12	Tumori maligni dello stomaco	5.811	2,0	12	Malattie del rene e dell'uretere	5.426	1,7
13	Tumori maligni del pancreas	5.154	1,7	13	Influenza e Polmonite	5.227	1,6
14	Malattie del rene e dell'uretere	4.686	1,6	14	Tumori maligni dello stomaco	4.189	1,3
15	Influenza e Polmonite	4.507	1,5	15	Tumori non maligni	3.843	1,2
	<b>Totale 15 cause</b>	<b>193.206</b>	<b>65,3</b>		<b>Totale 15 cause</b>	<b>215.789</b>	<b>67,9</b>
	<b>Altre</b>	<b>102.625</b>	<b>34,7</b>		<b>Altre</b>	<b>101.900</b>	<b>32,1</b>
	<b>Tutte le cause</b>	<b>295.831</b>	<b>100,0</b>		<b>Tutte le cause</b>	<b>317.689</b>	<b>100,0</b>

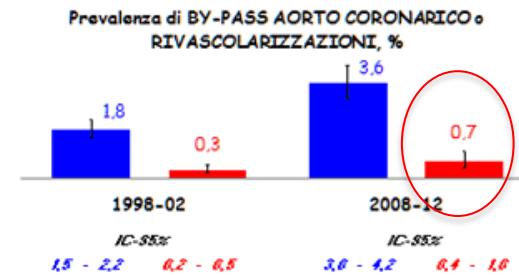
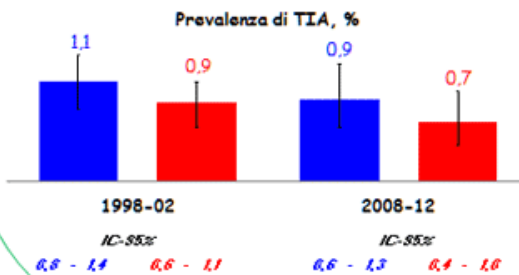
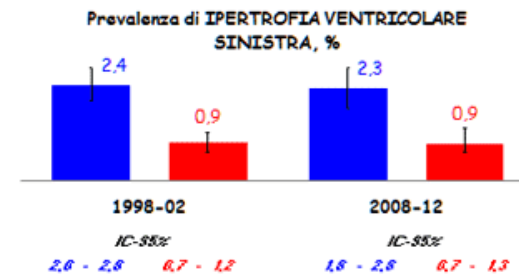
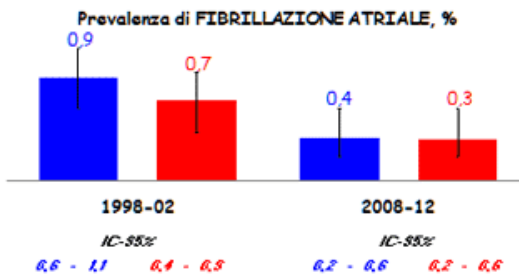
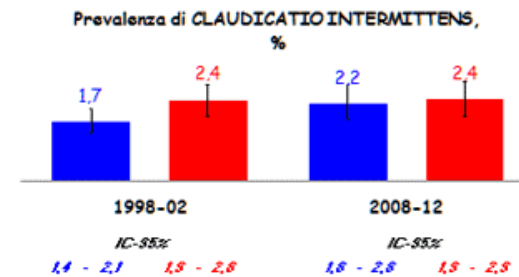
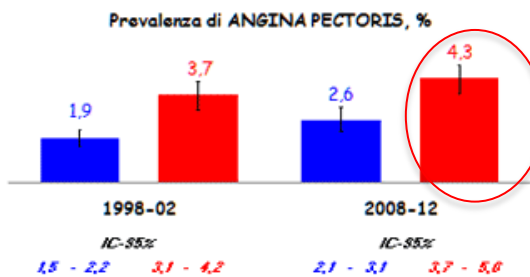
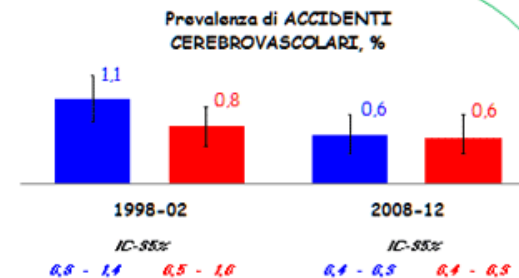
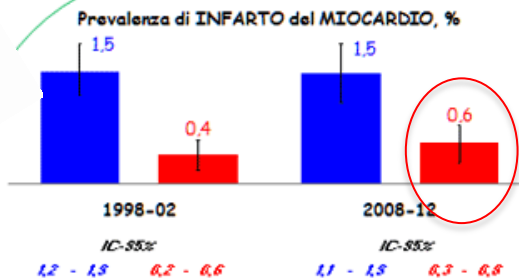
38.6%



3.8%

# Malattie CV Italia:- Et : 35-74 anni

**il progetto cuore**  
Epidemiologia e prevenzione delle malattie cerebro e cardiovascolari



# Global Atlas on cardiovascular disease prevention and control



16

## KEY MESSAGES

- Risk factors of CVDs are similar for men and women.
- Every year 8.6 million women die from CVDs.
- CVD affects as many women as men.

