



EMWWH Conference
Health Inequalities
Cardiff: Sept 2022



Inequality in Cardiology



Professor Zaheer Yousef

Consultant Cardiologist
Heart Muscle Diseases & Devices

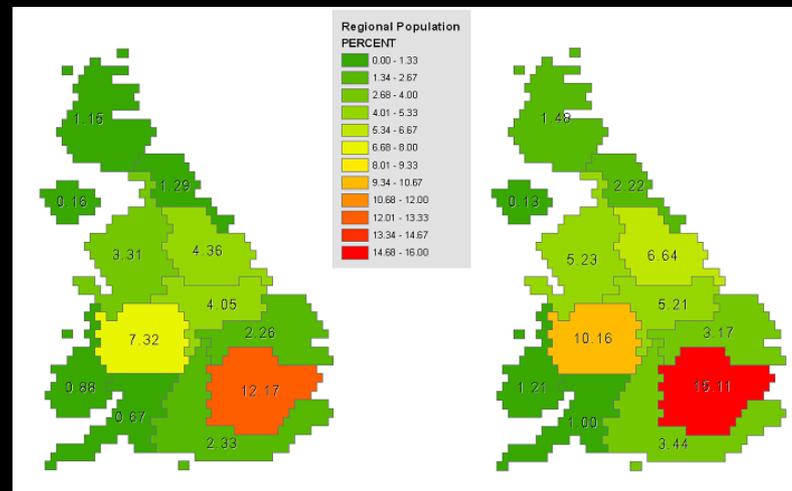
University Hospital of Wales & Cardiff University

Acknowledgment: Professor Kiran Patel
Medical Director NHS England (West Midlands) & Chairman (South Asian Health Foundation)

Population Demographics: diversity

% of UK population who are Asian

	UK: 2001 census per 1,000 pop	% change 2001-2010	% change 2010-2020
White	54118	+2	+2
Mixed	674	+41	+30
Asian	2336	+25	+19
Black	1148	+22	+14
Chinese	471	+68	+28



