

Strategies of CKD Prevention in Taiwan

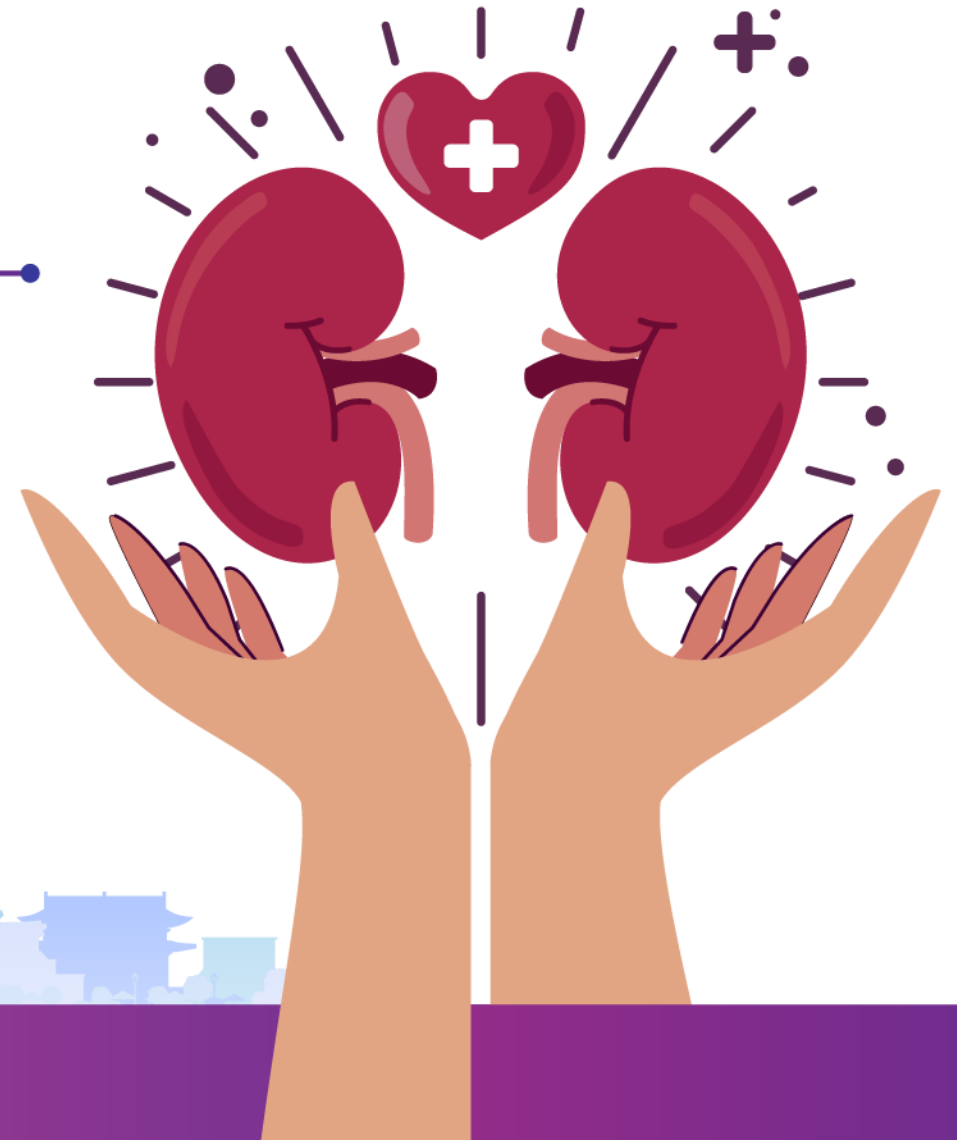
How to Early Screen CKD Patients?
How to Establish Integrated Care Program?