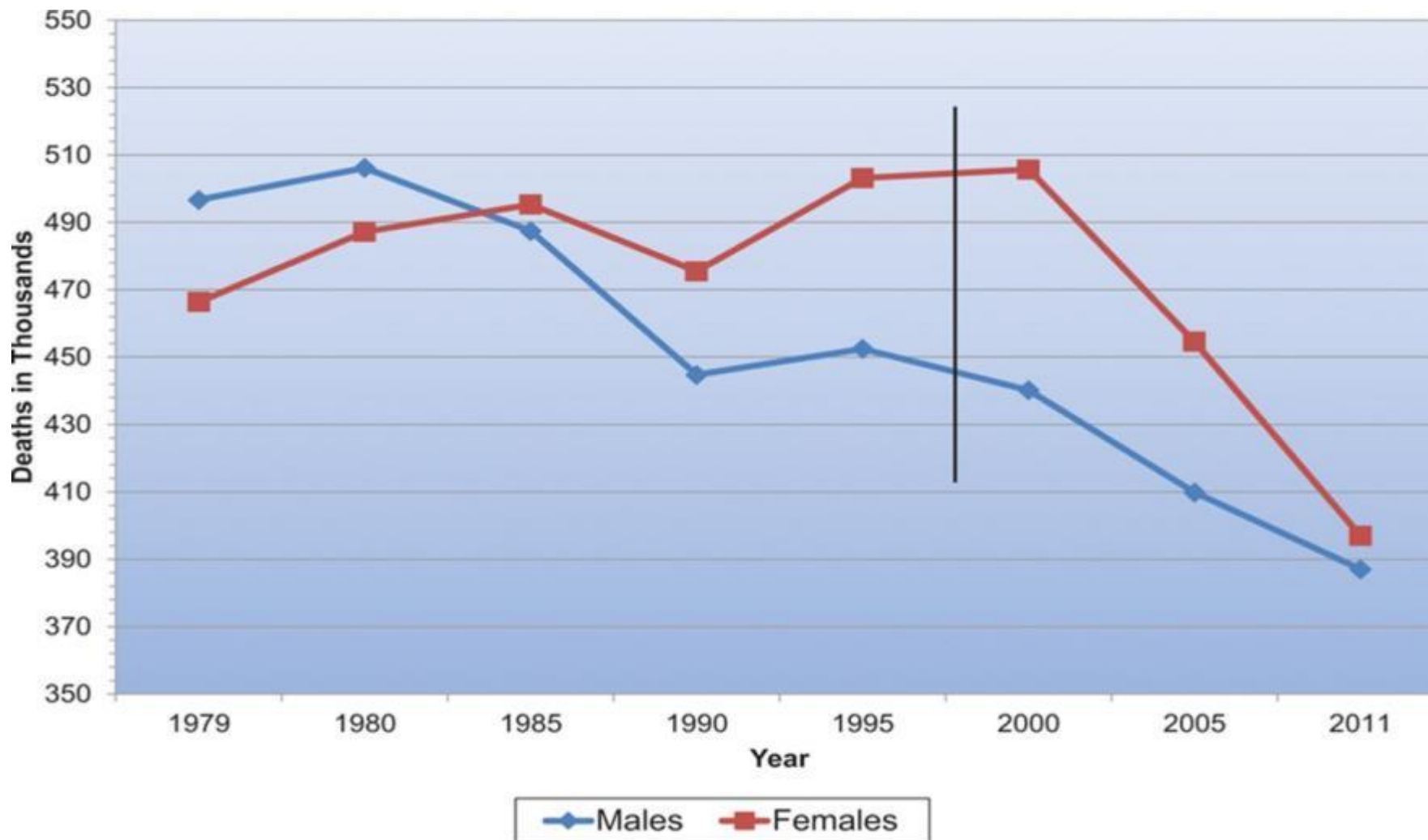
## Heart attacks and strokes in women

Figure 16 Cardiovascular disease mortality by World Bank Income groups in males and females (per 100 000) (1, 6).



2011

## Cardiovascular disease (CVD) mortality trends for men and women in the United States from 1979 to 2011.



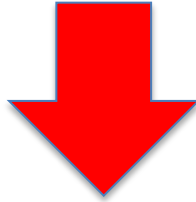
Laxmi S. Mehta et al. *Circulation*. 2016;133:916-947