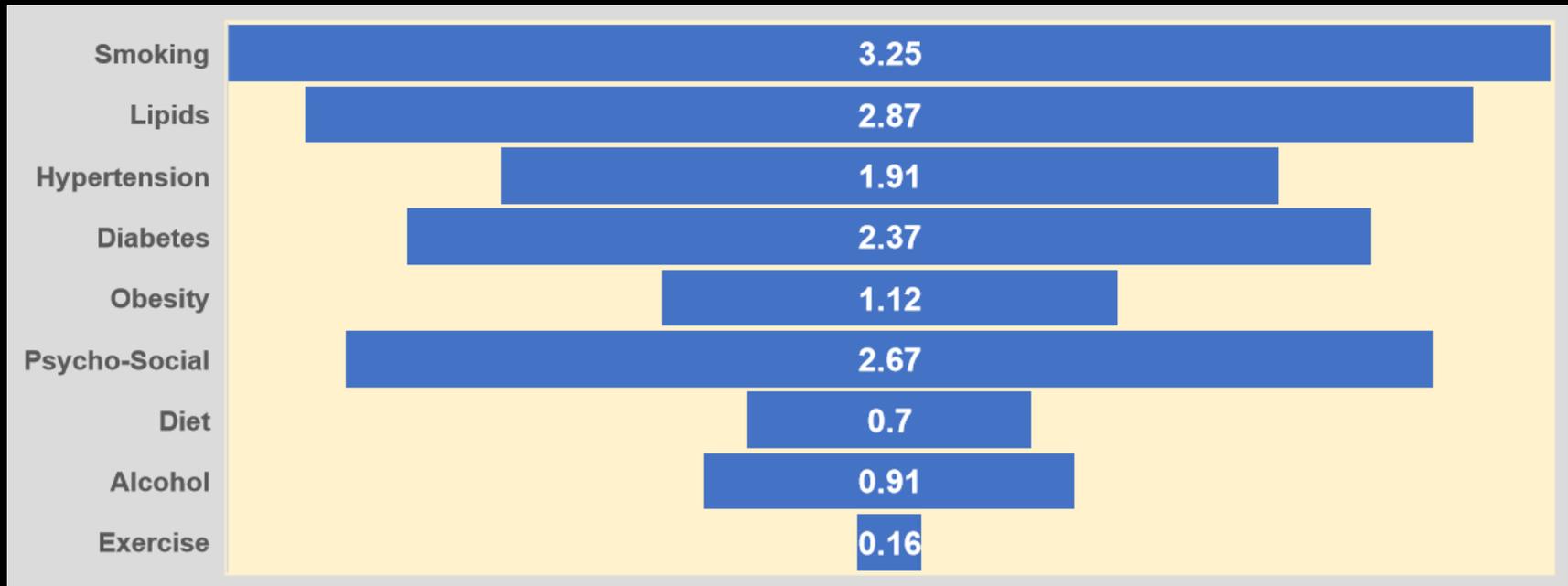
UK South Asians: some stats

- Highest overall and premature CHD deaths than any other UK ethnic group
- 50% of MI occur under 55yrs and 25% under 40yrs of age
not seen in any other population

CV Risk Factors: InterHeart Study

- Case-controlled study: n ~30,000
- 52 Countries: every inhabited continent
- MI patients: linkage to risk factors

Salim Yusuf *et al* Lancet 2004;364:937



>90% of the attributable risk for MI: 9 potentially modifiable risk factors

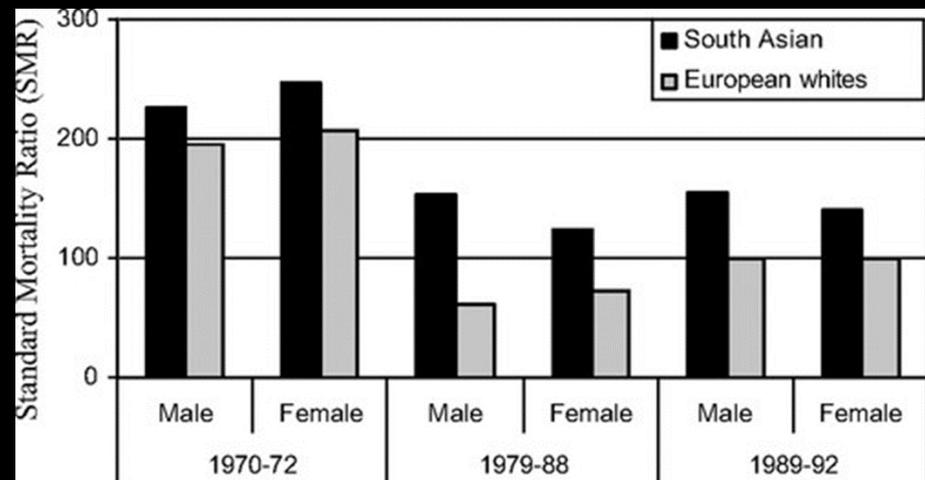
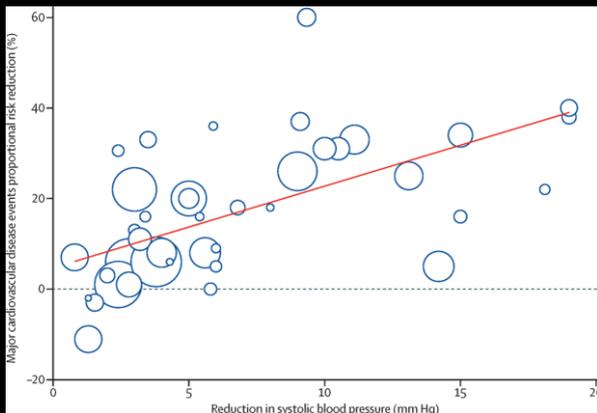
➤ **Associations present in all genders, all ages, and all ethnicities**

CV Risk Factors: Hypertension

Author	Region	Ethnic Groups
Cruickshank 1983	Birmingham	Whites v Asians
McKeigue 1988	London	Non-Asian v Bangladeshi
Miller 1988	London	Europeans v Asians
Cruickshank 1991	London	Whites v Gujurati Indians
McKeigue 1991	London	Europeans v Asians
Knight 1992	Bradford	General Population v Asians
Williams 1993	Glasgow	Whites v Asians
Cappucciou 1998	London	Europeans v Asians
Bhopal 1999	Newcastle	Whites v Asians
Witty 1999	Glasgow	Whites v Asians
Primastesta 2000	England	Whites v Asians
Karlsen 2001	England	General Population v Asians
Lane 2002	England	Whites v Asians

