UROLOGY IN OLDER ADULTS
EPIDEMIOLOGY & BURDEN OF DISEASE

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Day: Friday 9-May-2025 (1404-اردیبهشت-19)

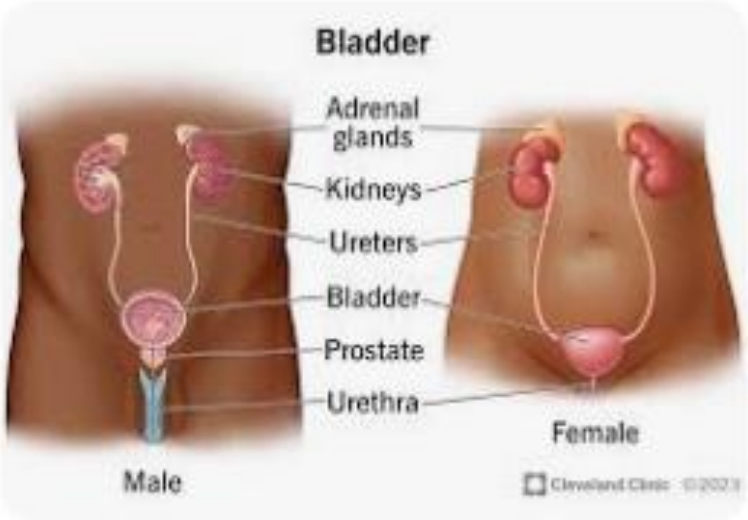
Time: 8:30-11:00

DO WE NEED TO APPROACH OLDER ADULTS DIFFERENTLY?

SENIORS
RESIDENCIAS

Senior citizens=>60/65years

- Now and future of aging
- Urology - epidemiology
- Urology burden of disease and aging



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.

Letter to the Editor

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

Bakhtiar Piroozi, Amjad Mohamadi-Bolbanabad & Azad Shokri

Pages 711-714 | Published online: 10 Apr 2024

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https://www.tandfonline.com/doi/full/10.1080/01634372.2024.2340725

An Achievement or a Challenge?

- **Mean age: 32 yrs**
- **Elderly rate:**
  - ❖**2016: 9/5% 2024: 11%**
  - ❖**Estimation: 2030: 15%**
  - **Estimation: 2050: 30%**

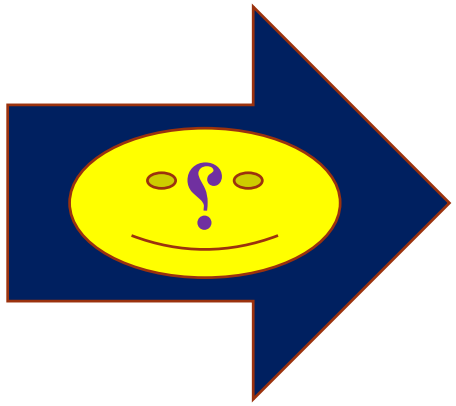
doubling time 20y

آینده پژوهی ساختار جمعیتی در ایثارگران (جانباز/شاهد) N~963,000

- **در حال حاضر:** **25.5٪ جمعیت** سالمند: (**n=248,507**)

- **سال ۱۴۱۰:** **70.8٪ جمعیت** سالمند: **چالش جدی ۶۰-۶۹ ساله ها**
  - رشد سالمندی: **(n=595,172)** + ۷۰ سال حدود۱۵٪

- **سال ۱۴۲۰:** **81.5٪ جمعیت** سالمند : **چالش جدی ۷۰ سال و بالاتر**
  - **(n=580,365)** + ۷۰ سال حدود۶۵٪



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

WORLD POPULATION AGEING HIGHLIGHTS:

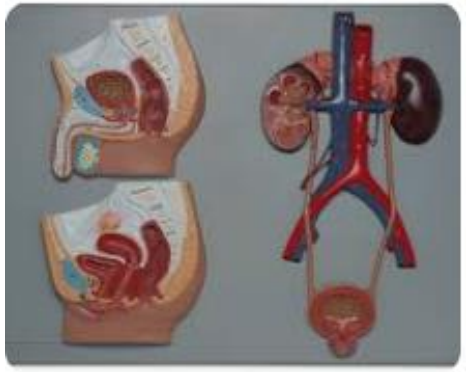
BUILD A LARGER, STRONGER AGING SERVICES WORKFORCE

Rapid ageing globally: specific & dedicated

Demands on health services ↑ to deal with disabling outcomes

Need for regular reporting on population health in details ↑

GERIARTRIC UROLOGY DIS.