# Coronary Heart Disease

## Coronary Heart Disease Mortality Declines in the United States From 1979 Through 2011

### Evidence for Stagnation in Young Adults, Especially Women

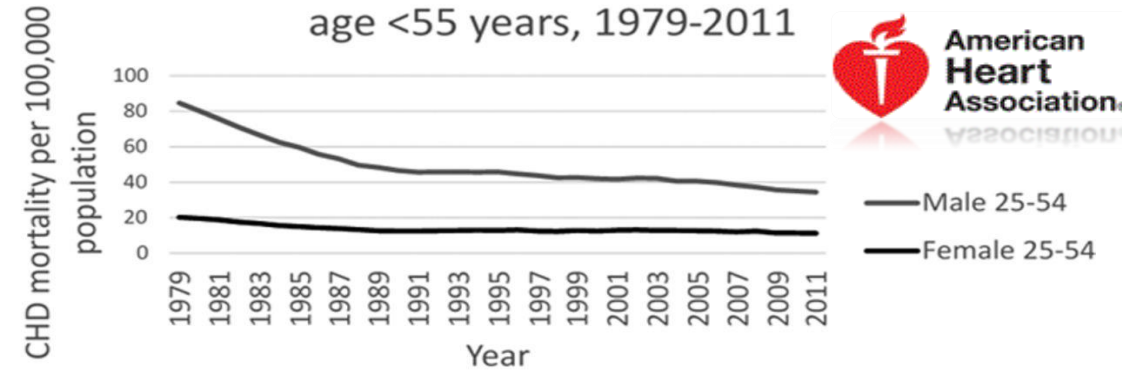
Kobina A. Wilmot, MD; Martin O'Flaherty, MD, PhD, MSc; Simon Capewell, MD, DSc; Earl S. Ford, MD, MPH; Viola Vaccarino, MD PhD



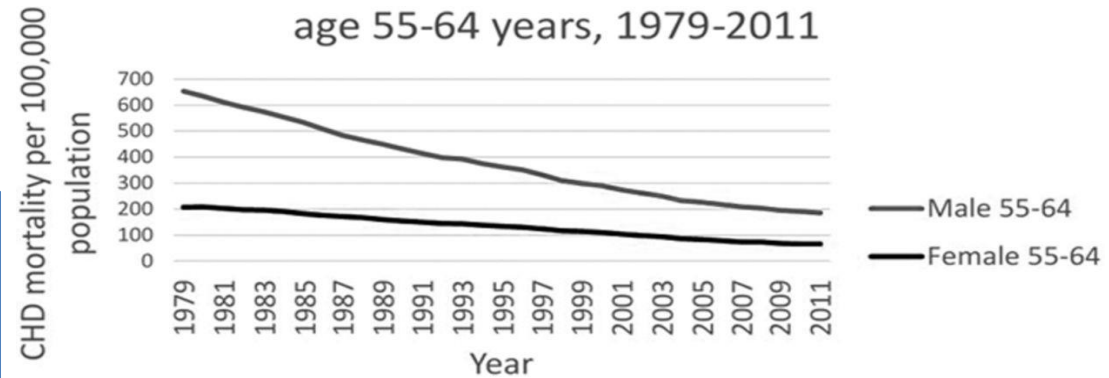
#### CLINICAL PERSPECTIVE

This article reports for the first time national trends in coronary heart disease (CHD) mortality by sex and age for the past 30 years, from 1979 to 2011. The analysis reveals significant heterogeneity in CHD mortality rates over time by sex and age. Older adults, especially men  $\geq 55$  years of age and women  $\geq 65$  years of age, have shown robust CHD mortality reductions over the past 2 decades with an acceleration over the past decade. In contrast, young adults  $< 55$  years old have shown sluggish improvements in the same time period; the gains in CHD mortality reduction have been especially weak for young women. These data suggest that attention should be given to the young population, especially women, whose cardiovascular risk profile may have worsened disproportionately in recent decades, which may potentially explain their less favorable trends in CHD mortality reduction.

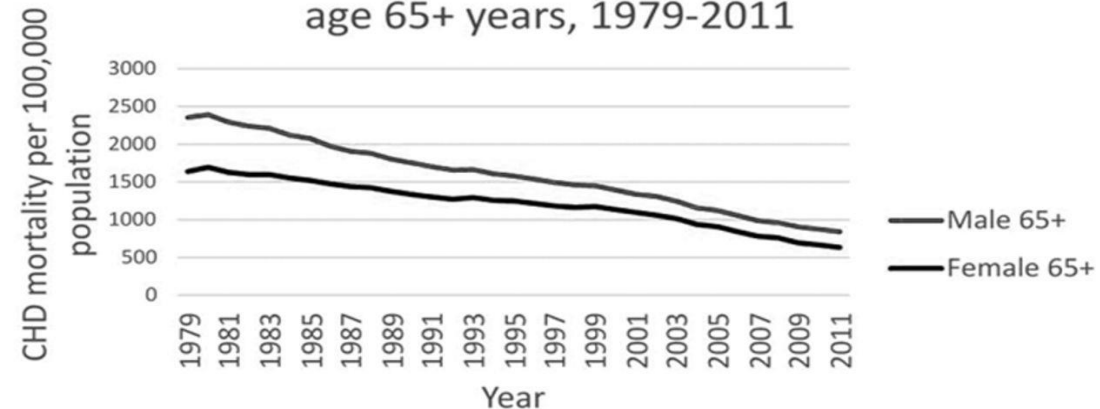
#### CHD mortality in males and females age $< 55$ years, 1979-2011



#### CHD mortality in males and females age 55-64 years, 1979-2011



#### CHD mortality in males and females age 65+ years, 1979-2011





# INSUFFICIENZA CARDIACA

## Epidemiologia

Journal of the American College of Cardiology  
© 2009 by the American College of Cardiology Foundation  
Published by Elsevier Inc.