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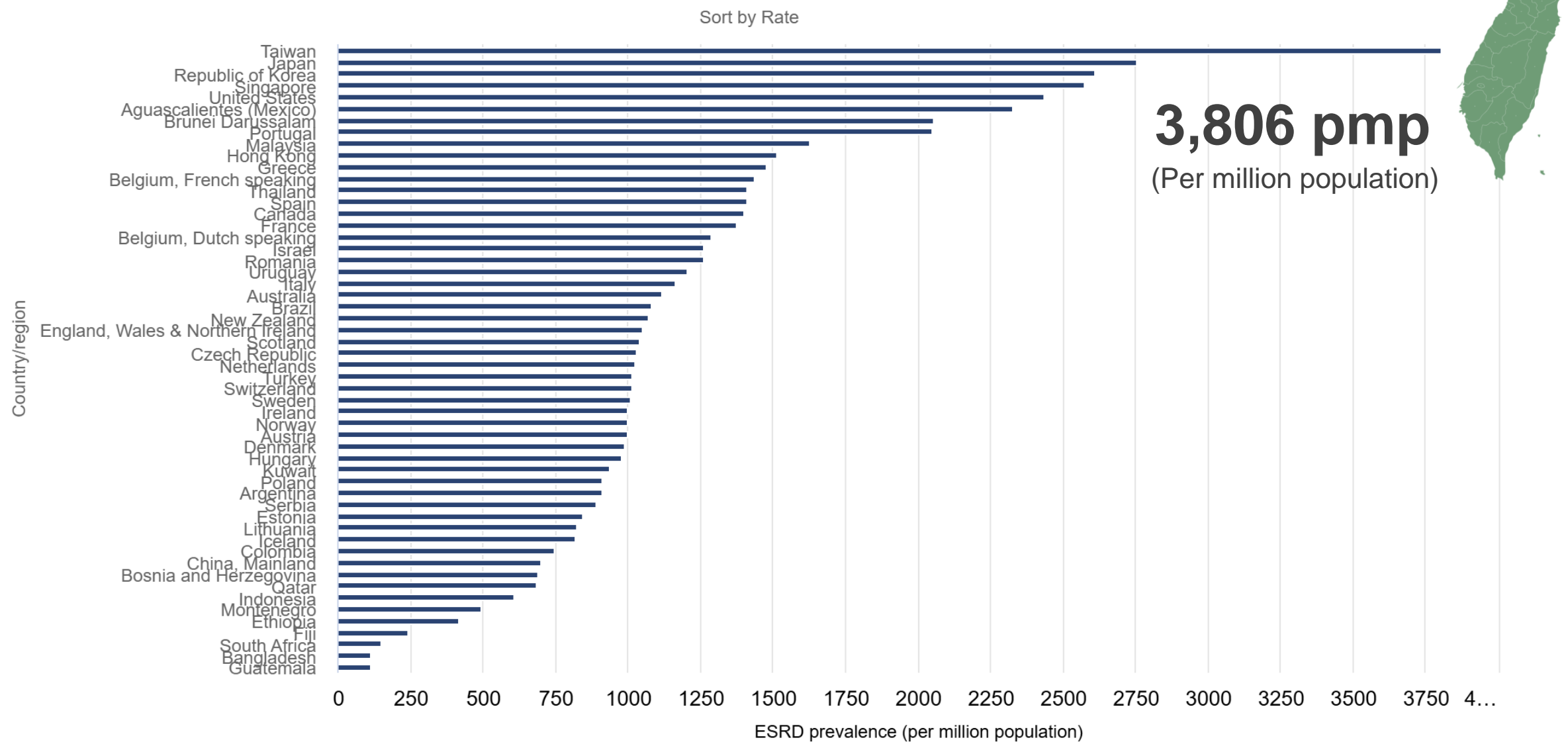
Kaohsiung Medical University Chung-Ho Memorial



