HEART DISEASE IN OLDER ADULTS
EPIDEMIOLOGY & BURDEN OF DISEASE

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Day: 1404 -مردادماه -27 (2025)

Time: 9:00-12:00

OLDER ADULTS AND HEART DISEASE
SENIOR CITIZENS=>60/65YEARS

Cardiovascular Disease:the silent pandemic

- Now and future of aging

- Epidemiology & prevalence

- Burden of disease and aging

- سالمندی
- اپیدمیولوژی بیماری های قلبی عروقی
- سکته قلبی،
- نارسایی قلبی
- فشارخون
- اهمیت تشخیص، مدیریت مناسب در سالمندان (بار بیماری)

SENIORS
RESIDENCIAS

Janbazan Medical and Engineering Research Center (JMERC)

ELDERLY FUTURE

- The world is ageing rapidly. According to United Nations population projections:

- Between 1974 and 2024 (50yrs), the worldwide share of people aged 65 almost doubled – increasing from **5.5%** per cent to **10.3%**.

- **Between 2024 and 2074 (40yrs),** this number will double again, increasing to 20.7%.

- During the same time, the number of persons aged **80 and above** is projected to more than triple.

- Developed countries have the highest share of older persons, **developing countries** are often witnessing a rapid rate of population ageing, leaving many ill prepared for the new realities.

The Growth of Aging Population in Iran: An Achievement or a Challenge?

Bakhtiar Piroozi, Amjad Mohamadi-Bolbanabad & Azad Shokri ✉

Achievement or Challenge?

- **Mean age: 32 yrs**

- **Elderly rate:**
  - ❖ **2016:   9/5%   2024:   11%**
  - ❖ **Estimation: 2030:   15%**
- **Estimation: 2050:   30%**

1403:11%
1430: 30%
In 25yrs

سونامی سالمندی

پیرترین و جوان ترین
استان‌های کشور کدام‌ها هستند؟

از نظر درصد جمعیت سالمندی، استان گیلان با ۱۵.۱۹ درصد، سالمندترین و سیستان و بلوچستان با ۴.۹۲ درصد، جوان ترین استان کشور هستند

درصد جمعیت
سالخوردگان تهران
به تفکیک مناطق
سالمندان ۶۵ سال و بالاتر

آینده پژوهی ساختار جمعیتی در ایثارگران (جانباز/شاهد)   2024

3 میلون کل و 1میلیون شاهد و جانباز

➢ **در حال حاضر:**   25.5% جمعیت سالمند: (n=248,507)

⬇

➢ **سال 1410:**   70.8% جمعیت سالمند: (n=595,172)
- چالش جدی 60-69 ساله ها
  - +70 سال حدود15%

⬇

➢ **سال 1420:**   81.5% جمعیت سالمند: (n=580,365)
- چالش جدی 70 سال و بالاتر
  - +70 سال حدود65%

زنگ خطر "چالش فرصت یا بحران":
آمادگی برای مواجه این شیفت جمعیتی چقدر است؟
آیا زیرساخت های لازم برای ارایه خدمات مهیا است؟

GLOBAL BURDEN OF DISEASE-GBD

The single largest detailed scientific effort to quantify levels and trends in health Across **places** and **time**,

Data : hospitals, governments, surveys, and other databases around the world

Index: All-cause **mortality**, deaths by **cause**, years of life lost due to premature mortality (**YLLs**), years lived with disability (**YLDs**), and disability-adjusted life years (**DALYs**)

Health Metrics and Evaluation-University of Washington: over **12,000 researchers & in +160 countries** update

دسته بندی بیماری های مهم (BOD)

- In the Global Burden of Disease (GBD) study, Ischemic Heart Disease (IHD) is categorized as a Level 3 cause. It falls under the broader categories of non-communicable diseases (Level 1) and **cardiovascular diseases** (Level 2).

- Here's a breakdown:

- **Level 1:** Broad categories of diseases like non-communicable diseases.

- **Level 2:** More specific disease categories, in this case, cardiovascular diseases.

- **Level 3:** Individual diseases within the broader categories, such as IHD.

- IHD, as a Level 3 cause, is defined in the GBD to include acute myocardial infarctions, chronic IHD, and heart failure due to IHD. It also includes premature deaths due to IHD, defined as death before age 55 for men and 65 for women.

GBD:1990-2019 ALL AGE: HEART DIS. IN TOP 5

3(1990) → 6 out 10 of GBD non-communicable diseases

Legend:
- Communicable, maternal, neonatal, and nutritional diseases
- Non-communicable diseases
- Injuries

