APCN x TSN 2025
23rd Asian Pacific Congress of Nephrology

Tackling Cardiovascular-Kidney-Metabolic Syndrome in the Asian-Pacific Region

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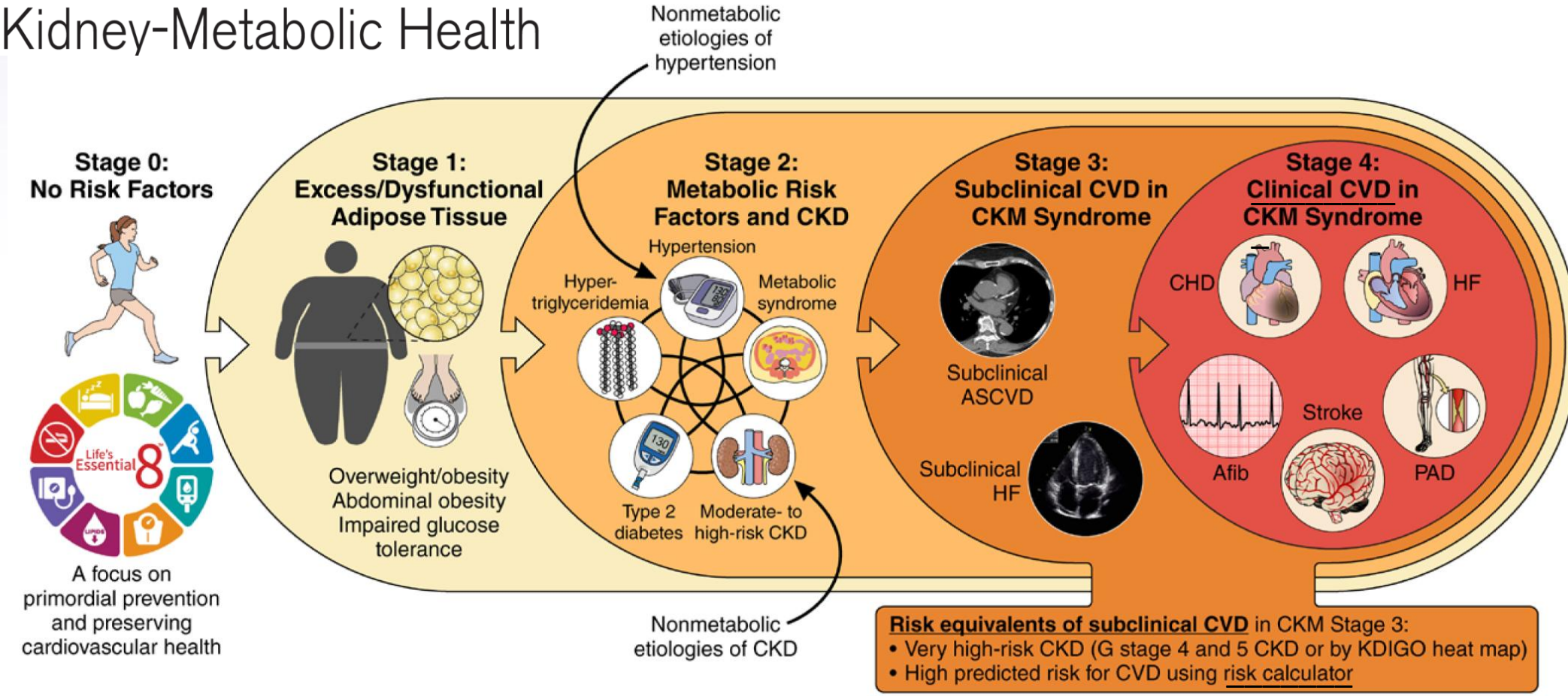
Disclosures

- Advisory fees received from:
  - Travere Therapeutics
  - Boehringer Ingelheim
  - Novartis
- Speaker's honoraria received from:
  - AstraZeneca
  - Bayer
  - Boehringer Ingelheim
  - Everest Medicines
  - GSK
  - Novartis Pharma AG
  - Vera therapeutics
  - Vantive
- Local Lead of PROTECT and DUPLEX (Travere); ALIGN study (Chinook Therapeutics -> Novartis), BI690517 (Boehringer Ingelheim); DIMERIX (Dimerix Bioscience); iCAN Study (AZ); ARTEMIS (Alexion); PREVAIL (Biogen) multi-centre studies
- KDIGO Executive Committee 2020-2023
  - Core member of IgAN and IgAV Clinical Practice Guideline Work Group 2025