Taiwan had the **highest prevalence** of ESRD

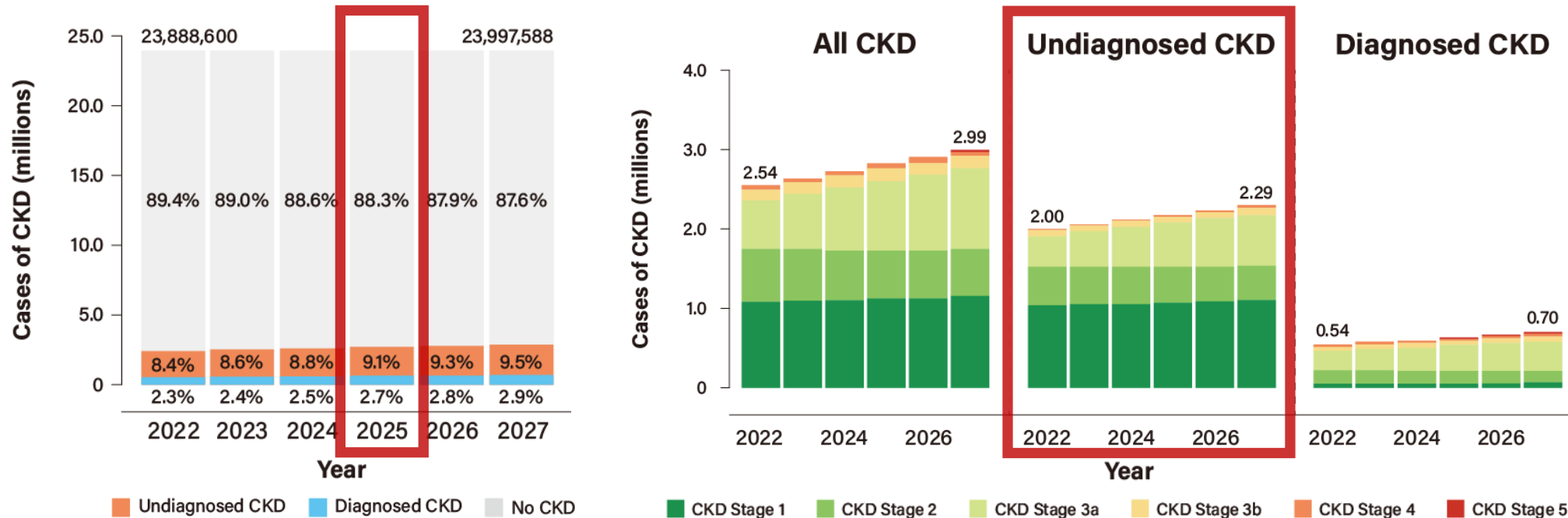


Figure 11.11 Prevalence of treated ESRD, by country or region, 2022



The growing burden of CKD in Taiwan needs to be addressed

- It is estimated that by 2025, about 2.8 million people in Taiwan will have CKD, which is **11.8% of the population**. The prevalence is anticipated to remain rising in the future.
- Despite this, still **77% undiagnosed CKD patients** and needs our action.



How do we identify and care CKD patients?

Healthy Taiwan – National '888' health program

The '888' health program is a national, multidisciplinary policy intervention that focuses on:



Screen and Enroll 80% of individuals affected by the three highs in Taiwan's care network