A All ages

Leading causes 1990	Percentage of DALYs 1990	Leading causes 2019	Percentage of DALYs 2019	Percentage change in number of DALYs, 1990–2019	Percentage change in age-standardised DALY rate, 1990–2019
1 Neonatal disorders	10·6 (9·9 to 11·4)	1 Neonatal disorders	7·3 (6·4 to 8·4)	−32·3 (−41·7 to −20·8)	−32·6 (−42·1 to −21·2)
2 Lower respiratory infections	8·7 (7·6 to 10·0)	2 Ischaemic heart disease	7·2 (6·5 to 7·9)	50·4 (39·9 to 60·2)	−28·6 (−33·3 to −24·2)
3 Diarrhoeal diseases	7·3 (5·9 to 8·8)	3 Stroke	5·7 (5·1 to 6·2)	32·4 (22·0 to 42·2)	−35·2 (−40·5 to −30·5)
4 Ischaemic heart disease	4·7 (4·4 to 5·0)	4 Lower respiratory infections	3·8 (3·3 to 4·3)	−56·7 (−64·2 to −47·5)	−62·5 (−69·0 to −54·9)
5 Stroke	4·2 (3·9 to 4·5)	5 Diarrhoeal diseases	3·2 (2·6 to 4·0)	−57·5 (−66·2 to −44·7)	−64·6 (−71·7 to −54·2)
6 Congenital birth defects	3·2 (2·3 to 4·8)	6 COPD	2·9 (2·6 to 3·2)	25·6 (15·1 to 46·0)	−39·8 (−44·9 to −30·2)
7 Tuberculosis	3·1 (2·8 to 3·4)	7 Road injuries	2·9 (2·6 to 3·0)	2·4 (−6·9 to 10·8)	−31·0 (−37·1 to −25·4)
8 Road injuries	2·7 (2·6 to 3·0)	8 Diabetes	2·8 (2·5 to 3·1)	147·9 (135·9 to 158·9)	24·4 (18·5 to 29·7)
9 Measles	2·7 (0·9 to 5·6)	9 Low back pain	2·5 (1·9 to 3·1)	46·9 (43·3 to 50·5)	−16·3 (−17·1 to −15·5)
10 Malaria	2·5 (1·4 to 4·1)	10 Congenital birth defects	2·1 (1·7 to 2·6)	−37·3 (−50·6 to −12·8)	−40·0 (−52·7 to −17·1)
11 COPD	2·3 (1·9 to 2·5)	11 HIV/AIDS	1·9 (1·6 to 2·2)	127·7 (97·3 to 171·7)	58·5 (37·1 to 89·2)
12 Protein-energy malnutrition	2·0 (1·6 to 2·7)	12 Tuberculosis	1·9 (1·7 to 2·0)	−41·0 (−47·2 to −33·5)	−62·8 (−66·6 to −58·0)
13 Low back pain	1·7 (1·2 to 2·1)	13 Depressive disorders	1·8 (1·4 to 2·4)	61·1 (56·9 to 65·0)	−1·8 (−2·9 to −0·8)
14 Self-harm	1·4 (1·2 to 1·5)	14 Malaria	1·8 (0·9 to 3·1)	−29·4 (−56·9 to 6·6)	−37·8 (−61·9 to −6·2)
15 Cirrhosis	1·3 (1·2 to 1·5)	15 Headache disorders	1·8 (0·4 to 3·8)	56·7 (52·4 to 62·1)	1·1 (−4·2 to 2·9)
16 Meningitis	1·3 (1·1 to 1·5)	16 Cirrhosis	1·8 (1·6 to 2·0)	33·0 (22·4 to 48·2)	−26·8 (−32·5 to −19·0)
17 Drowning	1·3 (1·1 to 1·4)	17 Lung cancer	1·8 (1·6 to 2·0)	69·1 (53·1 to 85·4)	−16·2 (−24·0 to −8·2)
18 Headache disorders	1·1 (0·2 to 2·4)	18 Chronic kidney disease	1·6 (1·5 to 1·8)	93·2 (81·6 to 105·0)	6·3 (0·2 to 12·4)
19 Depressive disorders	1·1 (0·8 to 1·5)	19 Other musculoskeletal	1·6 (1·2 to 2·1)	128·9 (122·0 to 136·3)	30·7 (27·6 to 34·3)
20 Diabetes	1·1 (1·0 to 1·2)	20 Age-related hearing loss	1·6 (1·2 to 2·1)	82·8 (75·2 to 88·9)	−1·8 (−3·7 to −0·1)
21 Lung cancer	1·0 (1·0 to 1·1)	21 Falls	1·5 (1·4 to 1·7)	47·1 (31·5 to 61·0)	−14·5 (−22·5 to −7·4)
22 Falls	1·0 (0·9 to 1·2)	22 Self-harm	1·3 (1·2 to 1·5)	−5·6 (−14·2 to 3·7)	−38·9 (−44·3 to −33·0)
23 Dietary iron deficiency	1·0 (0·7 to 1·3)	23 Gynaecological diseases	1·2 (0·9 to 1·5)	48·7 (45·8 to 51·8)	−6·8 (−8·7 to −4·9)
24 Interpersonal violence	0·9 (0·9 to 1·0)	24 Anxiety disorders	1·1 (0·8 to 1·5)	53·7 (48·8 to 59·1)	−0·1 (−1·0 to 0·7)
25 Whooping cough	0·9 (0·4 to 1·7)	25 Dietary iron deficiency	1·1 (0·8 to 1·5)	13·8 (10·5 to 17·2)	−16·4 (−18·7 to −14·0)

FACTS ABOUT GBD & HEART DIS.

Ischaemic heart disease—Level 3 cause

	Deaths	YLLs	YLDs	DALYs
1990	1st	4th	51st	4th
2010	1st	2nd	43rd	2nd
2019	1st	1st	36th	2nd

Table 3: Rank among Level 3 causes for global deaths, YLLs, YLDs, and DALYs in 1990, 2010, and 2019, for both sexes combined
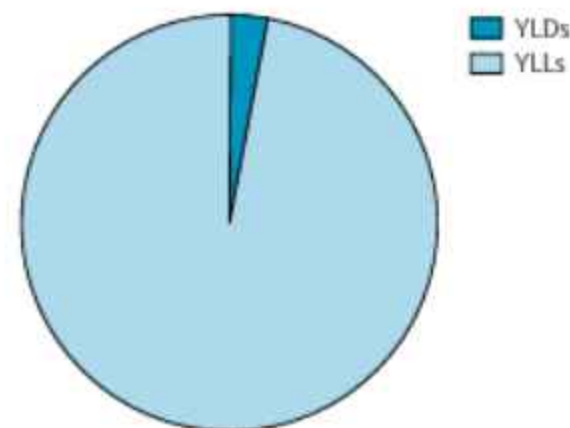
YLDs
YLLs