Cardiovascular-Kidney-Metabolic Health

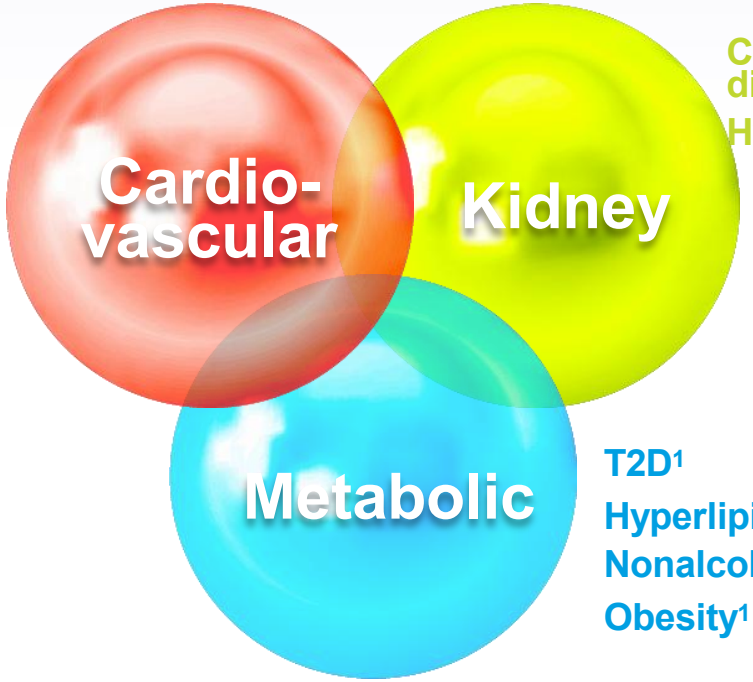


↑BW/Obesity	X	✓	✓	✓	✓
Metabolic risks	X	X	✓	✓	✓
CKD	X	X	or ✓	or ✓G4 or G5	or ✓ **4**(a) + KF 4(b)
Subclinical CVD	X	X	X	✓	
Clinical CVD	X	X	X	X	✓

HF and CKD are the most frequent complications of T2D

HF and CKD vicious circle: one causes/worsens the other[5]

50% of patients **with T2D** will develop HF as complication[7]



- Hypertension[1]
- Coronary heart disease[2]
- Heart failure[1]
- Acute coronary syndrome[2]

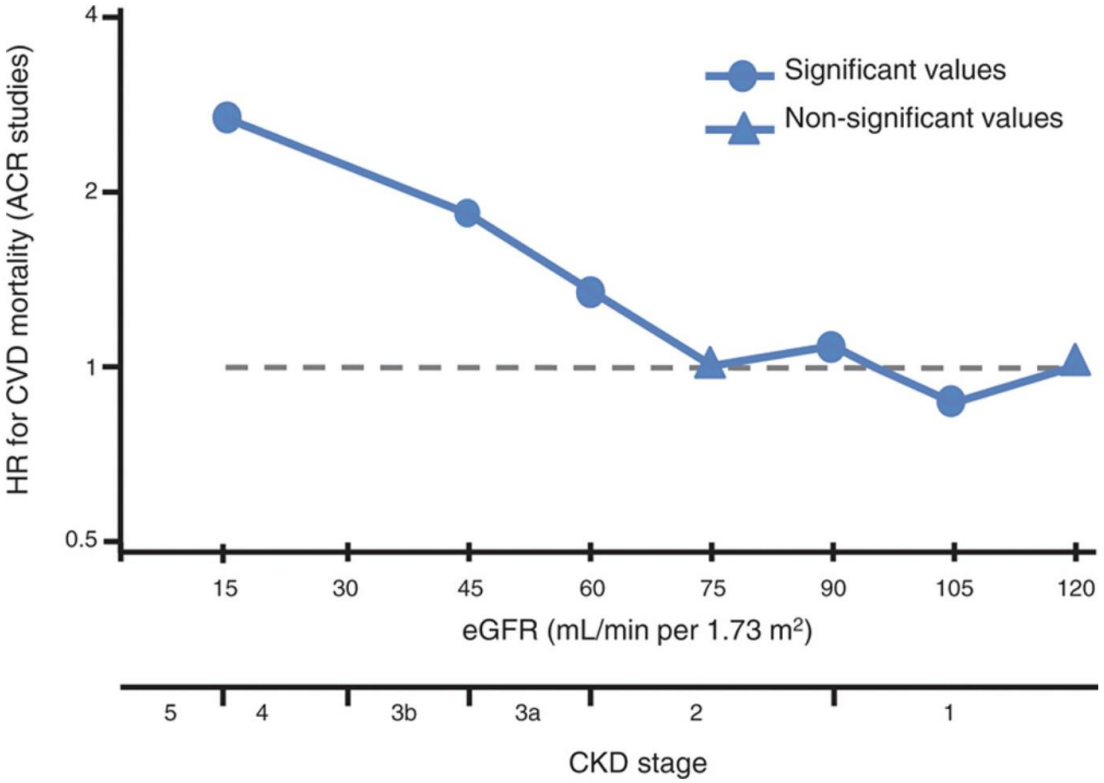
- Chronic kidney disease[1]
- Hyperkalemia[3]

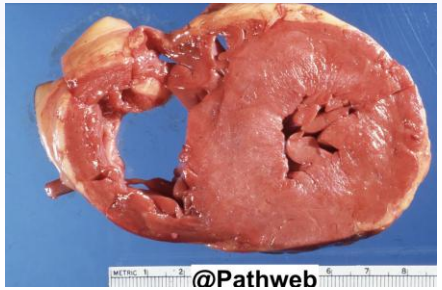
- T2D[1]
- Hyperlipidemia[1]
- Nonalcoholic fatty liver disease[1]
- Obesity[1]

58% of patients **with T2D** will develop CKD[6]