Benign prostatic hyperplasia(BPH), Urinary incontinence (under report), urolithiasis, Malignant neoplasm of prostate, Elevated prostate specific antigen [PSA], UTI & recurrent UTI, Gross hematuria, Retention of urine,, catheter-related bacteriuria, …….,

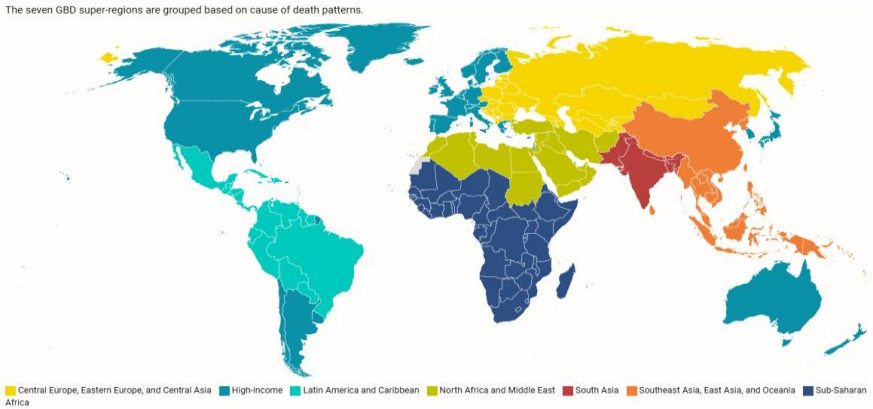
Which one is more common in elderly? the burden?

the direct and indirect cost care ?

Role of general medical doctor in:

Screening, referral, treatment, rehab & palliative care?

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

GBD:1990-2019 ALL AGE: NO UROLOGY IN TOP 25

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)

GBD:1990-2019 (AGE 50-74): NO UROLOGY IN TOP 25

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

20 out 25 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)

Lancet 2020; 396: 1204–22. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(20)30925-9.pdf

GBD:1990-2019 (AGE +75): UROLOGY IN TOP 18

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

F 75 years and older

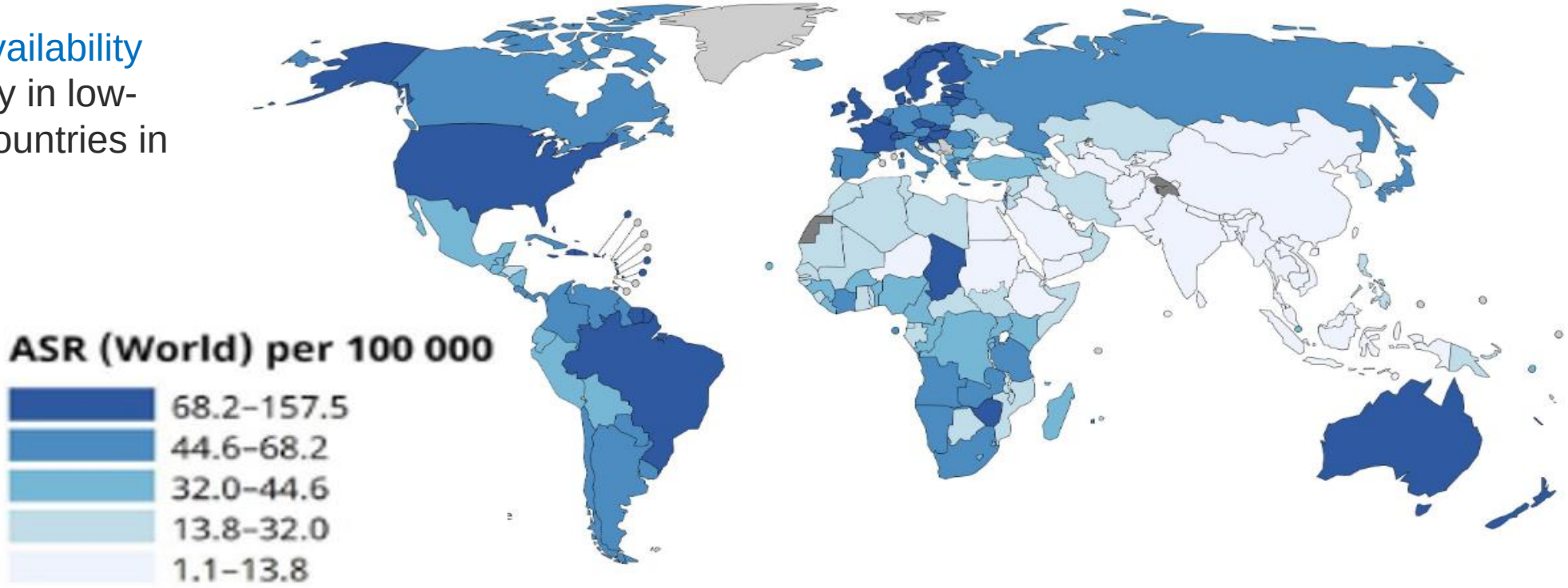
1 Ischaemic heart disease	18·6 (17·1 to 19·7)	1 Ischaemic heart disease	16·2 (14·6 to 17·6)	66·6 (57·7 to 74·2)	−32·4 (−35·8 to −29·4)
2 Stroke	15·5 (14·3 to 16·7)	2 Stroke	13·0 (11·7 to 14·0)	60·5 (48·7 to 72·5)	−33·4 (−38·3 to −28·5)
3 COPD	9·9 (8·6 to 10·7)	3 COPD	8·5 (7·5 to 9·2)	63·6 (49·1 to 86·1)	−31·0 (−37·1 to −21·9)
4 Alzheimer's disease	3·8 (1·7 to 8·6)	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 Lower respiratory infections	3·3 (3·0 to 3·6)	5 Diabetes	4·0 (3·6 to 4·3)	190·7 (179·4 to 201·0)	23·1 (18·6 to 27·5)