No difference in incidence

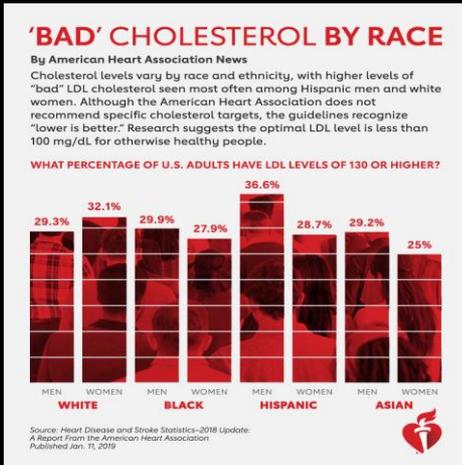
- Sikhs > Muslims (=whites) > Hindus
- Indians > Pakistani > Bangladeshi (+whites)
- Afro-Caribbean's:
 - More LVH (*loss of nocturnal dip*)
 - High stroke, heart failure and renal complications



ACE genotype: ?genetic resistance to ACE-I

CV Risk Factors: Lipids

No difference in prevalence



Who gets treated?

Framingham

White affluent US community

No socio-economic adjustment

>risk scores in low-risk/affluent

QRISK-II

Adjusts for ethnicity/deprivation

Recommended by NICE (2010)

About you

Age (25-84):

Sex: Male Female

Ethnicity:

UK postcode: leave blank if unknown
Postcode:

Clinical information

Smoking status:

Diabetes status:

Angina or heart attack in a 1st degree relative < 60?

Chronic kidney disease (stage 4 or 5)?

Atrial fibrillation?

On blood pressure treatment?

Rheumatoid arthritis?

Leave blank if unknown

Cholesterol/HDL ratio:

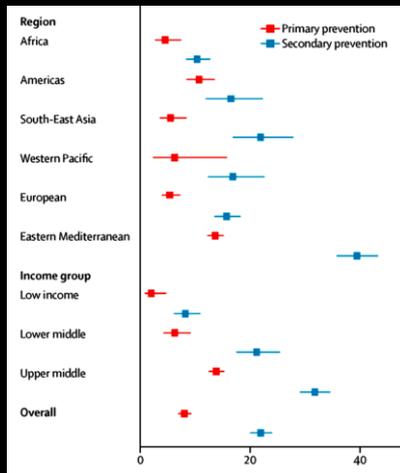
Systolic blood pressure (mmHg):

Body mass index

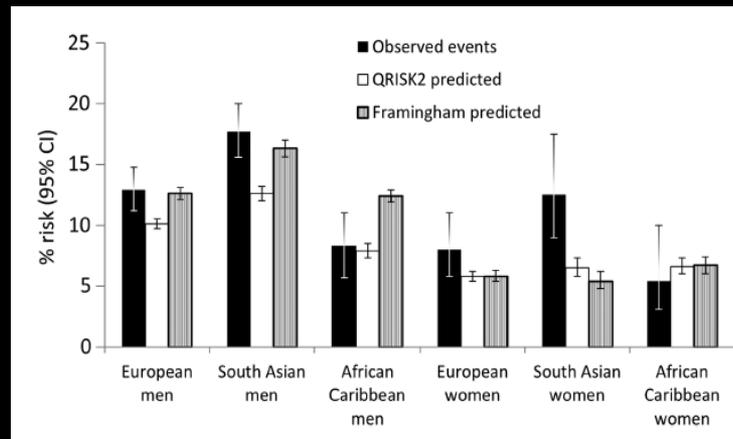
Height (cm):

Weight (kg):