Composition of DALYs by YLLs and YLDs for both sexes combined 2019

chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.thelancet.com/pb-assets/Lancet/gbd/summaries/diseases/ischaemic-heart-disease.pdf
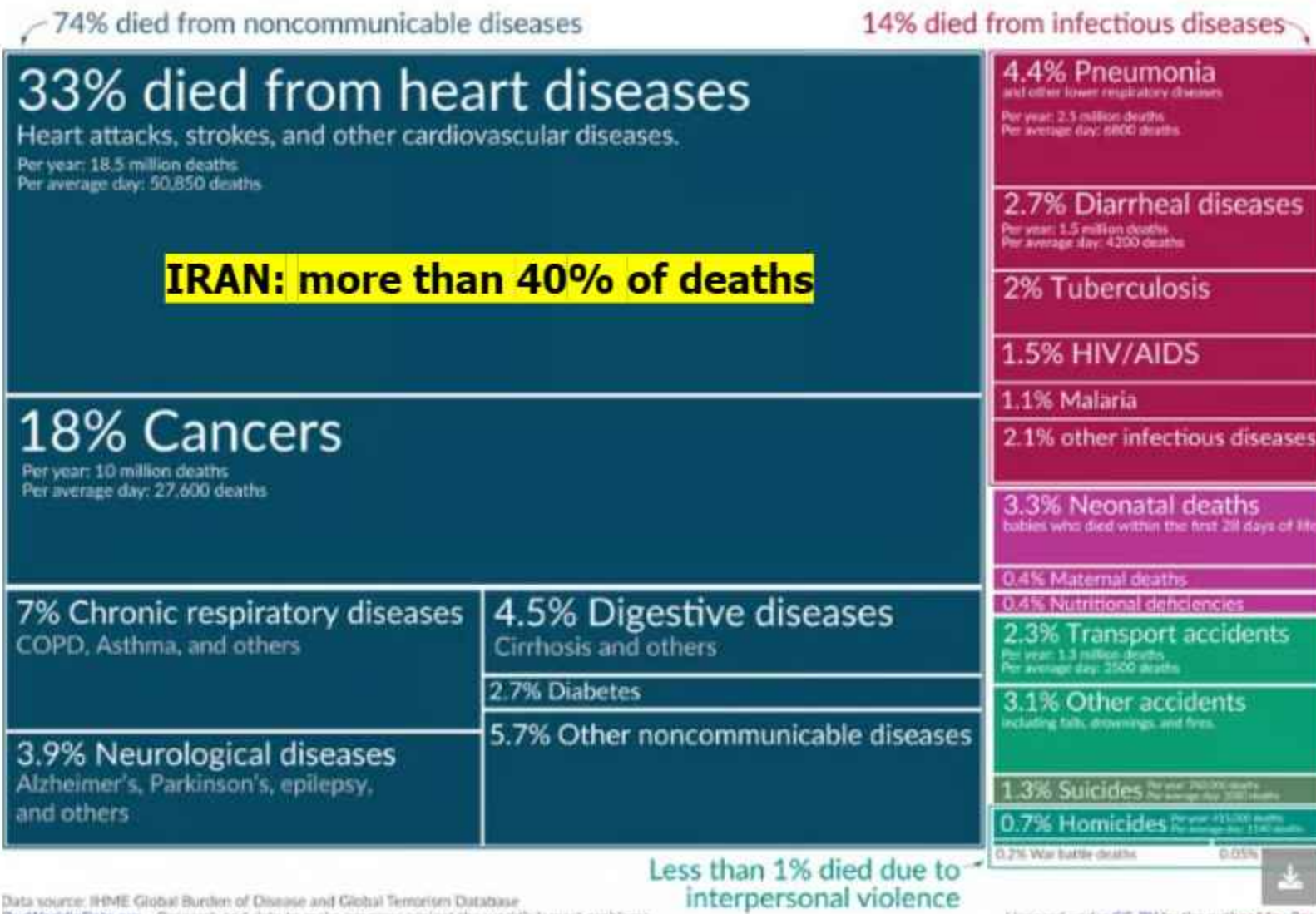
OUR DEATHS WORLD IN DATA(55M IN 2019)

- **Globally, non-communicable diseases are the most common causes of death**

- Heart diseases were the most common cause, responsible for one out of three of all deaths globally.
  - 18/5 million deaths/year
  - 51,000 deaths/day

- Cancers were in second, causing almost one-in-five deaths.

- Taken together, heart diseases and cancers are the cause of every second death.

74% died from noncommunicable diseases

14% died from infectious diseases

33% died from heart diseases
Heart attacks, strokes, and other cardiovascular diseases.
Per year: 18.5 million deaths
Per average day: 50,850 deaths

IRAN: more than 40% of deaths

18% Cancers
Per year: 10 million deaths
Per average day: 27,600 deaths

7% Chronic respiratory diseases
COPD, Asthma, and others

4.5% Digestive diseases
Cirrhosis and others

2.7% Diabetes

5.7% Other noncommunicable diseases

3.9% Neurological diseases
Alzheimer's, Parkinson's, epilepsy, and others

4.4% Pneumonia
and other lower respiratory diseases
Per year: 2.5 million deaths
Per average day: 6800 deaths

2.7% Diarrheal diseases
Per year: 1.5 million deaths
Per average day: 4200 deaths

2% Tuberculosis

1.5% HIV/AIDS

1.1% Malaria

2.1% other infectious diseases

3.3% Neonatal deaths
babies who died within the first 28 days of life

0.4% Maternal deaths

0.4% Nutritional deficiencies

2.3% Transport accidents
Per year: 1.3 million deaths
Per average day: 3500 deaths

3.1% Other accidents
including falls, drownings, and fires

1.3% Suicides

0.7% Homicides

0.2% War battle deaths   0.05%

Less than 1% died due to interpersonal violence

Data source: IHME Global Burden of Disease and Global Terrorism Database
OurWorldInData.org – Research and data to make progress against the world's largest problems.