Vol. 54, No. 6, 2009  
ISSN 0735-1097/09/\$36.00  
doi:10.1016/j.jacc.2009.02.066

### STATE-OF-THE-ART PAPER

#### Heart Failure in Women

A Need for Prospective Data

Eileen M. Hsieh, MD,\*† Ileana L. Piña, MD†  
Cleveland, Ohio

**Table 1. Female Participants in Chronic Heart Failure Trials**

Study (Ref #)	% Women	Number of Women	LVEF
A-HeFT (47)	40	420	≤35%
BEST (12)	22	593	≤35%
CARE-HF (55)	26	215	≤35%
CHARM-low LVEF (37)	26	1,188	≤40%
CIBIS II (41)	19	515	≤35%
COMPANION (52)	32	493	≤35%
CONSENSUS (63)	30	75	Any
COPERNICUS (40)	20	469	<25%
DIG (48)	22	1,520	≤45%
ELITE-II (61)	31	966	≤40%
EPHESUS (45)	29	1,918	≤40%
MADIT II (55)	16	192	≤30%
MERIT-HF (42)	23	898	≤40%
RALES (43)	27	446	≤35%
SCD HeFT (54)	23	588	≤35%
SOLVD prevention (29)	13	548	≤35%
SOLVD treatment (29)	20	514	≤35%
U.S. Carvedilol (40)	23	256	≤35%
Val-HeFT (38)	20	1,003	<40%
V-HeFT I (45)	0	0	<45%
V-HeFT II (46)	0	0	<45%

- Le donne rappresentano il **50%** delle ospedalizzazioni per SCC
- La prevalenza dello SCC **aumenta con l'età** e le donne sono in maggioranza **dopo i 79 anni**
- Maggiori **comorbidità** (malattie infiammatorie e reumatiche, distiroidismo)
- Peggior **classe NYHA** alla presentazione (3T, edema polmonare, tensione giugulare)
- Terapia medica e strumentale (ICD, CRT) sottoutilizzate

Braunstein JB. *J Am Coll Cardiol.* 2003;42:1226–1233.

Koelling TM. *Am Heart J.* 2004;147:74–78.

Deswal A. *Am J Cardiol.* 2006;97:1228–1231

Sottostima del problema da parte dei  
mondo medico e delle donne

Differenze nella gestione diagnostica e  
nel trattamento

Precedenti trials clinici condotti  
prevalentemente sulla popolazione  
maschile