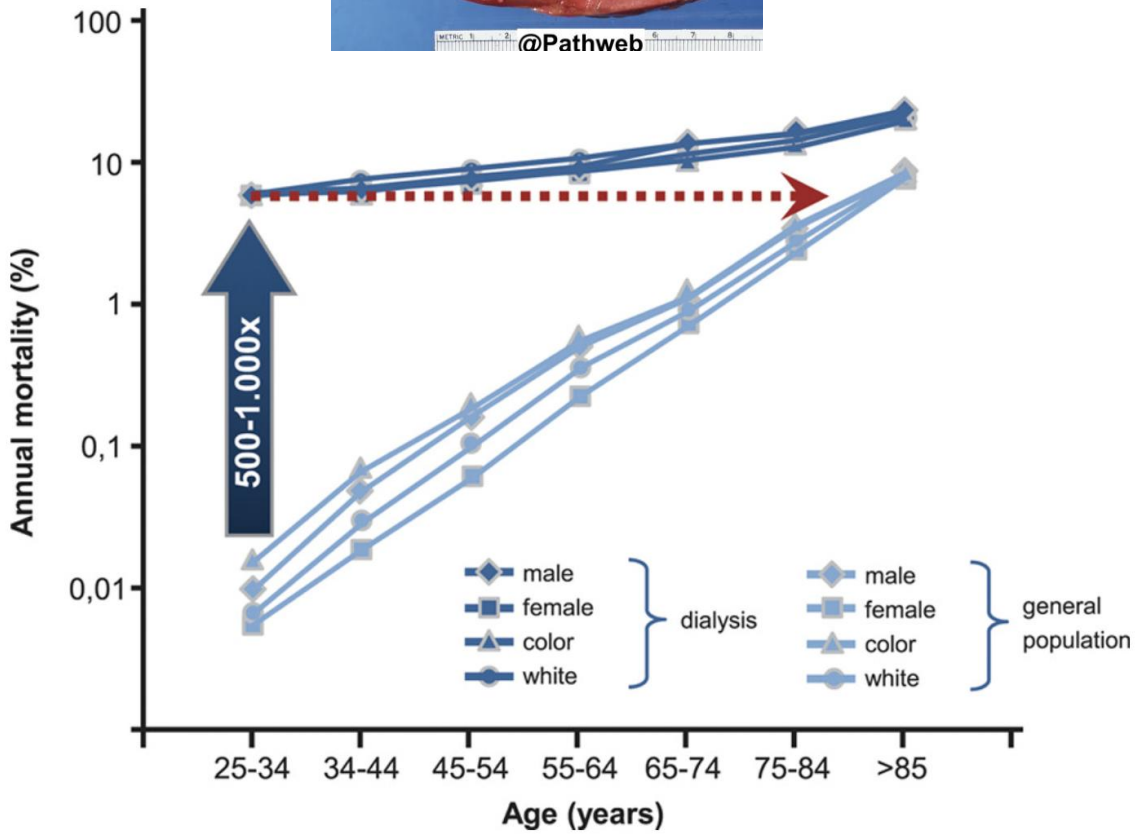
1. Whaley-Connell A, Sowers JR, *J Am Soc Hypertens* 2014;8:604–606; 2. Shah AD, et al. *Lancet Diabetes Endocrinol* 2015;3:105–113; 3. Jarman PR, et al. *Postgrad Med J* 1995;71:551–552 CKD = chronic kidney disease; HF = heart failure; T2D = type 2 diabetes. 4. GBD 2017 Disease and Injury Incidence and Prevalence Collaborators. *Lancet.* 2018;392:1789-1858; 5. Ronco C et al. *J Am Coll Cardiol.* 2008;52:1527-1539; 6. Parving HH et al. *Kidney Int.* 2006;69:2057-2063; 7. Birkeland KI et al. *Diabetes Obes Metab. 2020:*22:1607-1618.

Cardiovascular mortality in the general population and in patients with CKD/kidney failure