GBD:1990-2019 (AGE 50-74): HEART DIS. IN TOP 2

☐ Communicable, maternal, neonatal, and nutritional diseases
☐ Non-communicable diseases
☐ Injuries

20 out 25 first & 9 out of 10 first
of GBD in Elderly non-communicable diseases

E 50–74 years

Leading causes 1990	Percentage of DALYs 1990	Leading causes 2019	Percentage of DALYs 2019	Percentage change in number of DALYs, 1990–2019	Percentage change in age-standardised DALY rate, 1990–2019
1 Ischaemic heart disease	12·5 (11·6 to 13·4)	1 Ischaemic heart disease	11·8 (10·7 to 12·9)	46·1 (35·6 to 56·4)	−29·1 (−34·2 to −24·1)
2 Stroke	10·9 (10·0 to 11·8)	2 Stroke	9·3 (8·5 to 10·1)	31·5 (19·5 to 42·9)	−36·3 (−42·1 to −30·8)
3 COPD	6·5 (5·5 to 7·1)	3 Diabetes	5·1 (4·6 to 5·7)	156·1 (143·4 to 167·9)	24·5 (18·5 to 30·4)
4 Tuberculosis	4·0 (3·6 to 4·4)	4 COPD	4·7 (4·2 to 5·2)	12·0 (0·9 to 32·3)	−45·9 (−51·4 to −36·2)
5 Lung cancer	3·6 (3·3 to 3·9)	5 Lung cancer	3·9 (3·4 to 4·3)	64·3 (48·8 to 80·2)	−19·8 (−27·3 to −12·1)
6 Diabetes	3·1 (2·8 to 3·4)	6 Low back pain	3·1 (2·3 to 4·0)	72·1 (70·0 to 74·3)	−15·9 (−16·9 to −14·9)
7 Cirrhosis	2·8 (2·6 to 3·1)	7 Cirrhosis	2·7 (2·4 to 3·0)	44·6 (33·2 to 57·1)	−29·1 (−34·7 to −23·0)
8 Low back pain	2·8 (2·1 to 3·7)	8 Chronic kidney disease	2·3 (2·1 to 2·5)	130·2 (113·0 to 145·6)	12·1 (3·7 to 19·5)
9 Diarrhoeal diseases	2·6 (1·6 to 4·0)	9 Age-related hearing loss	2·2 (1·5 to 3·0)	100·8 (96·0 to 104·9)	−2·6 (−4·9 to −0·5)
10 Stomach cancer	2·4 (2·2 to 2·6)	10 Road injuries	2·1 (1·9 to 2·3)	72·9 (56·5 to 83·9)	−15·2 (−23·2 to −9·9)
11 Road injuries	1·9 (1·8 to 2·0)	11 Other musculoskeletal	1·9 (1·4 to 2·6)	172·0 (160·6 to 187·4)	33·6 (28·0 to 40·2)
12 Lower respiratory infections	1·8 (1·6 to 2·0)	12 Tuberculosis	1·9 (1·7 to 2·1)	−27·8 (−36·2 to −16·9)	−64·7 (−68·9 to −59·4)
13 Age-related hearing loss	1·7 (1·2 to 2·3)	13 Lower respiratory infections	1·8 (1·6 to 1·9)	49·8 (37·9 to 62·4)	−27·5 (−33·3 to −21·5)
14 Chronic kidney disease	1·6 (1·4 to 1·7)	14 Depressive disorders	1·7 (1·3 to 2·3)	107·3 (104·7 to 110·1)	1·5 (0·2 to 2·9)
15 Asthma	1·5 (1·2 to 1·9)	15 Colorectal cancer	1·7 (1·6 to 1·9)	95·1 (80v8 to 108·2)	−5·1 (−12·1 to 1·2)
16 Hypertensive heart disease	1·5 (1·2 to 1·7)	16 Falls	1·7 (1·5 to 2·0)	88·3 (76·5 to 100·0)	−8·4 (−14·1 to −2·6)
17 Falls	1·4 (1·3 to 1·6)	17 Stomach cancer	1·7 (1·5 to 1·9)	6·3 (−5·0 to 18·9)	−48·1 (−536 to −42·0)
18 Colorectal cancer	1·4 (1·3 to 1·5)	18 Osteoarthritis	1·5 (0·8 to 2·9)	113·6 (110·9 to 116·4)	4·1 (28 to 5·4)
19 Depressive disorders	1·3 (0·9 to 1·7)	19 Blindness and vision loss	1·4 (1·1 to 2·0)	88·8 (81·9 to 95·8)	−8·6 (−12·0 to −5·0)
20 Blindness and vision loss	1·2 (0·9 to 1·6)	20 Breast cancer	1·4 (1·3 to 1·5)	85·0 (69·9 to 99·4)	−9·5 (−16·9 to −2·5)
21 Liver cancer	1·2 (1·0 to 1·3)	21 Diarrhoeal diseases	1·4 (0·9 to 2·1)	−21·0 (−42·4 to 11·9)	−61·0 (−72·1 to −45·8)
22 Breast cancer	1·2 (1·1 to 1·2)	22 Hypertensive heart disease	1·3 (1·0 to 1·5)	36·7 (20·8 to 58·8)	−33·8 (−41·7 to −23·4)
23 Oesophageal cancer	1·1 (0·9 to 1·2)	23 Headache disorders	1·2 (0·4 to 2·5)	102·5 (88·7 to 108·2)	−1·2 (−7·4 to 2·3)
24 Osteoarthritis	1·1 (0·6 to 2·2)	24 Oral disorders	1·2 (0·8 to 1·8)	90·5 (86·0 to 94·7)	−7·4 (−9·6 to −5·1)
25 Self-harm	1·1 (1·0 to 1·2)	25 Neck pain	1·1 (0·7 to 1·7)	115·9 (110·5 to 122·2)	5·7 (3·0 to 8·5)

GBD:1990-2019 (AGE +75): HEART DIS. IN TOP 2

Communicable, maternal, neonatal, and nutritional diseases
Non-communicable diseases
Injuries

20 out 25 first   &   8 out of 10 first

of GBD in Elderly non-communicable diseases

F   75 years and older

1 Ischaemic heart disease	18·6 (17·1 to 19·7)		
2 Stroke	15·5 (14·3 to 16·7)		
3 COPD	9·9 (8·6 to 10·7)		
4 Alzheimer's disease	3·8 (1·7 to 8·6)		
5 Lower respiratory infections	3·3 (3·0 to 3·6)		
6 Diarrhoeal diseases	3·1 (2·0 to 4·5)		
7 Diabetes	2·6 (2·4 to 2·9)		
8 Hypertensive heart disease	2·3 (1·9 to 2·5)		
9 Age-related hearing loss	2·0 (1·5 to 2·7)		
10 Lung cancer	1·9 (1·8 to 2·0)		
11 Falls	1·8 (1·6 to 2·1)		
12 Tuberculosis	1·8 (1·6 to 2·1)		
13 Low back pain	1·7 (1·2 to 2·3)		
14 Chronic kidney disease	1·6 (1·5 to 1·8)		
15 Stomach cancer	1·6 (1·4 to 1·7)		
16 Blindness and vision loss	1·4 (1·1 to 1·8)		
17 Colorectal cancer	1·4 (1·3 to 1·5)		
18 Asthma	1·2 (1·0 to 1·7)		
19 Cirrhosis	1·2 (1·0 to 1·3)		
20 Prostate cancer	1·0 (0·8 to 1·2)		
21 Atrial fibrillation	1·0 (0·8 to 1·2)		
22 Osteoarthritis	0·9 (0·5 to 1·7)		
23 Oral disorders	0·8 (0·6 to 1·2)		
24 Parkinson's disease	0·8 (0·8 to 0·9)		
25 Upper digestive diseases	0·8 (0·7 to 0·9)		