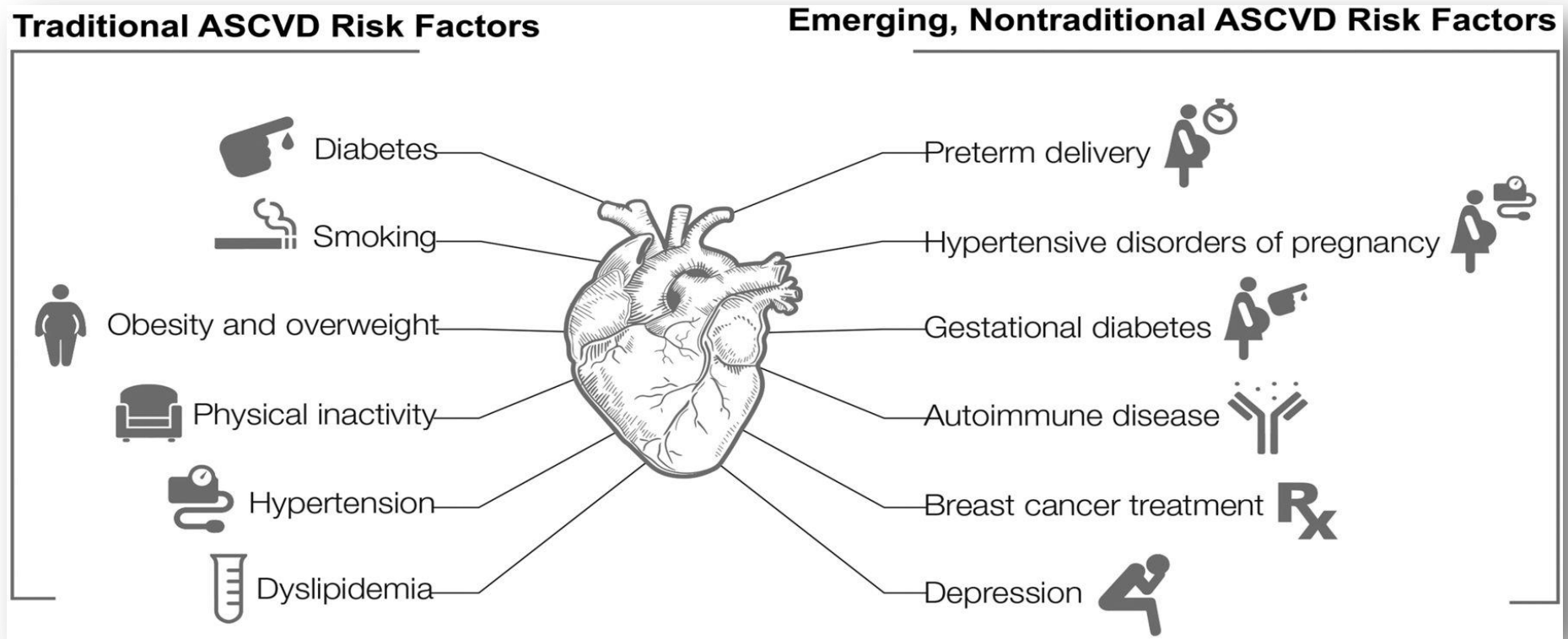
Fattori di rischio

Fisiopatologia

Presentazione clinica




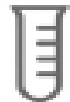

Terapia

# Traditional and nontraditional atherosclerotic cardiovascular disease (ASCVD) risk factors in women.



Mariana Garcia et al. *Circ Res.* 2016;118:1273-1293

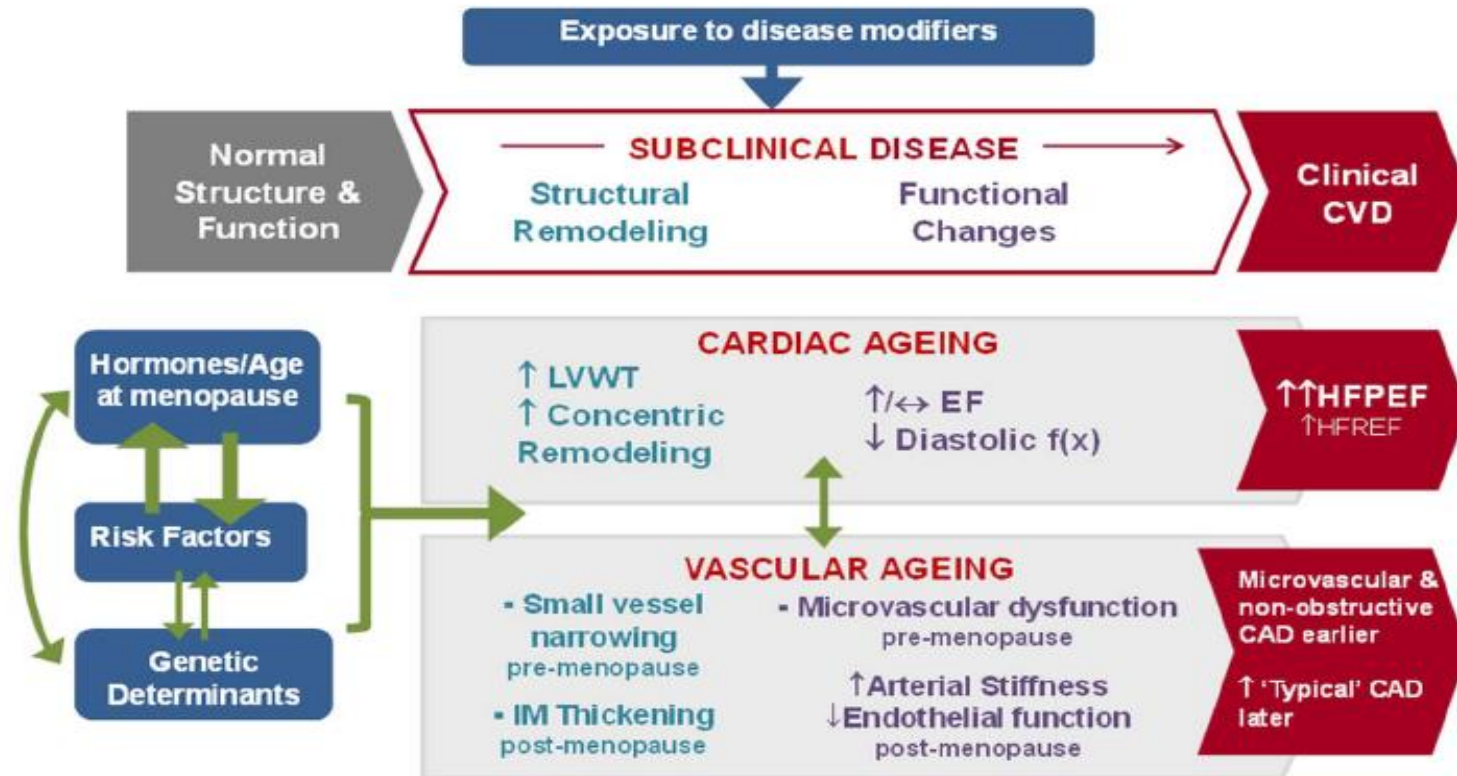
**Cardiovasc**  
Mariana Garcia, Sharon L.

Risk Factor	Sex-Based Differences
<p>Physical inactivity</p> 	<p>The prevalence of inactivity and sedentary behaviors is higher among women than men.</p>
<p>Smoking</p> 	<p>In a recent meta-analysis by Huxley et al, it was reported that in all age groups with the exception of the youngest (30–44 y), women had a significant 25% increased risk for CAD conferred by cigarette smoking compared with men</p>
	<p>Less well controlled in women than men.</p>
<p>Dyslipidemia</p> 	<p>Among women, dyslipidemia has the highest PAR at 47.1%, compared with all other known risk factors for CVD.</p> <p>Atheroma regression and LDL lowering may be even greater among women on statins than in men.</p>
<p>Obesity</p> 	<p>The impact of obesity on the development of CAD appears to be greater in women than in men. In the Framingham Heart Study, obesity increased the risk of CAD by 64% in women compared with 46% in men.</p>