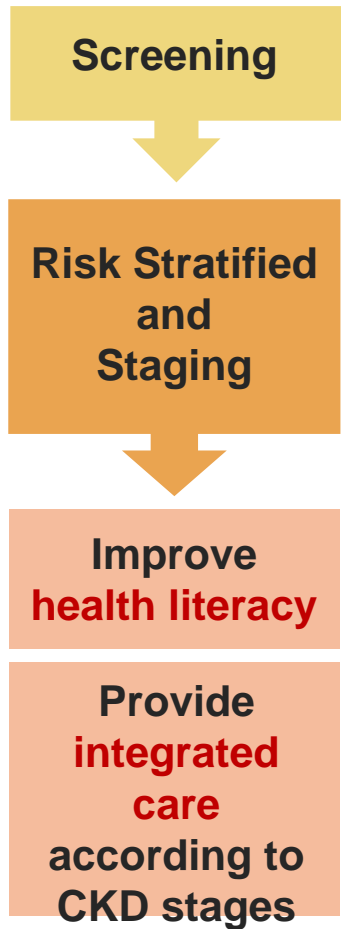


Ensure that 80% of those enrolled receive better management and treatment care

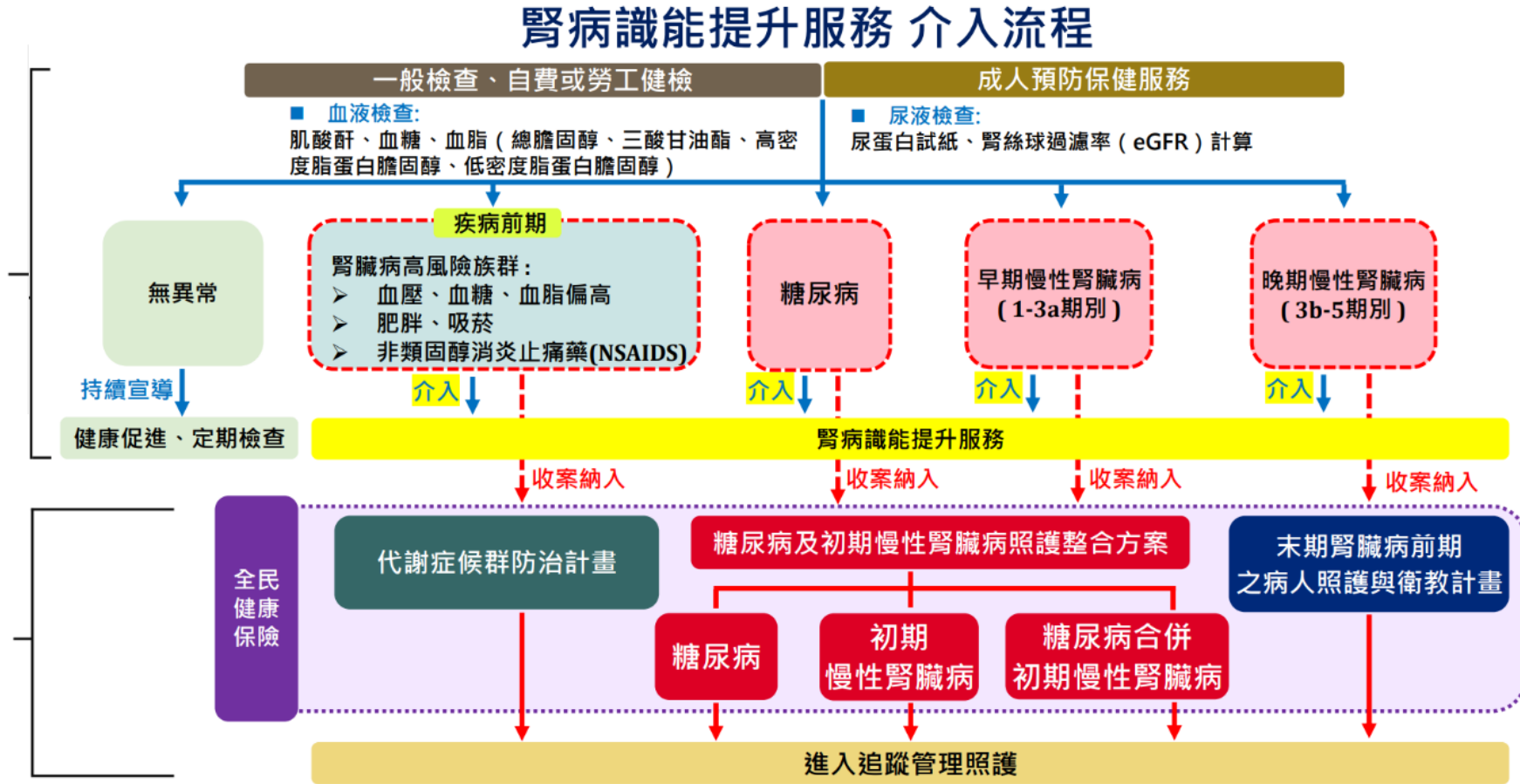


Aim to achieve effective management of the three highs, with a control rate of at least 80%

From kidney health literacy enhancement to risk-based service intervention, we have **comprehensive CKD care programmes** in Taiwan