|			
1 Ischaemic heart disease	16·2 (14·6 to 17·6)	66·6 (57·7 to 74·2)	−32·4 (−35·8 to −29·4)
2 Stroke	13·0 (11·7 to 14·0)	60·5 (48·7 to 72·5)	−33·4 (−38·3 to −28·5)
3 COPD	8·5 (7·5 to 9·2)	63·6 (49·1 to 86·1)	−31·0 (−37·1 to −21·9)
4 Alzheimer's disease	5·6 (2·6 to 12·2)	180·0 (168·0 to 194·7)	2·6 (−2·1 to 6·6)
5 Diabetes	4·0 (3·6 to 4·3)	190·7 (179·4 to 201·0)	23·1 (18·6 to 27·5)
6 Lower respiratory infections	3·3 (2·9 to 3·6)	87·4 (76·2 to 99·6)	−25·3 (−29·3 to −20·4)
7 Lung cancer	2·6 (2·3 to 2·8)	164·3 (143·6 to 183·8)	16·4 (7·4 to 24·9)
8 Falls	2·6 (2·2 to 2·9)	166·4 (151·1 to 183·4)	6·4 (0·4 to 13·3)
9 Chronic kidney disease	2·5 (2·3 to 2·7)	196·0 (173·9 to 211·1)	21·6 (12·6 to 27·4)
10 Age-related hearing loss	2·5 (1·9 to 3·3)	137·8 (132·0 to 143·9)	−2·2 (−4·3 to −0·2)
11 Hypertensive heart disease	2·4 (1·8 to 2·7)	106·0 (68·5 to 131·7)	−15·1 (−31·5 to −5·0)
12 Diarrhoeal diseases	1·9 (1·2 to 3·0)	15·1 (−16·8 to 65·3)	−51·0 (−64·9 to −30·4)
13 Low back pain	1·8 (1·3 to 2·4)	105·7 (100·2 to 111·4)	−12·5 (−13·8 to −11·3)
14 Colorectal cancer	1·7 (1·5 to 1·8)	126·9 (113·4 to 138·3)	−4·5 (−9·7 to 0·1)
15 Blindness and vision loss	1·7 (1·3 to 2·2)	124·7 (119·3 to 130·7)	−7·4 (−9·9 to −4·8)
16 Atrial fibrillation	1·3 (1·1 to 1·5)	148·6 (134·8 to 161·9)	−1·8 (−6·9 to 2·5)
17 Stomach cancer	1·3 (1·1 to 1·4)	55·0 (43·8 to 66·6)	−32·9 (−37·5 to −28·0)
18 Prostate cancer	1·1 (1·0 to 1·4)	117·0 (102·1 to 142·3)	−8·5 (−14·6 to 2·1)
19 Cirrhosis	1·1 (1·0 to 1·2)	82·3 (62·1 to 100·9)	−21·3 (−30·2 to −13·5)
20 Parkinson's disease	1·1 (1·0 to 1·2)	153·7 (138·7 to 166·6)	6·0 (0·0 to 11·1)
21 Osteoarthritis	1·1 (0·6 to 2·1)	139·5 (136·5 to 142·6)	0·8 (−0·4 to 2·1)
22 Oral disorders	0·9 (0·6 to 1·3)	112·0 (106·4 to 117·6)	−10·9 (−12·9 to −8·8)
23 Tuberculosis	0·9 (0·8 to 1·0)	−6·3 (−16·9 to 14·6)	−59·2 (−64·0 to −50·3)
24 Asthma	0·8 (0·7 to 1·0)	25·2 (3·2 to 41·2)	−46·2 (−55·9 to −39·8)
25 Road injuries	0·8 (0·7 to 0·9)	110·0 (99·8 to 118·1)	−9·3 (−13·5 to −5·9)

WHO REPORT: KEY FACTS-2022

- **Multimorbidity affects more than half of the elderly population.**

- Cardiovascular diseases (CVDs) are the **leading cause of death globally**.
- An estimated 19.8 million people died from CVDs in 2022, representing
  - **33% of all global deaths**
    - **85% due to heart attack and stroke**
- **Three quarters** of CVD deaths take place in **low- and middle-income** countries.
- Most cardiovascular diseases can be prevented by addressing **behavioral and environmental risk** factors