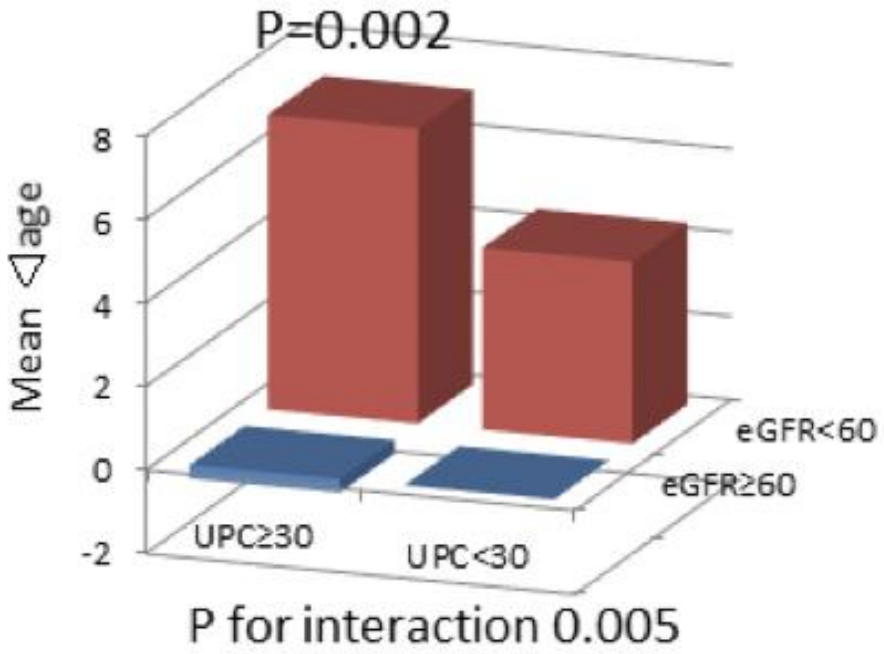


Post-mortem showing severe LVH



Jankowski J, et al. Circulation 2021

Vascular age is modified by GFR and proteinuria



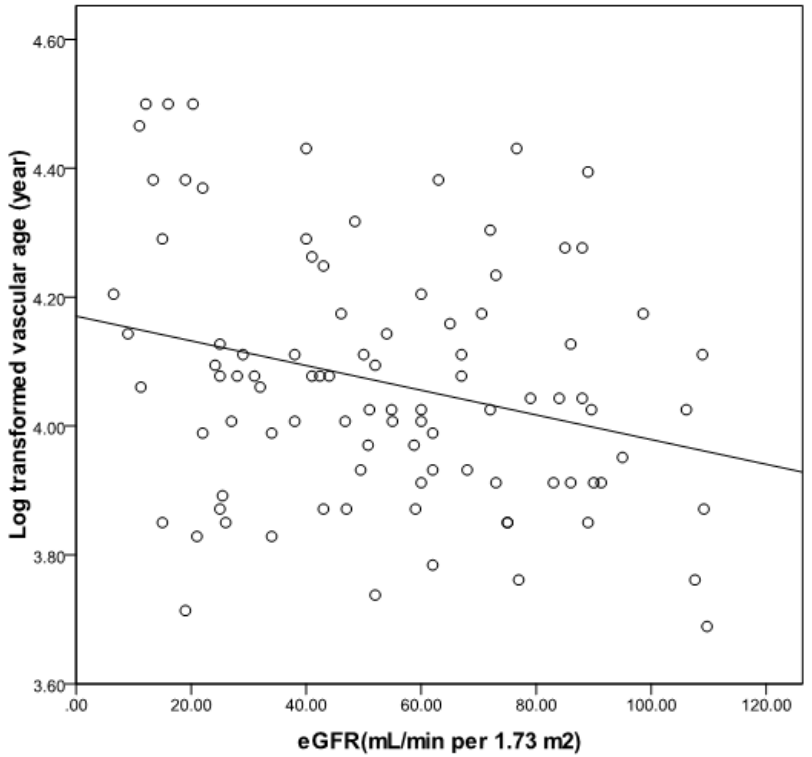
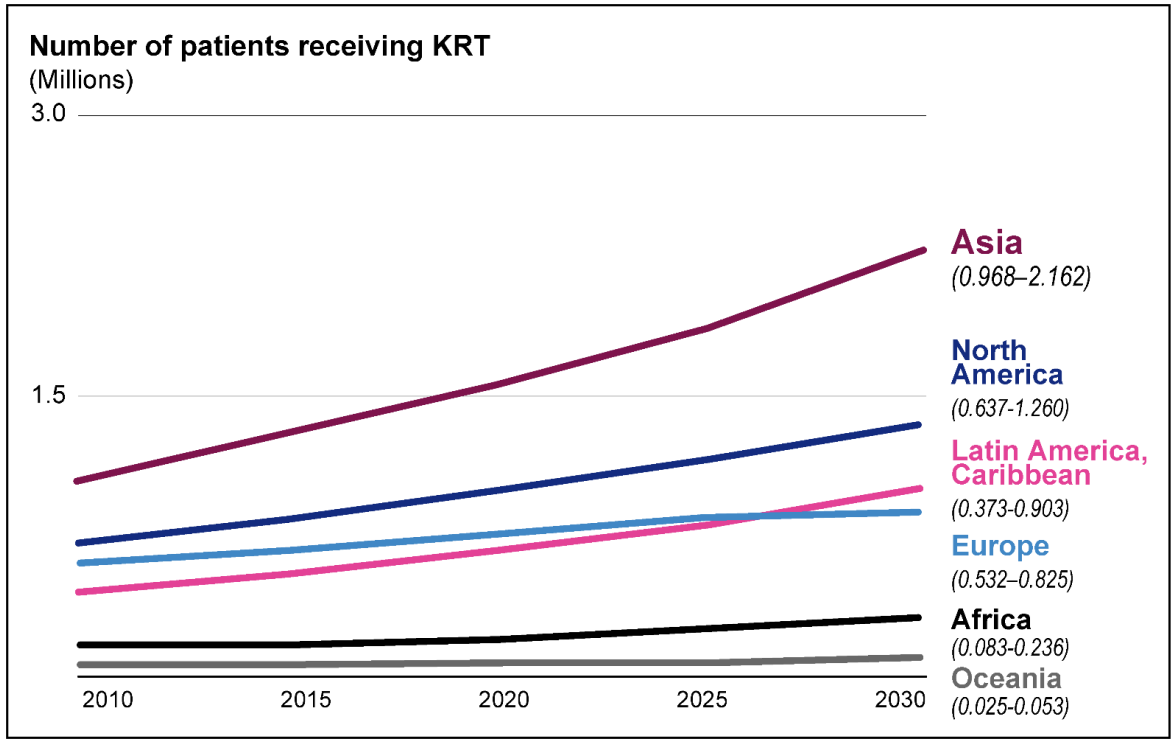