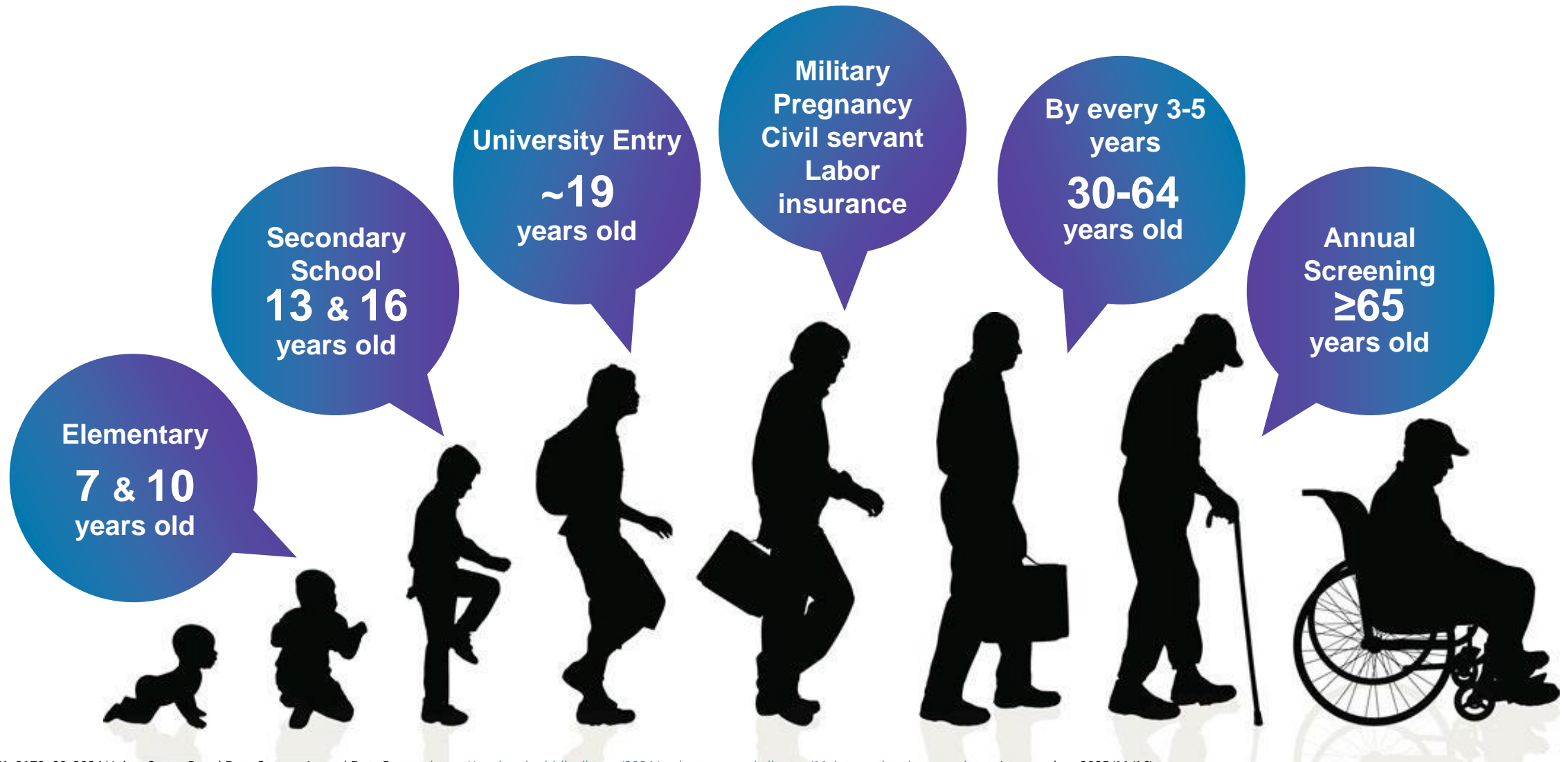
National Health Insurance Administration



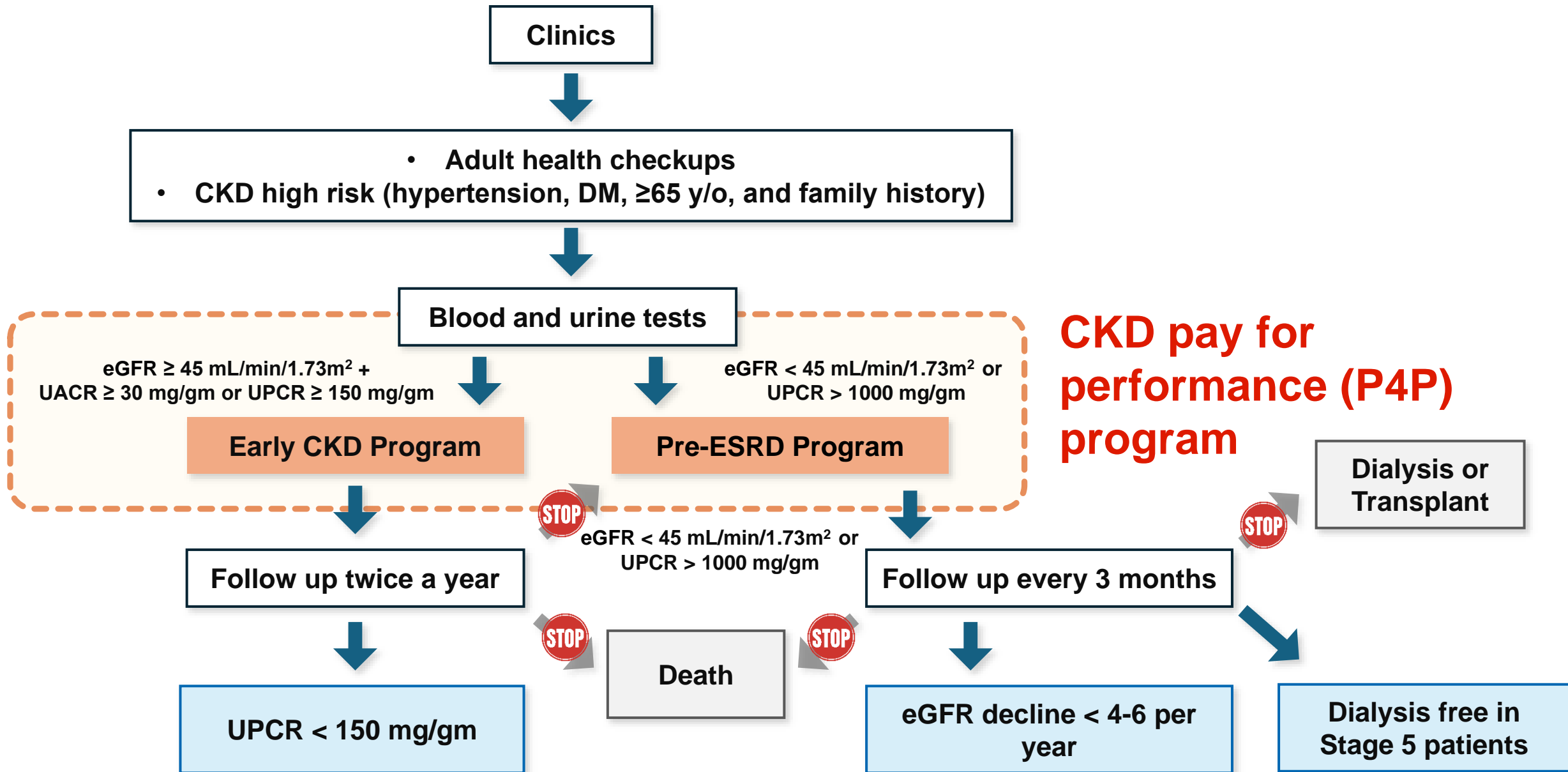
All these services are covered by Health Promotion Administration (HPA) and National Health Insurance Administration (NHIA)