Statins equally effective



SABRE Study

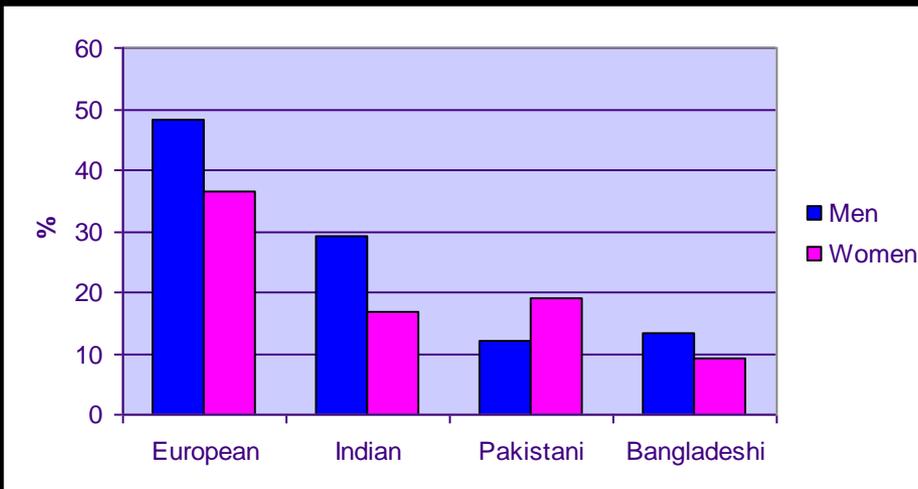


- Framingham/QRISK-II predictions compared to actual CV outcomes (10yrs)
- Primary care setting (n=3,821)

- Neither model performed consistently well
- South Asian men & women remain at risk

CV Risk Factors: Exercise

% of adults achieving >1 physical activity score
(>30min brisk walk/cycling/swimming >x5/week)



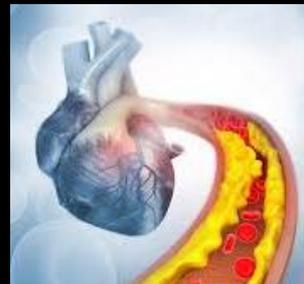
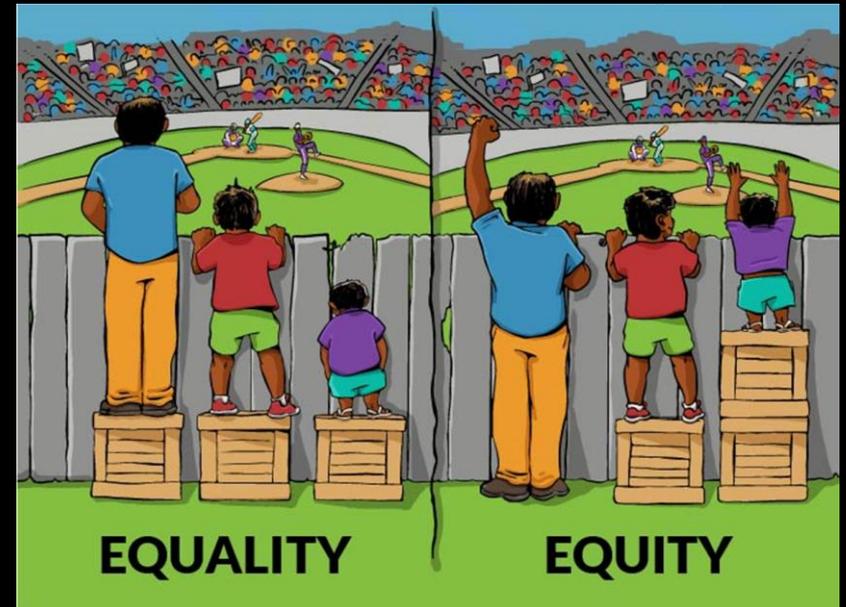
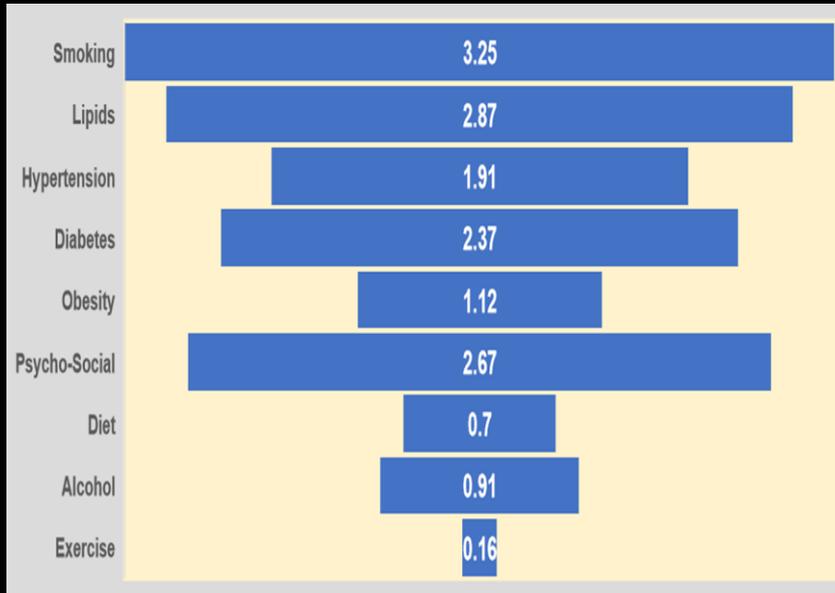
- 10% of South Asian women meet recommended physical activity levels
- <20% of South Asian men meet recommended physical activity levels