Figure S1. Regression plot between eGFR and Log transformed vascular age (r =-0.272, P=0.008)

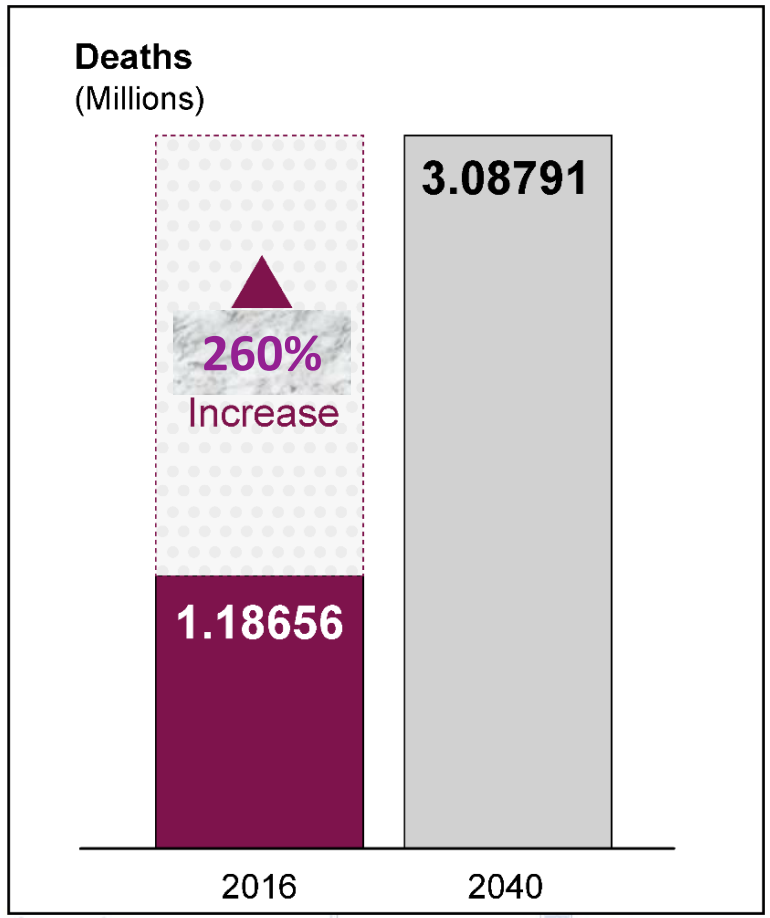
Lin M, et al. Nephrology 2020

KRT trajectory around the world

The number receiving KRT is estimated to increase to more than 5 million
by 2030



CKD deaths in 2016 and forecast for 2040



1.Liyanage T et al. *Lancet.* 2015;385:1975–1982.
2.Foreman KJ et al. *Lancet.* 2018;392:2052–2090

Percentage of incident cases of treated ESRD attributed to diabetes, by country or region, 2022