Taiwan implements life-course screening and adult health checks

To close disease detection gap, we are lucky to have free CKD screening in our entire life.



Connecting screening, risk assessment, and integrated program



The Early CKD & Pre-ESRD P4P Program provides continuous medical support for patients at all CKD stages

Early CKD P4P Program

Provide lifestyle consultation and CKD interventions



Regular cardiorenal function follow-up

Estimated glomerular filtration rate (eGFR),
Urine protein-to-creatinine ratio (UPCR),
Serum creatinine (Cre), and
Low-density lipoprotein (LDL), etc.



Halt decline in renal function and aim to achieve CKD remission

Pre-ESRD Program

Delivers treatment and healthcare plan by integrated, multidisciplinary healthcare team

Nephrologists,
Health education nurses,
Dietitians, and
Pharmacists



Regular cardiorenal and key biochemical markers follow-up

Patient education and guidance
(CKD complication prevention and self-management, etc.)

Delay progression to ESKD and reduce the need of dialysis

We have **primary care** joining us to make the CKD care network stronger

Launched in 2003

Start from medical centers,
regional hospitals



Breakthrough in 2021

Primary care can join
Early CKD Health
Promotion Institute

**+70
institutes
in two years**

Kidney Health
Promotion Institute



Started in 2003, they are mainly
medical centers, regional
hospitals, and dialysis clinics

**274
institutes**

Early CKD Health
Promotion Institute



Started in 2021, they are mainly
clinics with different specialties;
**Need to provide guidance,
platform, and incentive**
to motivate them