Allison A Merz and Susan Cheng

Heart published online February 25, 2016

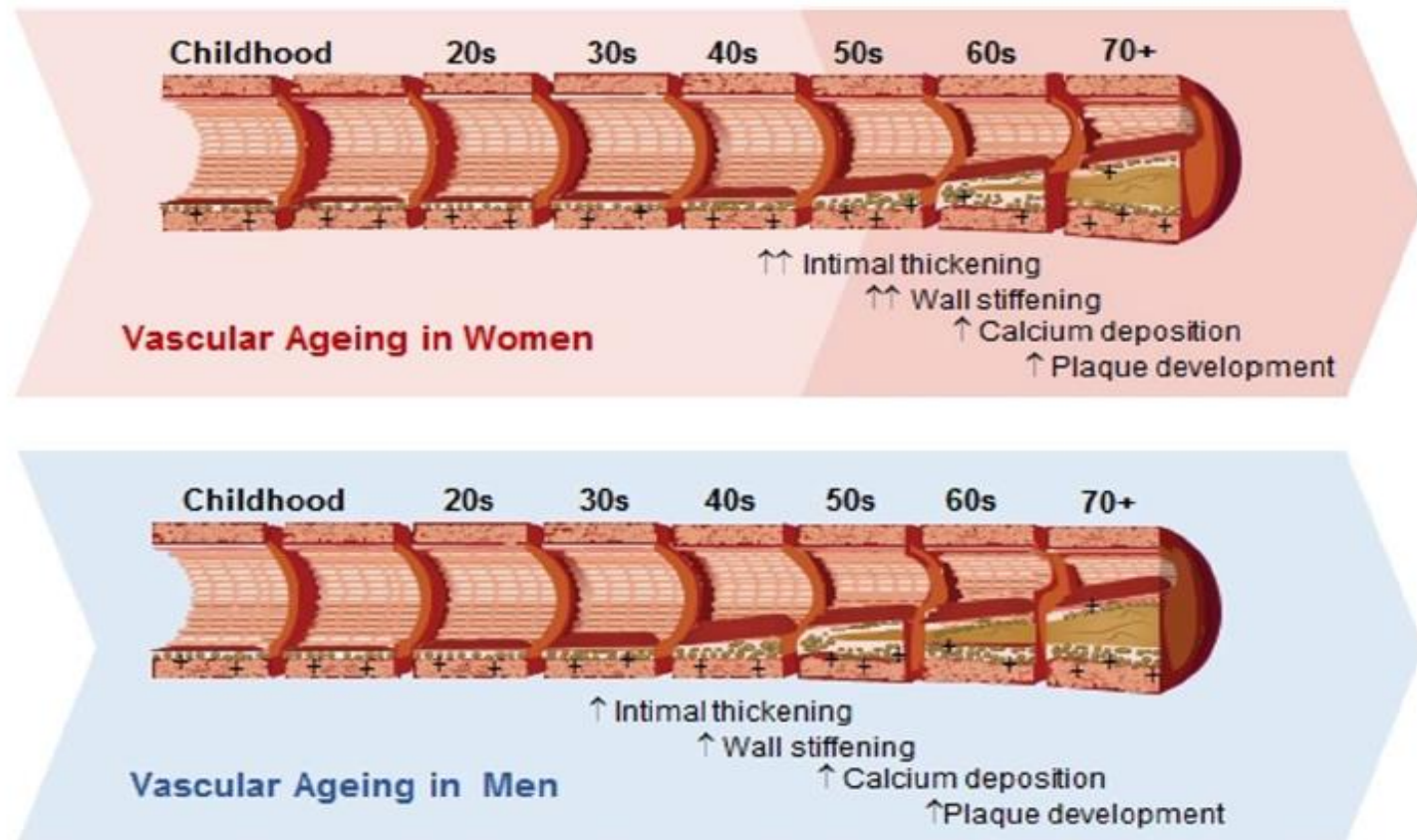
**Figure 2** Cardiac and vascular structural and functional ageing processes and the progression to disease in women. Throughout the life course, subclinical changes in cardiac and vascular structure and function interact with traditional pathophysiological disease mechanisms to impact an individual's increasing likelihood of developing disease across the life course. Female-specific disease modifiers and structural and functional changes predispose to different presentations and outcomes compared with men. CAD, coronary artery disease; EF, ejection fraction; HFPEF, heart failure with preserved EF; HFREF, heart failure with reduced EF.



Allison A Merz and Susan Cheng

*Heart* published online February 25, 2016

**Figure 3** Patterns of vascular ageing in men and women. '+' symbols represent the presence of oestrogen receptors in the arterial vasculature (including endothelium, smooth muscle cells and extracellular matrix).