6 Diarrhoeal diseases	3·1 (2·0 to 4·5)	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 Diabetes	2·6 (2·4 to 2·9)	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 Hypertensive heart disease	2·3 (1·9 to 2·5)	8 Falls	2·6 (2·2 to 2·9)	166·4 (151·1 to 183·4)	6·4 (0·4 to 13·3)
9 Age-related hearing loss	2·0 (1·5 to 2·7)	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 Lung cancer	1·9 (1·8 to 2·0)	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 Falls	1·8 (1·6 to 2·1)	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 Tuberculosis	1·8 (1·6 to 2·1)	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	1·7 (1·2 to 2·3)	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 Chronic kidney disease	1·6 (1·5 to 1·8)	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 Stomach cancer	1·6 (1·4 to 1·7)	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 Blindness and vision loss	1·4 (1·1 to 1·8)	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 Colorectal cancer	1·4 (1·3 to 1·5)	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 Asthma	1·2 (1·0 to 1·7)	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	1·2 (1·0 to 1·3)	19 Cirrhosis	1·1 (1·0 to 1·2)	82·3 (62·1 to 100·9)	−21·3 (−30·2 to −13·5)
20 Prostate cancer	1·0 (0·8 to 1·2)	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 Atrial fibrillation	1·0 (0·8 to 1·2)	21 Osteoarthritis	1·1 (06 to 21)	139·5 (136·5 to 142·6)	0·8 (−0·4 to 2·1)
22 Osteoarthritis	0·9 (0·5 to 1·7)	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 Oral disorders	0·8 (0·6 to 1·2)	23 Tuberculosis	0·9 (0·8 to 1·0)	−6·3 (−16·9 to 14·6)	−59·2 (−64·0 to −50·3)
24 Parkinson's disease	0·8 (0·8 to 0·9)	24 Asthma	0·8 (0·7 to 1·0)	25·2 (3·2 to 41·2)	−46·2 (−55·9 to −39·8)
25 Upper digestive diseases	0·8 (0·7 to 0·9)	25 Road injuries	0·8 (0·7 to 0·9)	110·0 (99·8 to 118·1)	−9·3 (−13·5 to −5·9)