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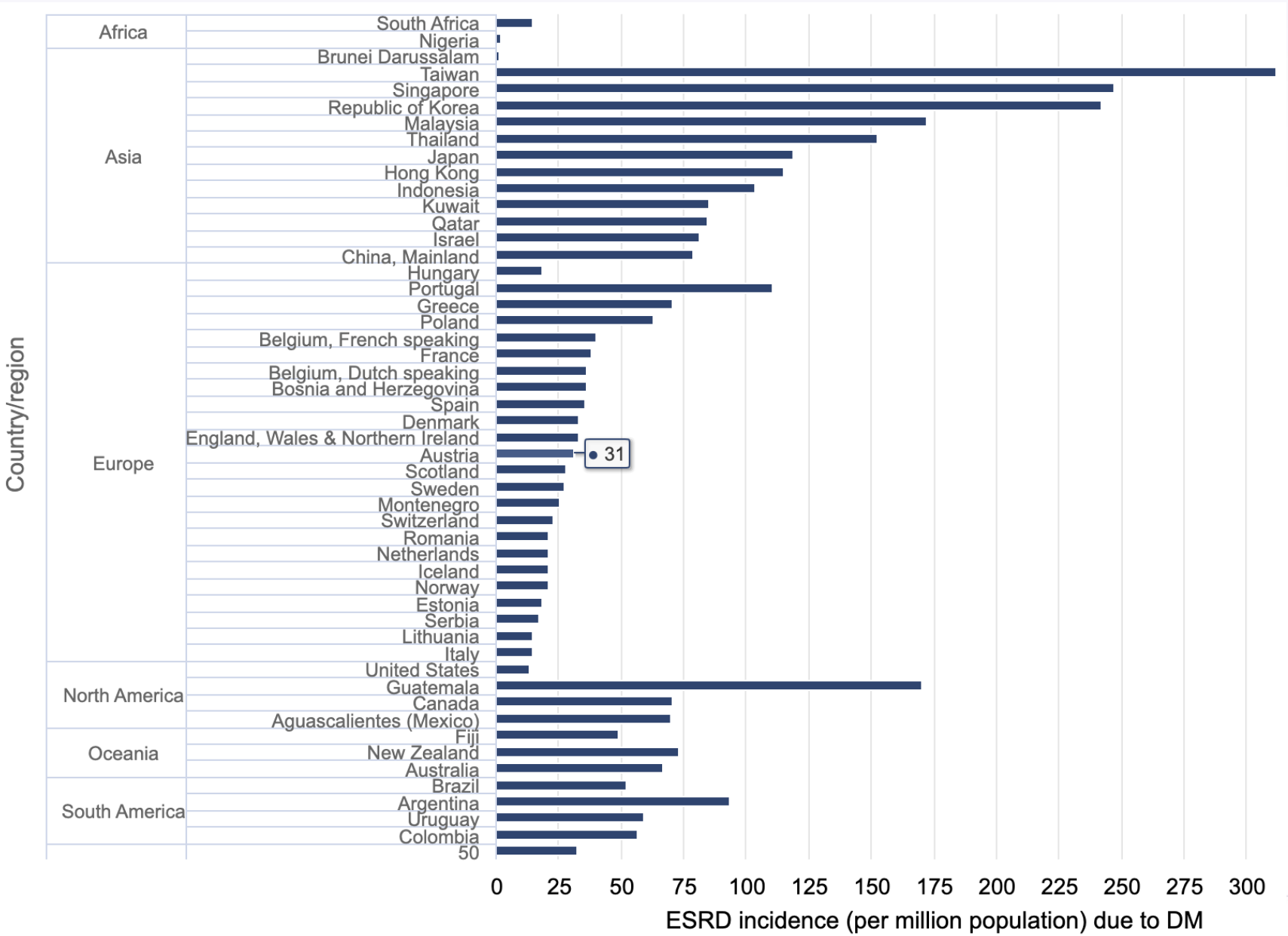
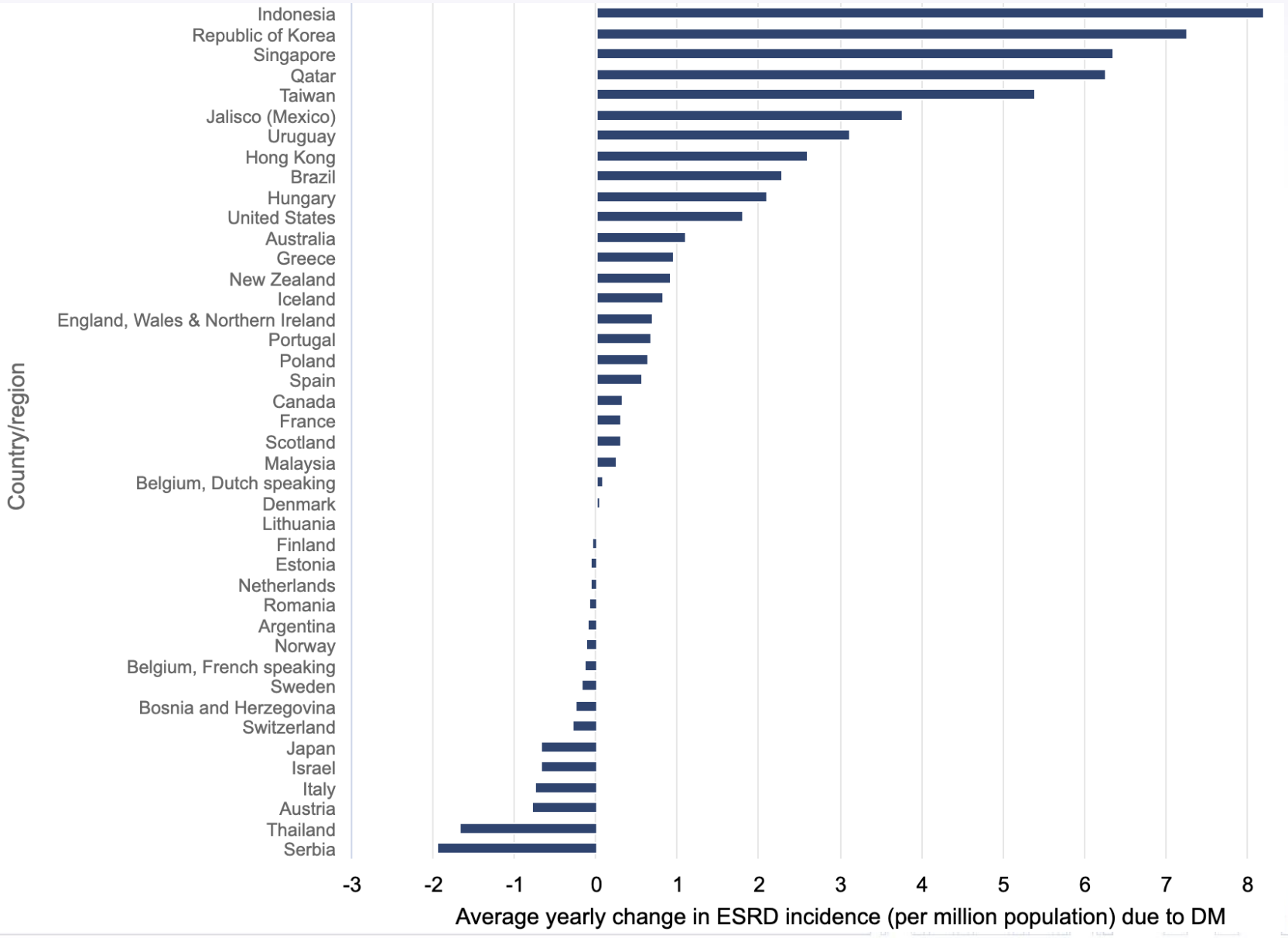