Progetto di:



## LA SALUTE DELLA DONNA

Dalla salute  
al welfare al femminile

**Libro bianco 2016**



29 novembre 2016

**RS** L'AGENZIA  
di REDATTORE SOCIALE



### Donne, malattie cardiovascolari prima causa di morte

Malattie cardiovascolari, poca sicurezza durante il parto, solitudine e fragilità nella vecchiaia: il Libro Bianco sulla salute della donna, realizzato dall'Osservatorio Onda fa il punto sulle difficoltà cliniche affrontate nell'arco della vita



Strutture ospedaliere valutate in base  
all'appropriatezza dei servizi  
dedicati alle donne

- Attinenza agli obiettivi del concorso
- Rilevanza del servizio
- Multidisciplinarietà del servizio
- Efficacia del servizio
- Efficienza del servizio
- Replicabilità del servizio
- Presentazione del servizio

## Malattie Cardiometaboliche

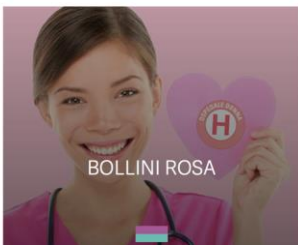


***n. 66 servizi in concorso***

***n.12 servizi selezionati per  
categoria***

***“Cardiovascolare al Femminile”***





INFORMAZIONE - SISTEMA SANITARIO

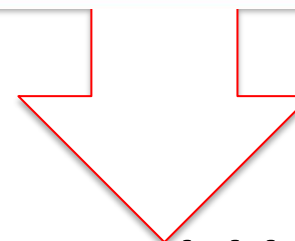
**BOLLINI ROSA: GLI OSPEDALI CHE SI PRENDONO CURA DELLE DONNE SI VEDONO DA LONTANO**

I Bollini Rosa sono il riconoscimento che Onda attribuisce dal 2007 agli ospedali italiani 'vicini alle donne'



	<b>Criteri di valutazione</b>	<b>Punti</b>
1	<b>Attinenza agli obiettivi del concorso:</b> <ul style="list-style-type: none"> <li>o Contribuire a diffondere una cultura della prevenzione per ridurre i fattori di rischio e a sviluppare attività mirate rivolte alla popolazione femminile.</li> <li>o Contribuire al miglioramento dei percorsi diagnostico-terapeutici orientati al genere per l'individuazione precoce e il trattamento delle malattie cardiometaboliche.</li> <li>o Contribuire al miglioramento della qualità e dell'accessibilità dei servizi per la presa in carico della paziente con malattie cardiometaboliche dall'ospedale al territorio.</li> <li>o Promuovere un'assistenza multidisciplinare e qualificata da parte del personale sanitario.</li> </ul>	15
2	<b>Rilevanza del servizio</b>	15
3	<b>Multidisciplinarietà del servizio</b>	20
4	<b>Efficacia del servizio</b>	15
5	<b>Efficienza del servizio</b>	20
6	<b>Replicabilità del servizio</b>	10
7	<b>Presentazione del servizio:</b> <ul style="list-style-type: none"> <li>- Capacità di sintesi</li> <li>- Chiarezza dell'esposizione</li> <li>- Rispetto delle norme redazionali</li> </ul>	5
	<b>Totale</b>	<b>100</b>