Lancet 2020; 396: 1204–22. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(20)30925-9.pdf

ESTIMATED PROSTATE CANCER INCIDENCE RATE: 185 COUNTRIES-2025

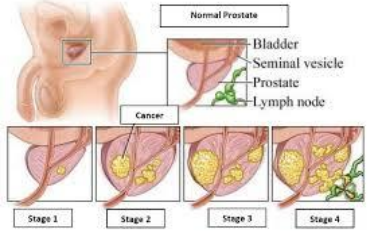
Improvements data availability and quality, particularly in low- and middle- income countries in **Asia and Africa**

Highest **incidence rates:**
Australia/New Zealand, North America, Northern Europe, and Latin America



Older men develop post op:

- Worse urinary continence independent of age at time of surgery or follow-up duration.
- Pathological stage postoperative lower QoL outcomes, affecting both
  - Urinary and sexual function



https://www.europeanurology.com/article/S/6-02707(24)2838-0302fulltext (march 2025)

ESTIMATED PROSTATE CANCER MORTALITY RATE: 185 COUNTRIES-2025

Highest **DALYs:**

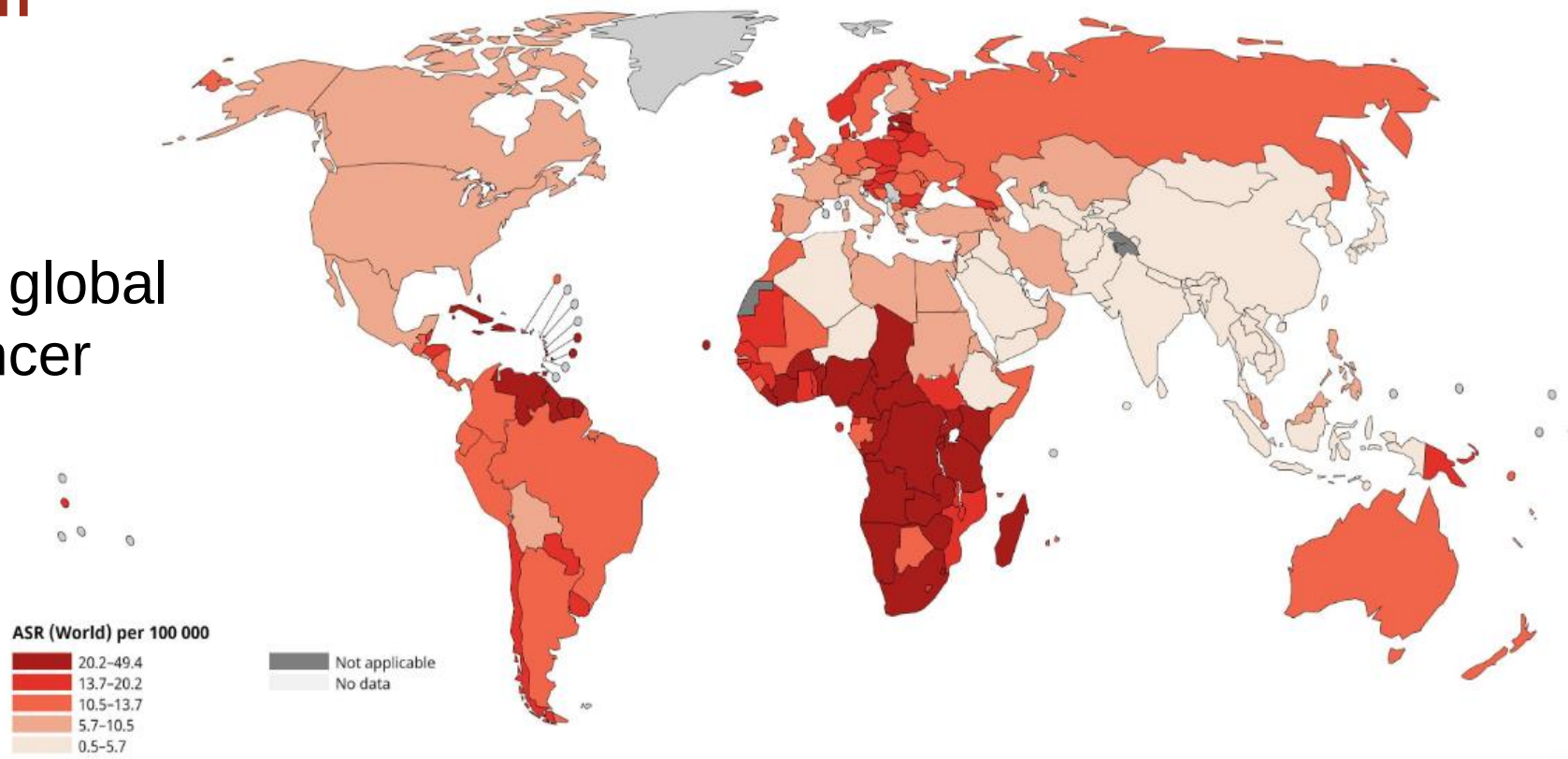
Sub-Saharan Africa

Latin America/Caribbean

Low income countries

Highlights the significant global disparities in prostate cancer incidence and mortality, emphasizing the role of:

- **Health care access,**
- **Genetic factors, and**
- **Screening practices**



https://www.europeanurology.com/article/S/6-02707(24)2838-0302fulltext **(march 2025)**

COSTS OF DIAGNOSIS & TREATMENT: PROSTATE CANCER IN ELDERLY MEN

- Pooled baseline screening cost: $37.23 with (**PSA**) and $31.77 with digital rectal examination (**DRE**).
- For those with a **Gleason score of 6** or lower who received no active treatment within 1 year of diagnosis, the median cost was **$1914**.
- Aged **70 years** or older, the median per-patient cost(for dx and workup, treatment, follow-up, and morbidity management) was **$14 453 (4887$-27899$)** within 3 years after diagnosis; Maintenance $2,600 for continued care ·
- **$74,000** for care in the last year of life.
- Sys. Review **2024**, the cost of prostate cancer screening varies:
  - MRI-based screening has been found to be cost-effective
  - **Risk calculators and personalized screening protocols**
- Estimating **lifetime costs** of early stage $28,000 to $112,774 when complications were considered