Latest release

Average yearly change in incidence of treated ESRD attributed to diabetes, by country or region, 2012-2022



Latest release

Why are Asians so susceptible to diabetes?

Is it all about diet?

Overweight and obesity

In 2022

- 2.5 billion adults aged 18 years and older were overweight, including over 890 million adults who were living with obesity.
- This corresponds to 43% of adults aged 18 years and over (43% of men and 44% of women) who were overweight; an increase from 1990, when 25% of adults aged 18 years and over were overweight.
- Prevalence of overweight varied by region:
  - 31% in the WHO South-East Asia Region and the African Region
  - 67% in the Region of the Americas.

WHO 2025

Why are Asians so susceptible to diabetes?

- People in many Asian countries develop T2DM at a lower body weight and a high proportion have an ideal body weight at diagnosis
- IDF 2025: People in many Asian countries develop T2DM at a lower body weight and a high proportion have an ideal body weight at diagnosis

Table 5.1 Classification of weight category by race/ethnic-appropriate body mass index (BMI)[6]

	General population	Asian populations
Obesity	BMI ≥30	BMI ≥27.5
Obesity class I	BMI 30–34.9	BMI 27.5–32.4
Obesity class II	BMI 35–39.9	BMI 32.5–37.4
Obesity class III	BMI ≥40	BMI ≥37.5
Overweight	BMI 25–29.9	BMI 23–27.4
Normal	BMI 18.5–25	BMI 18.5–22.9

Why are Asians so susceptible to diabetes?

- **Genetics & Body Composition**: higher visceral fat and lower muscle mass for the same BMI vs Caucasians → higher insulin resistance and biiabetes risk, even at normal weight
- High population numbers in countries like China and India mean a large absolute number of people with diabetes

Implementation of Established Global Guidelines in the Management of CKD in Patients with Type 2 Diabetes in Asia

Rajiv Agarwal[1], *Masaomi Nangaku*[2], *Liming Chen*[3], *Angela Yee Moon Wang*[4], *Motoko Yanagita*[5], *Sunita Bavanandan*[6], *Bancha Satirapoj*[7], *Narayan Prasad*[8], *Soo Kun Lim*[9], *Apiradee Sriwijitkamol*[10], *Elizabeth Angelica Roasa*[11], *Boon Wee Teo*[12,13], *Chien-Ning Huang*[14], *Chun-Yao Huang*[15], *Carol Pollock*[16], *Sung Hee Choi*[17], *Dibya Singh Shah*[18], *Chuanming Hao*[19], *Sung Gyun Kim*[20], *Uday Jadhav*[21], *Mai-Szu Wu*[15] and *Sydney C.W. Tang*[22]