Reasons for not exercising (South Asian women): *despite knowing that it is beneficial*

- looking after young children (29%)
- insufficient time (26%)
- won't go to mixed-sex facilities (20%)
- won't go to places where people show parts of their bodies (19%)
- fear of going out alone (17%)

Language and culture rarely mentioned

CV Risk: equality v equity



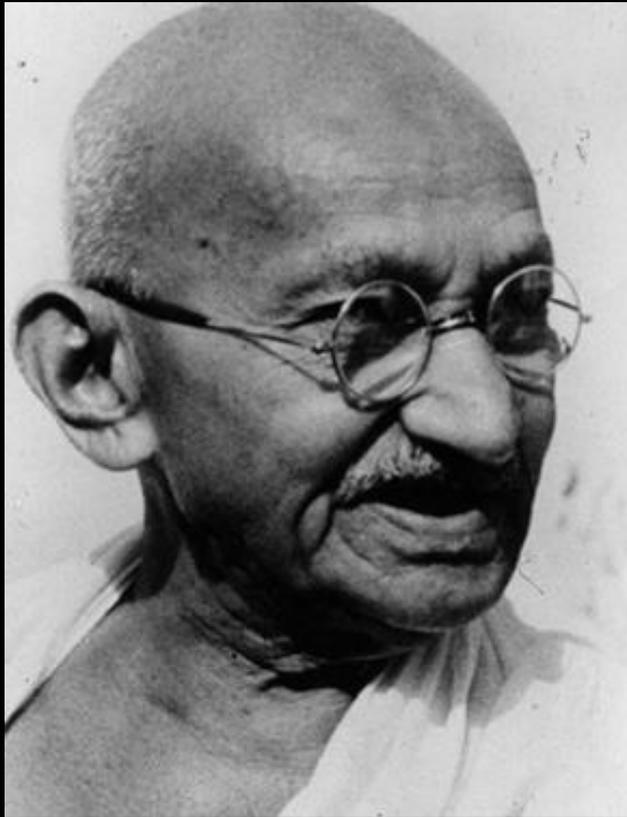
CV Care Disparities: patient journey

Patient factors:

- Socio-economic deprivation
- Genetic factors
- Low expectations & demands
- Unhealthy diet
- Smoking cessation
- Atypical presentation & histories
- Lack of time
- Absence of support
- Transport issues
- Language barriers
- Lack of same sex HCPs

Health Care factors:

- Unbalanced patient access & flow targets
- Under-estimation of risk
- Less likely to receive diagnostic and intervention studies
- Chest pain syndromes in primary care more likely to be treated as gastric pain
- Chest pain syndromes in hospital more likely to be diagnosed as “atypical” and less likely to undergo angiography
- Paucity of evidence-based data to guide medical/interventional/surgical treatments



The true measure of any society can
be found in how it treats its most
vulnerable members

— *Mahatma Gandhi* —

questions?

yousefz@cardiff.ac.uk