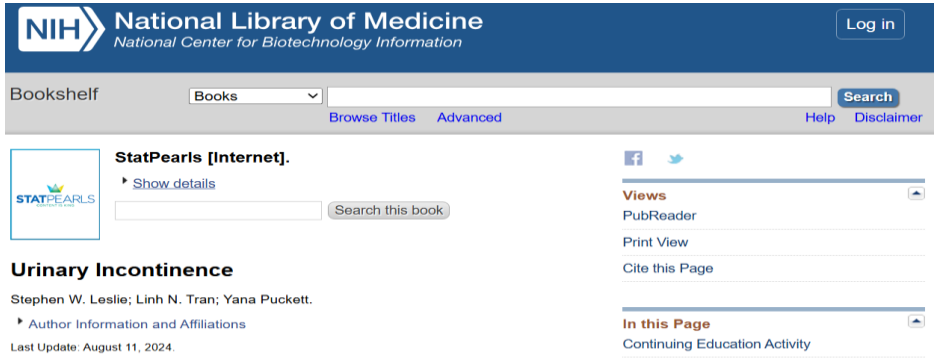
https://jamanetwork.com/journals/jamaoncology/fullarticle/2701720
https://www.sciencedirect.com/science/article/pii/S0302283824023789 -2024

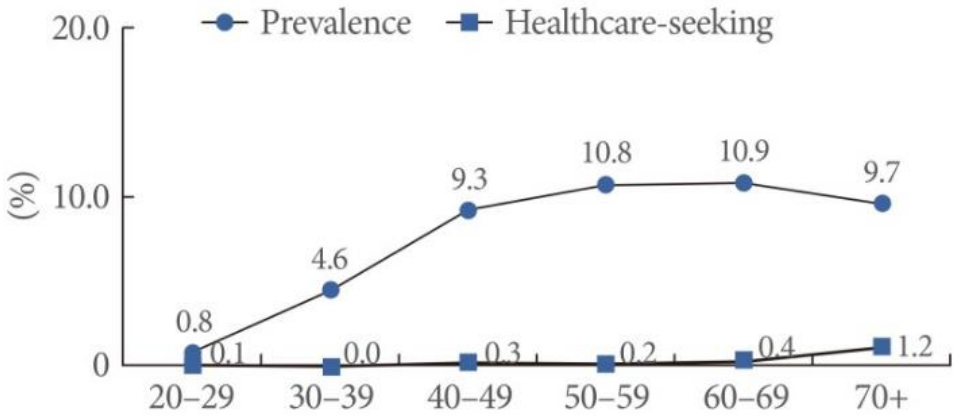
URINARY INCONTINENCE: 2024

- Data are difficult to obtain due to underreporting ,
  - 11% to 34% of older men &
  - 24% to 60% of older women

BURDEN

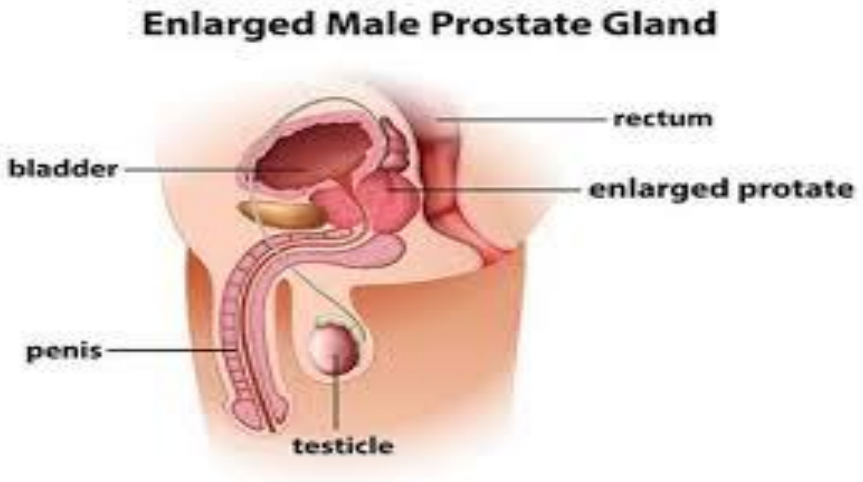
- **Medically:** perineal rashes, pressure ulcers, urinary tract infections, urosepsis, falls, and fractures.
- **Psychosocially:** embarrassment, stigmatization, isolation, depression, risk of institutionalization
- **Economically:** more than the amount spent on dialysis and coronary-artery-bypass surgery