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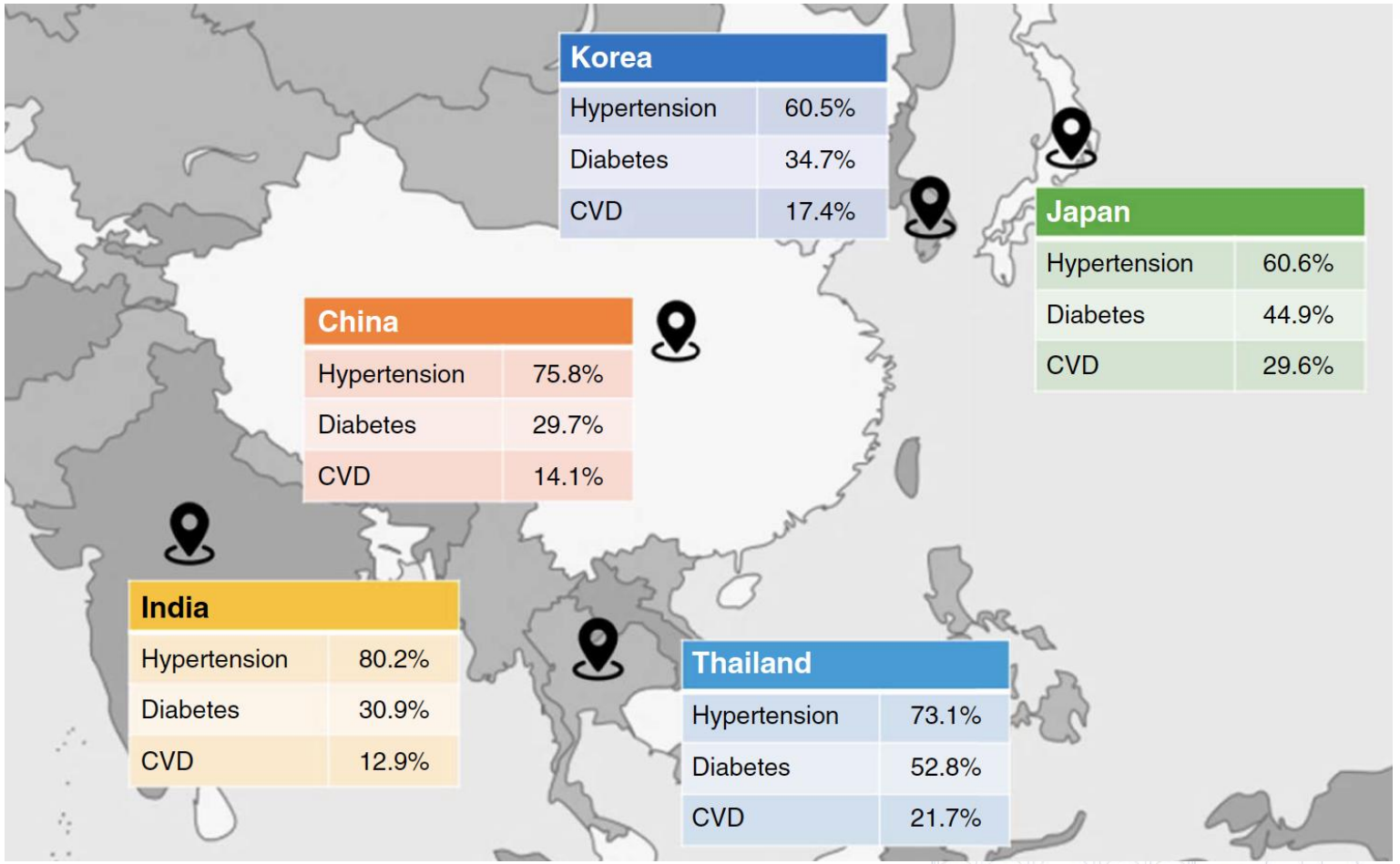

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CJASN 2025

Table 1. Key considerations on hypertension management in type 2 diabetes mellitus and CKD in Asia

Considerations	Recommendations/Findings
BP target	<130/80 mm Hg (individualized)
Preferred antihypertensive agents	ACE inhibitors or ARBs (first line in albuminuria)
Additional agents	Thiazide or loop diuretics, CCBs, β-blockers as needed
Lifestyle modification	Salt restriction, weight loss, physical activity
Monitoring	Regular BP and albuminuria assessment

Table 2. Barriers to CKD screening in type 2 diabetes mellitus in Asia

Barriers	Description
Limited awareness among providers	Inadequate knowledge of CKD guidelines
Patient factors	Low health literacy, financial constraints
Health system factors	Lack of standardized protocols, limited access to testing
Cultural/language barriers	Communication challenges in diverse populations
Cost and reimbursement issues	Out-of-pocket expenses for laboratory tests

Addressing barriers to improve outcomes in T2D with CKD

Effective blood pressure control as a CKD risk factor

- **Control of dietary sodium including salt substitution (caution in advanced CKD)**
- **Optimized pharmacotherapy**
  - Adherence to guideline-directed therapy and targets
  - HCP education
- **Healthcare policies and reimbursement**
- **Home and community-based BP monitoring**

CKD screening in high-risk individuals

- **Physician education**
- **Access to screening services**
  - Advocacy for UACR and eGFR reporting
  - Reimbursement of CKD screening
- **Patient education**
  - Mass media
  - Social media
  - Screening fairs
  - Use of digital tools

Optimal use of pharmacotherapy in eligible patients

- **Early screening and diagnosis of CKD**
- **Avoid therapeutic inertia**
  - Clarification of eligible population in each country
  - Early initiation in eligible patients
- **Protocols for follow-up**
- **Physician and patient education (e.g., drug benefits, adherence, monitoring)**
- **Drug reimbursement**

Agarwal R, et al CJASN 2025

PERSPECTIVE

Incorporating the cardiovascular-kidney-metabolic health framework into the local healthcare system: a position statement from the Hong Kong College of Physicians

CH Lee[1], MB, BS, MD, **G Tan**[2], MBChB, **Sydney CW Tang**[3] * #, MB, BS, MD, **YW Ng**[4] #, MBChB, **Michael KY Lee**[5] #, MB, BS, **Johnny WM Chan**[6] #, MB, BS, **TM Chan**[7] * #, MB, BS, DSc

Hong Kong Med J 2025

Cardiovascular-Kidney-Metabolic healthcare framework: Perspective from Hong Kong

Lee, Chiho[1]; Tang, Sydney Chi Wai[2]; Lee, Michael Kang Yin[3]; Ng, Ying Wai[4]; Chan, Johnny Wai Man[5]; Chan, Tak Mao[2]; On behalf of Hong Kong College of Physicians

Chin Med J 2025

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