SELECTED CHRONIC CONDITIONS- APRIL 2025
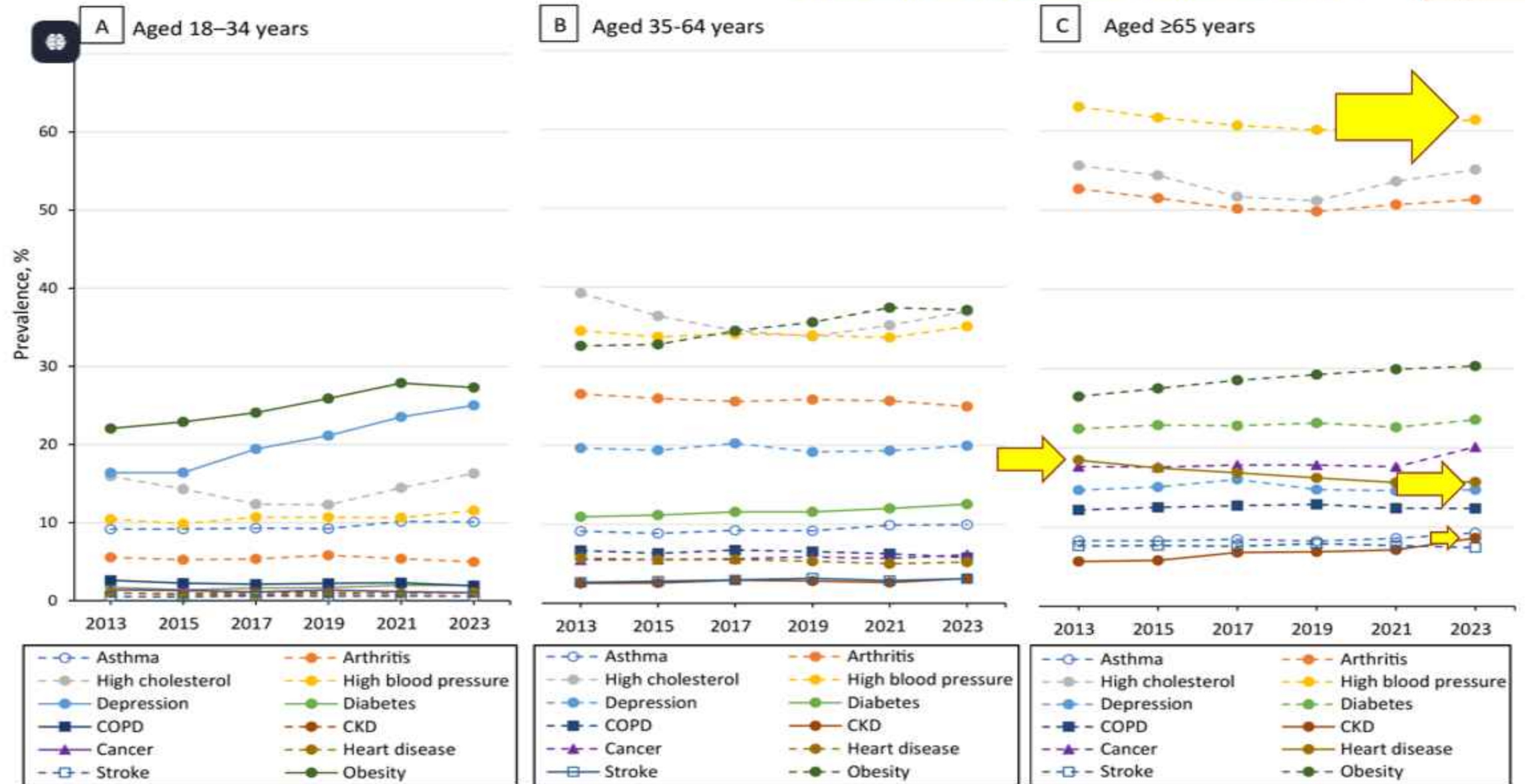
CVD PREVALENCE- CHEST PAIN

- **20-40% :** Estimation of the general population chest pain (Cardiac-angina/non-cardiac) in their lifetime:
  - 5-10% emergency department visits
  - 1% require acute interventions
  - Mismanagement of ACS in the ED is a top medical-legal issue: 2% miss
  - two-fold increase in mortality if MI and who are mistakenly discharged from the ED
  - Higher mortality when the patient is from low-cost environments

- **20% >65 & 30% >75 y** visit annually for chest pain at least once

- **Note**: chest pain is not common sign in elderly for heart attack
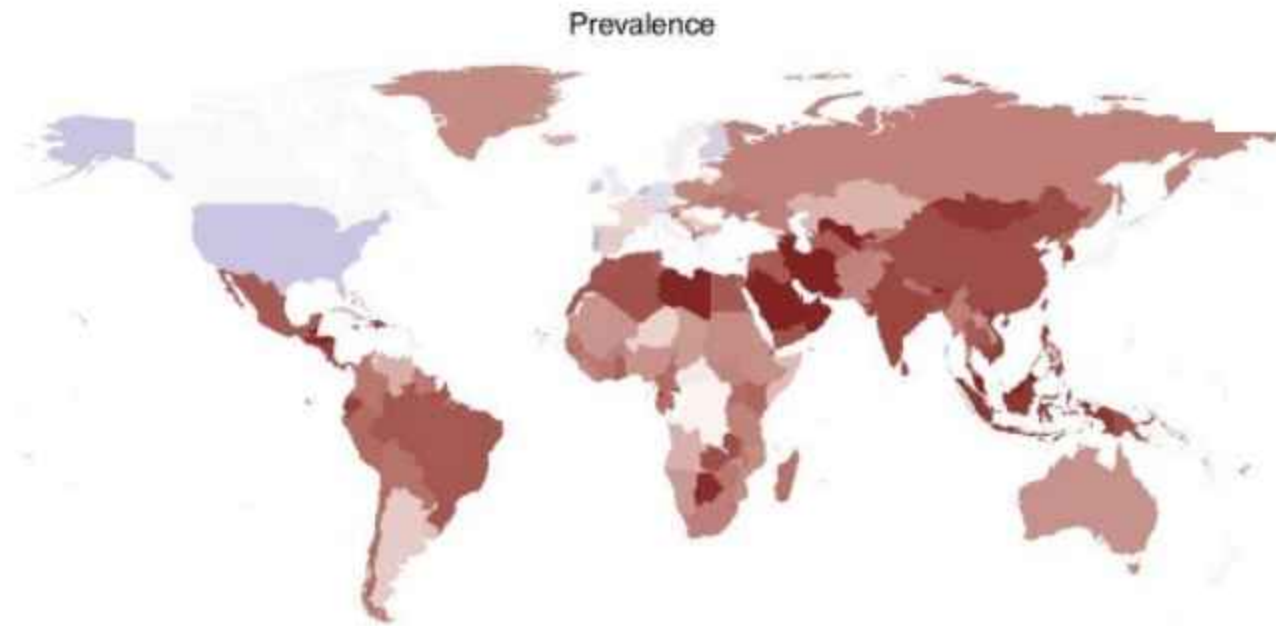
CVD PREVALENCE - MI