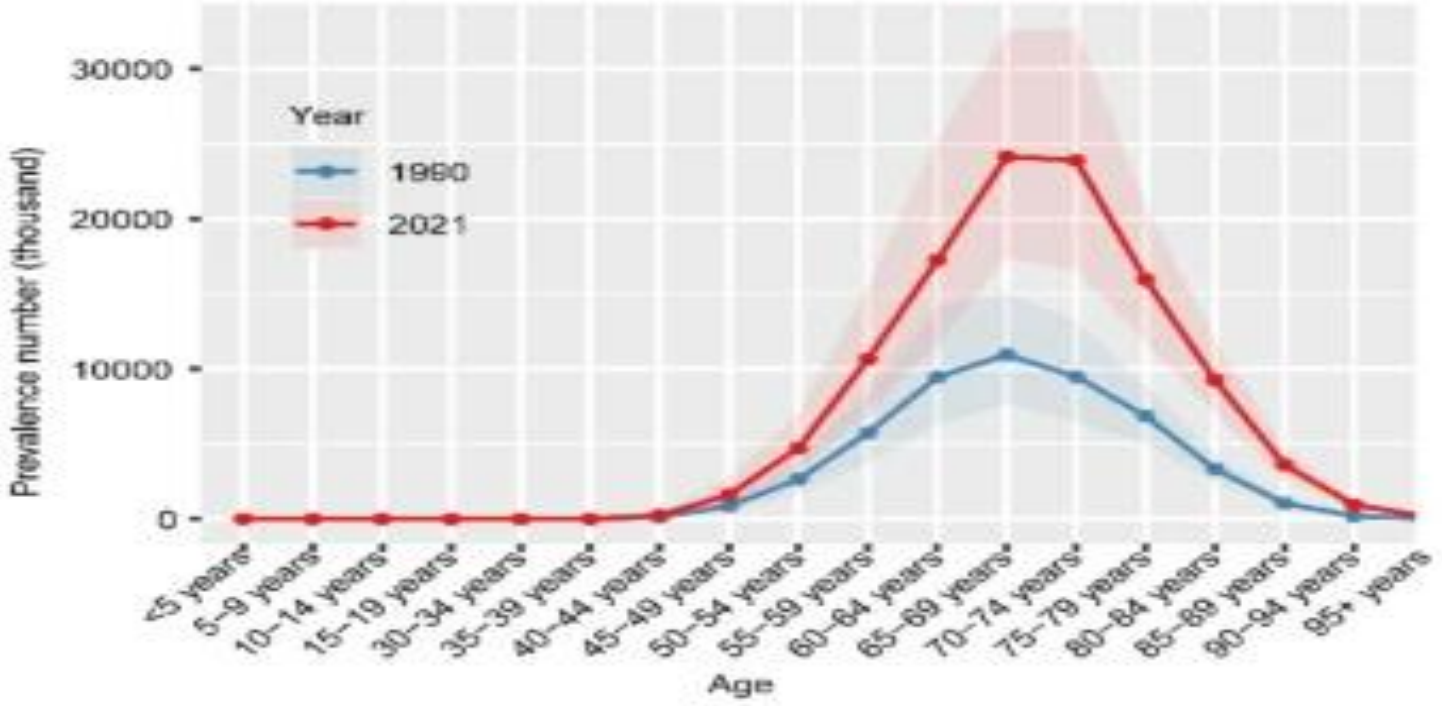


https://www.ncbi.nlm.nih.gov/books/NBK/559095

BENIGN PROSTATIC HYPERPLASIA
BPH



BPH: YEARS OF DATA COVERAGE 1980-2021 NATURE 2025



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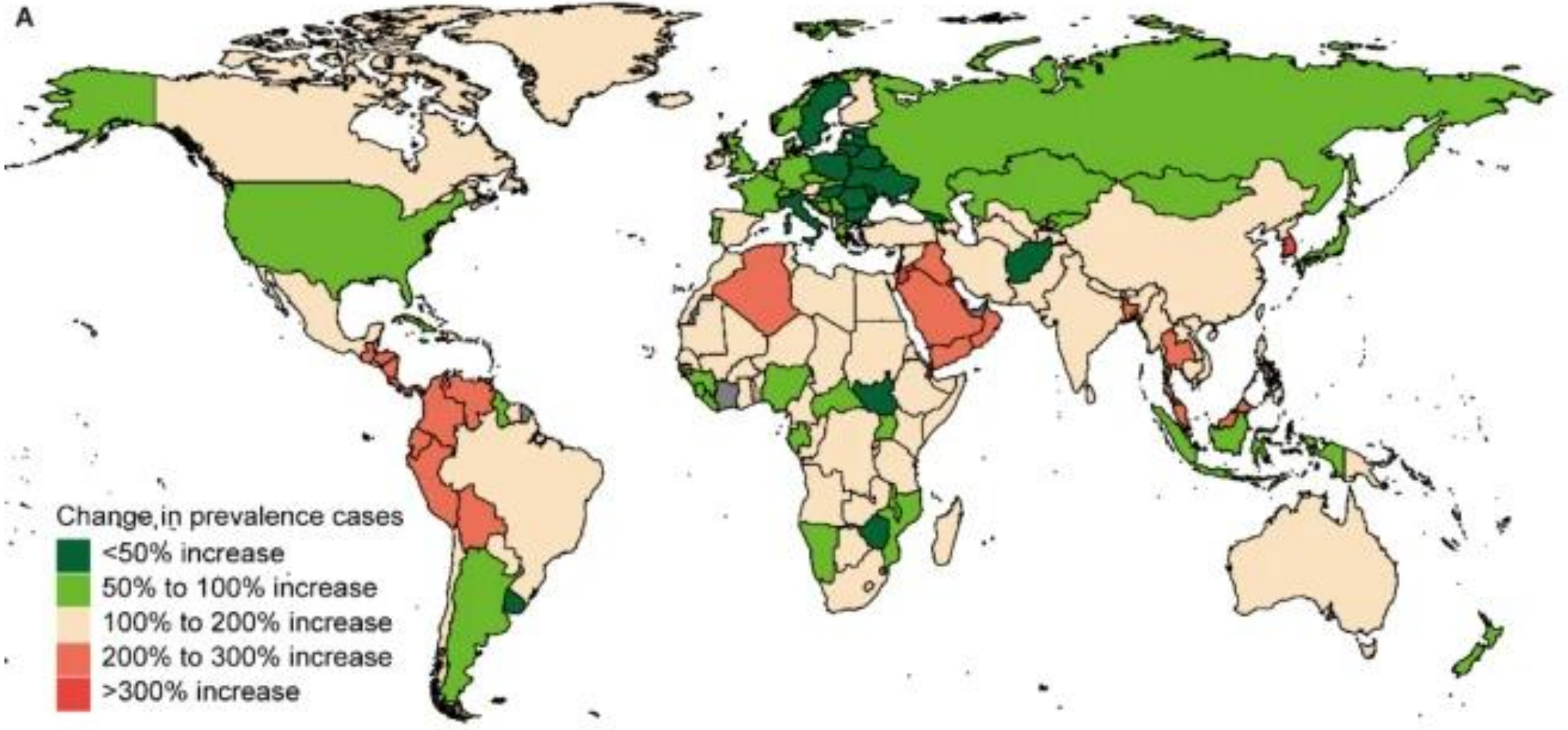
BPH: YEARS OF DATA COVERAGE 1980-2021 NATURE 2025