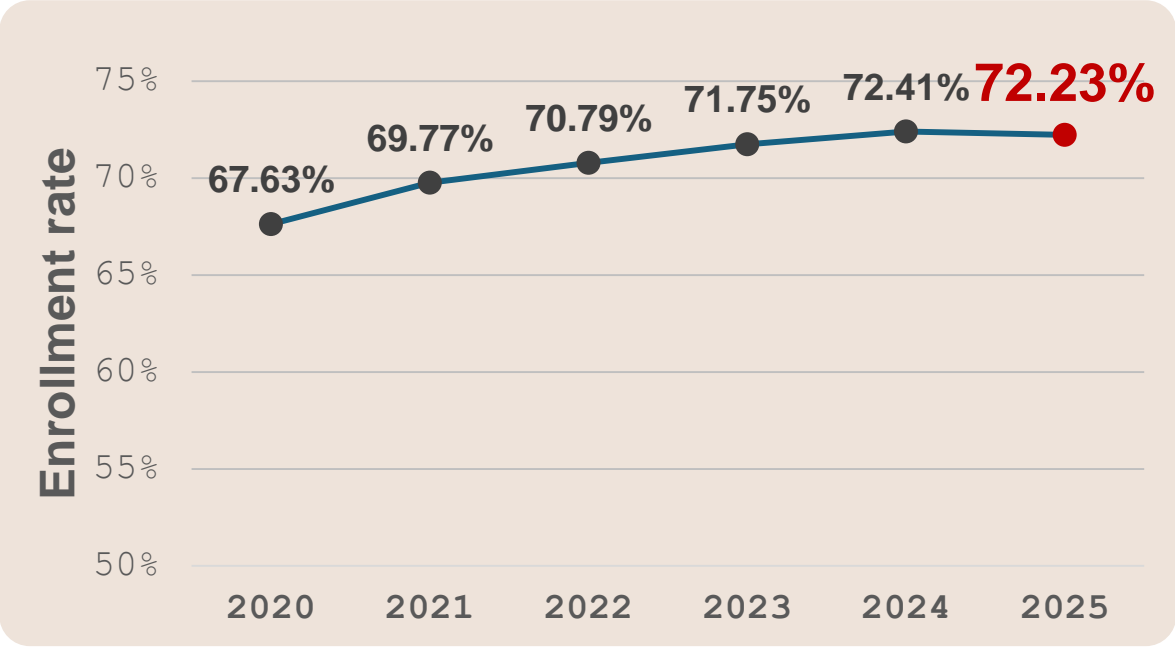
Together we make the P4P enrollment rate steadily increase



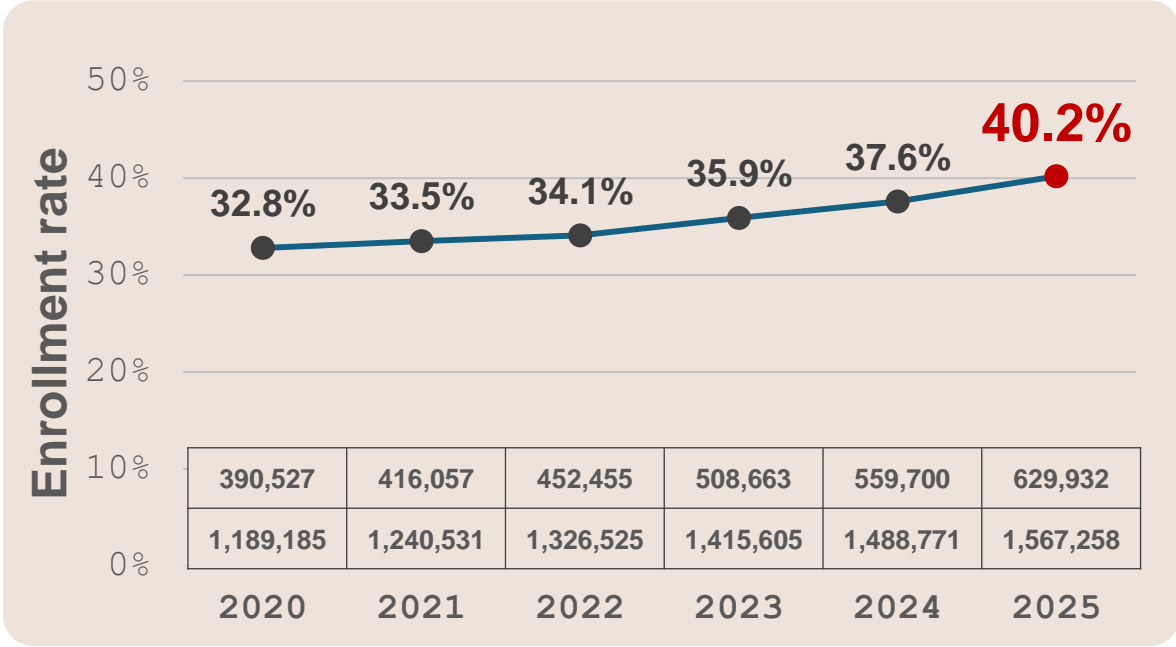
The care coverage rate in the Pre-ESRD P4P exceeds 70%, while in Early CKD it is over 40%.