Prevalence of MI in the elderly: SYS. Rev. & Meta Ana. 2024- Iran

- Total prevalence of MI in the elderly was estimated to be **17.6% (12-23%)**

- Higher in men than women. Men earlier female later
  - **16.1%** in males ~ **12.5%** in females

- The prevalence of MI **2–4**-times increased with the elderly (P < 0.001)

- Approximately, **83% of patients who die from MI are elderly**

- **10% older adults death during hospital admission** (comorbidity)

CVD PREVALENCE —
IHD TREND 30 YRS

Deaths

Prevalence

-3% -2% -1% 0% 1% 2% 3%

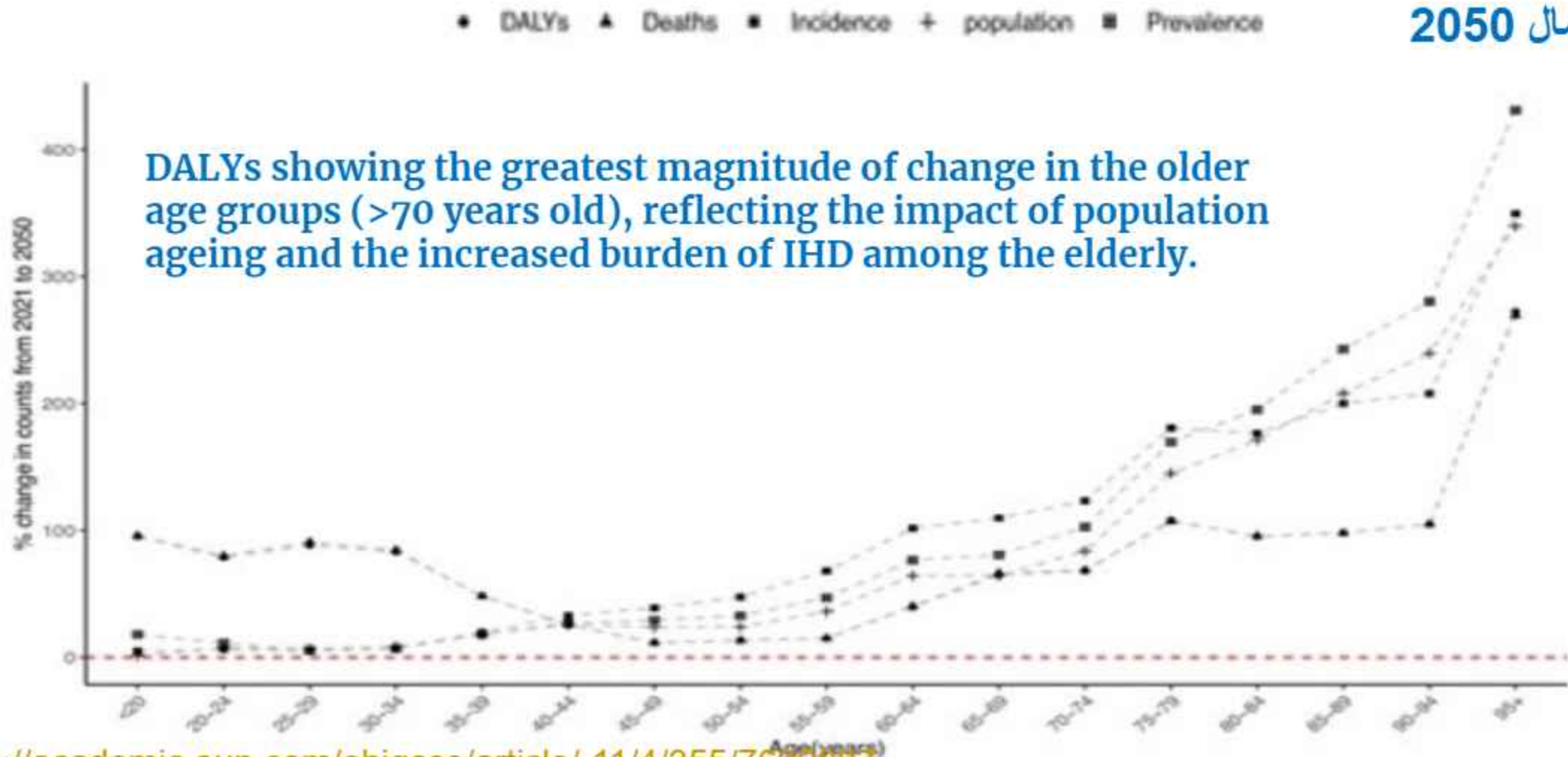Janbazan Medical and Engineering Research Center (JMERC)
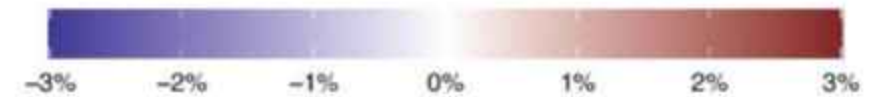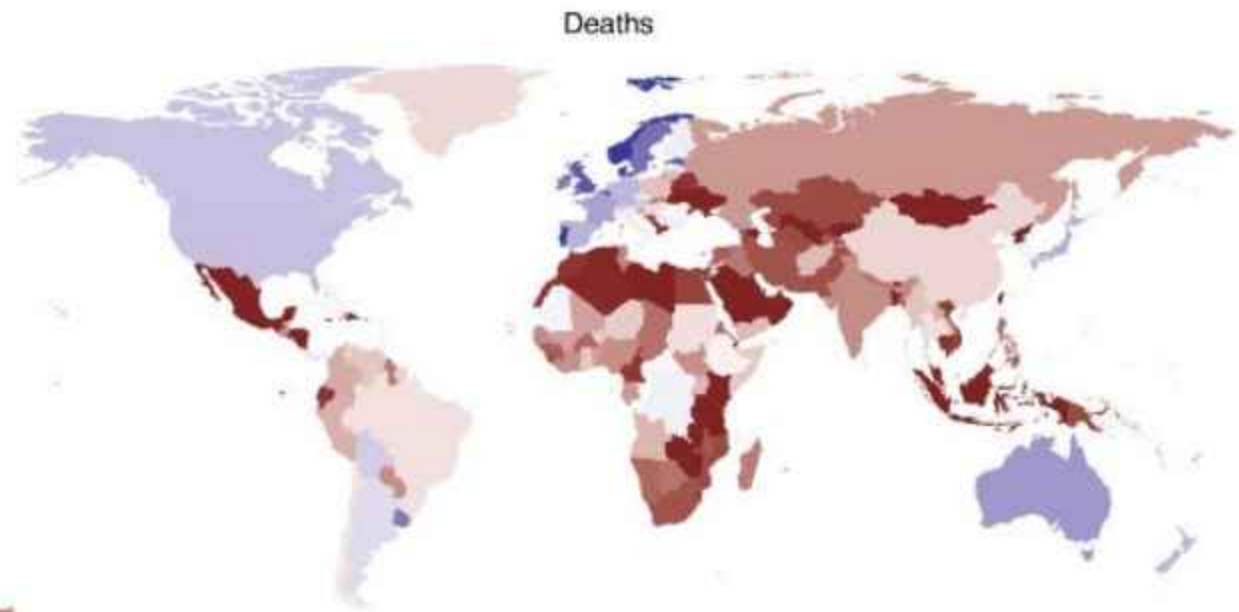
IHD: Projected changes in global population, incidence, prevalence, deaths, and disability-adjusted life years (DALYs) count by age groups (2050 vs. 2021).