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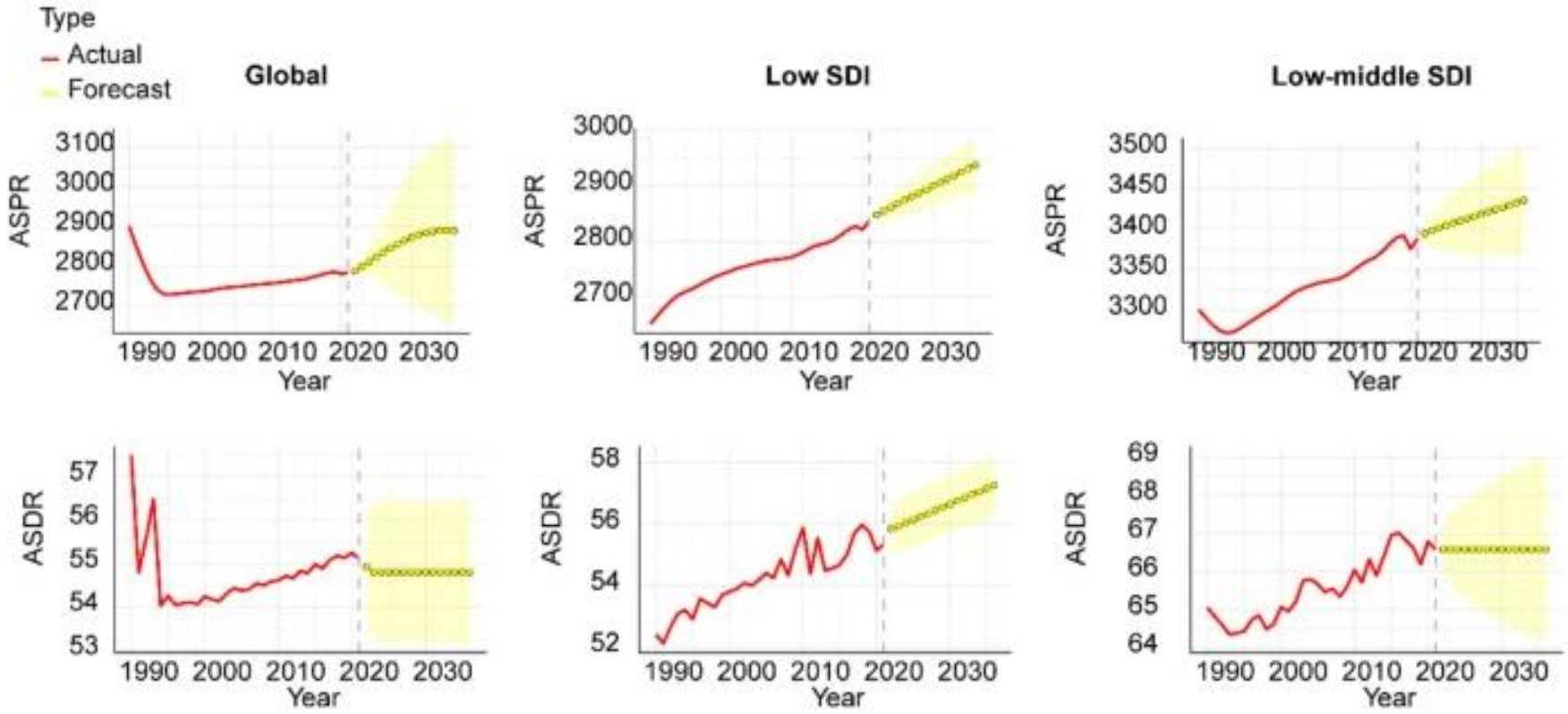
FORECASTING THE NEXT 15 YEARS' TRENDS: NATURE 2025