# Malattie Cardiometaboliche



***n. 66 servizi in concorso***

***n.12 servizi selezionati per categoria***

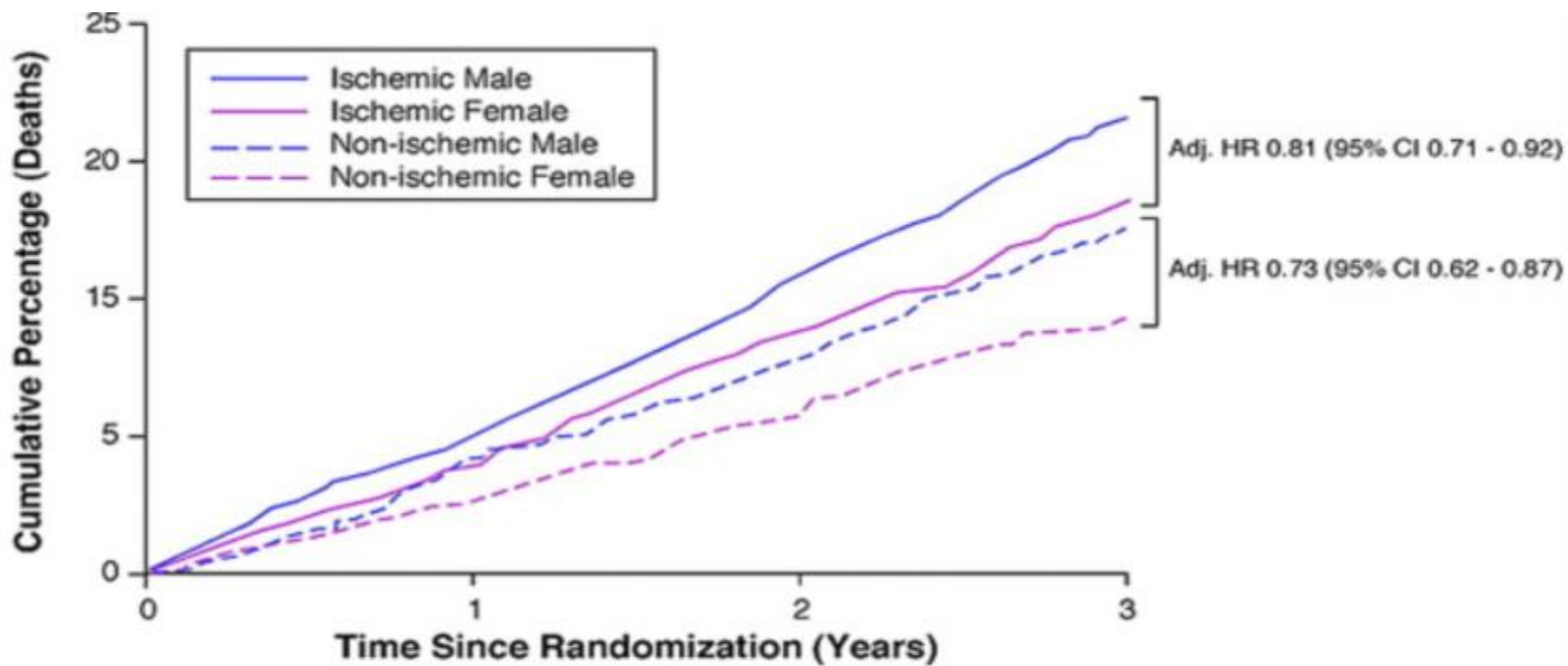
***“Cardiovascolare al Femminile”***





## From: Heart Failure in Women: A Need for Prospective Data

J Am Coll Cardiol. 2009;54(6):491-498. doi:10.1016/j.jacc.2009.02.066



### Number at risk (ischemic)

Males	3465	3170	2855	1934
Females	1216	1120	1017	677

### Number at risk (non-ischemic)

Males	1734	1614	1514	1076
Females	1184	1123	1055	695

# Global Atlas on cardiovascular disease prevention and control

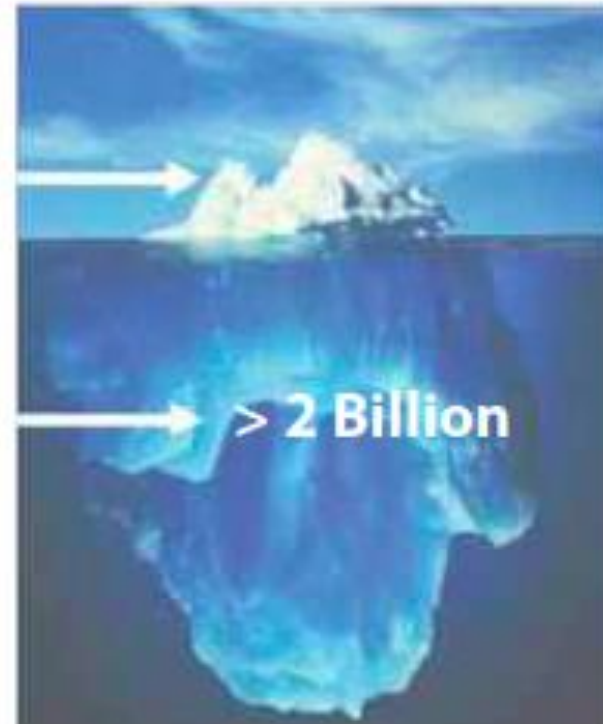


## Public health burden hidden and underestimated

Heart attacks and strokes are only  
the tip of the iceberg

### Risk factor burden; unrecognised

- Obesity
- Physical activity
- Unhealthy diet
- Tobacco use
- Raised blood pressure
- Raised blood sugar
- Raised blood lipids
- Air pollution
- Poverty



# INTERHEART

Risk factor		Odds ratio (95% CI)	PAR (95% CI)	<i>P</i> interaction
ApoB/ApoA1 ratio	♀	3.30 (2.85,3.82)	43.1 (38.2,48.1)	0.20
	♂	2.87 (2.63,3.13)	46.6 (43.3,50.0)	
Current smoking	♀	2.86 (2.47,3.32)	15.5 (13.5,17.5)	0.06
	♂	3.04 (2.84,3.26)	46.3 (44.1,48.4)	
Former smoking	♀	1.04 (0.88,1.22)	2.5 (0.6,4.5)	<0.0001
	♂	1.61 (1.49,1.74)	18.1 (15.2,21.1)	
Hypertension	♀	2.95 (2.66,3.28)	35.8 (33.0,38.6)	0.0001
	♂	2.32 (2.16,2.48)	19.5 (18.1,21.0)	
Diabetes	♀	4.26 (3.68,4.94)	19.1 (17.2,21.0)	<0.0001
	♂	2.67 (2.43,2.94)	10.1 (9.2,11.0)	
Abdominal obesity	♀	2.26 (1.98,2.57)	35.9 (30.3,41.5)	0.03
	♂	2.24 (2.08,2.42)	32.1 (28.8,35.4)	
Psychosocial	♀	3.49 (2.40,5.09)	25.7 (18.4,33.1)	0.02
	♂	2.58 (2.11,3.15)	21.7 (17.0,26.4)	
Physical inactivity	♀	2.07 (1.77,2.43)	37.3 (28.0,46.6)	<0.0001
	♂	1.30 (1.20,1.41)	22.9 (17.8,27.9)	
Lack of Alcohol intake	♀	2.42 (2.00,2.93)	46.9 (36.9,56.9)	<0.0001
	♂	1.13 (1.06,1.21)	10.5 (6.3,14.8)	
High risk diet	♀	1.78 (1.54,2.04)	25.5 (18.4,32.6)	0.20
	♂	1.68 (1.56,1.82)	26.8 (22.6,31.1)	