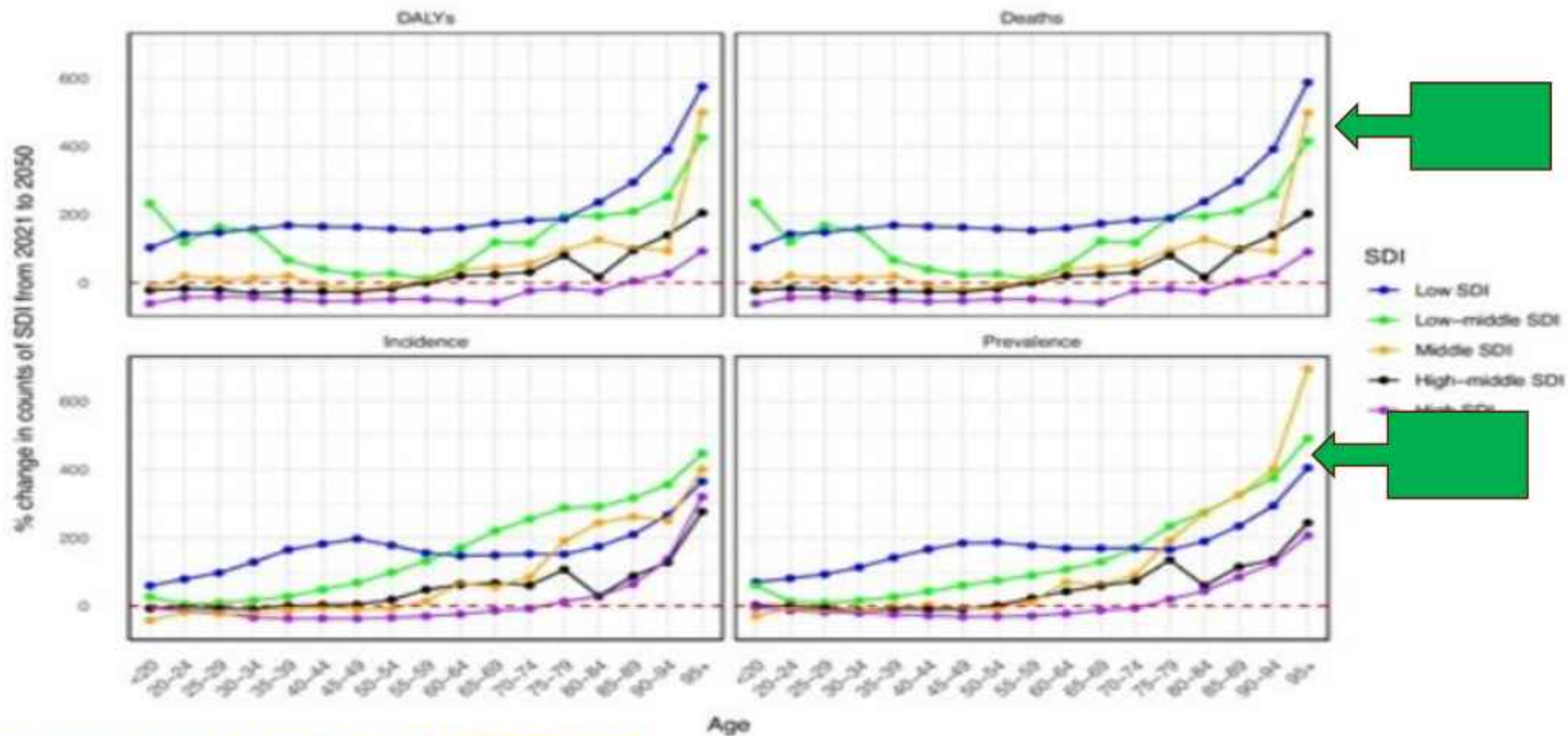

رشد تا سال 2050

DALYs showing the greatest magnitude of change in the older age groups (>70 years old), reflecting the impact of population ageing and the increased burden of IHD among the elderly.

CVD PREVALENCE — IHD 2025

رشد تا سال 2050

Projected changes in 2050 vs 2021:
incidence, prevalence, deaths, and DALYs By AGE & sociodemographic index (SDI) regions

CVD PREVALENCE - HTN

THE LANCET

Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants

NCD Risk Factor Collaboration (NCD-RisC) [†]

1200 studies in 184 countries (104 million cases), +30 years (adult)

99% of the world's population- 1990-2021

Article metrics

2,447
Citations

Through 30yrs ~ no change

- **32%F**

- **34%M**