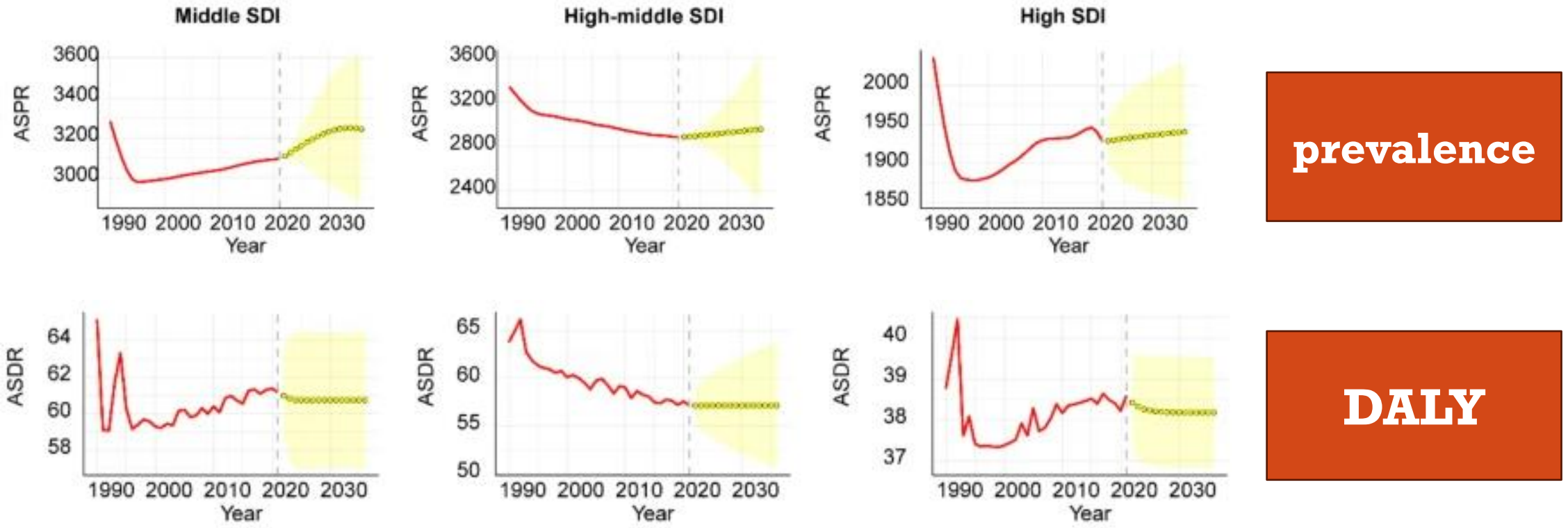


prevalence

DALY

https://www.nature.com/articles/s41598-025-90229-3

FORECASTING THE NEXT 15 YEARS' TRENDS: NATURE 2025



prevalence

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APPROACH OLDER ADULTS

Role of general medical doctor in:

Screening: Early disease detection

Treatment: & reduce the severity of the disease

Referral, Rehab &

Over medicalization

Palliative care

PREVENTION STRATEGIES

Role of general medical doctor in:
screening, treatment, referral, rehab & palliative care?

- **Primordial Prevention**

Risk factor reduction (through laws and national policy).

Underlying disease (physical activity; obesity, cardiovascular disease, type 2 diabetes, etc.)

- **Primary Prevention**

Prevent a disease from ever occurring. (limit risk exposure or increase the immunity by immunizations

- **Secondary Prevention**

Early disease detection: Secondary prevention often occurs in the form of screenings.

- **Tertiary Prevention**

Tertiary prevention targets symptomatic patients and aims to reduce the severity of the disease as well as any associated sequelae.

- **Quaternary Prevention**

Action taken to identify patients at risk of overmedicalization, to protect him from new medical invasion, and to suggest to him interventions, which are ethically acceptable. "an action taken to protect individuals (persons/patients) from medical interventions that are likely to cause more harm than good."

The official flower of National Grandparents' Day is the forget-me-not, which blooms in the spring, small blue flowers that grow anywhere from 4 to 12 inches.

Represents remembrance and long-associated with dementia. People with dementia may experience memory loss, among other symptoms. This makes the forget-me-not the perfect flower to represent our cause.