Taiwan CKD care network program enrollment rate

Pre-ESRD P4P enrollment rate



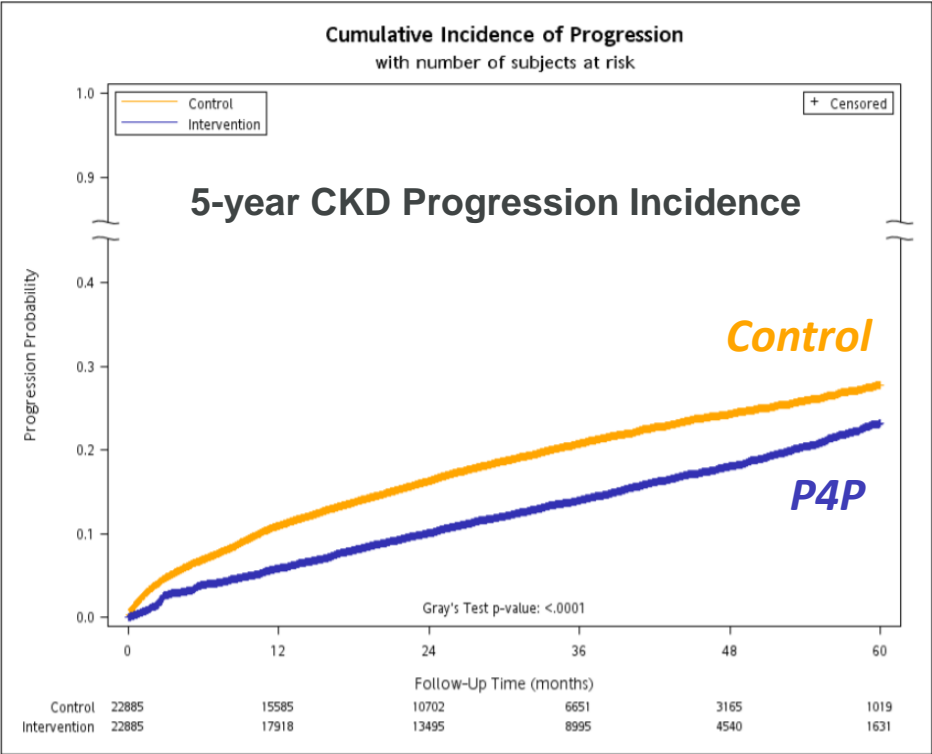
Early CKD P4P enrollment rate



CKD programs translate into **profound benefits** for CKD patients



Compared to usual care, Taiwan P4P program delays the progression of CKD.



Join both DM + Early CKD P4P Program:

Reduce CKD progression risk by 40%

	Control Group	Intervention Group	Rate Ratio	
			(95% CI)	P Value
Overall				
N	22885	22885		
No. of events	3913	2998		
Rate per 100 patient-months	0.69	0.44	0.64 (0.61–0.67)	<.0001
Stage 1				
N	671	671		
No. of events	4	6		
Rate per 100 patient-months	0.02	0.03	1.35 (0.38–4.79)	.6413
Stage 2				
N	12530	12530		
No. of events	712	587		
Rate per 100 patient-months	0.20	0.15	0.73 (0.66–0.82)	<.0001
Stage 3a				
N	9684	9684		
No. of events	3197	2405		
Rate per 100 patient-months	1.60	0.90	0.56 (0.54–0.60)	<.0001

Table 4. Factors Associated with CKD Progression in CKD Patients Comorbid with Diabetes

Parameters	CS-HR (95% CI) ^a	P Value
(Reference: none of both P4Ps)	-	-
Diabetes P4P only	0.79 (0.68–0.92)	.0024
Early-CKD P4P only	0.65 (0.60–0.70)	<.0001
Diabetes and Early-CKD P4P	0.60 (0.54–0.67)	<.0001

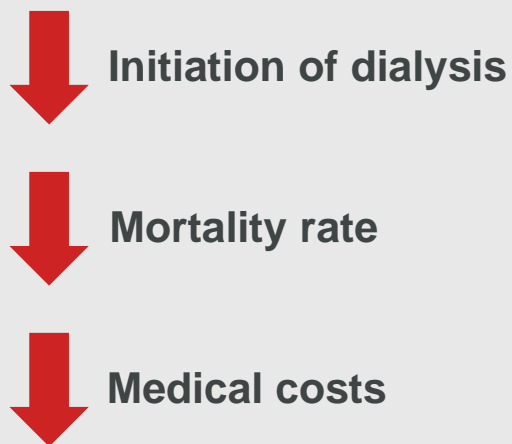
^a The HRs were adjusted for age, sex, CKD stage, and CCI score.

CKD programs translate into **profound benefits** for CKD patients

Taiwan P4P program reduce dialysis need and mortality with lower medical costs.
Provide **better outcomes** and **long-term cost saving** for patients.

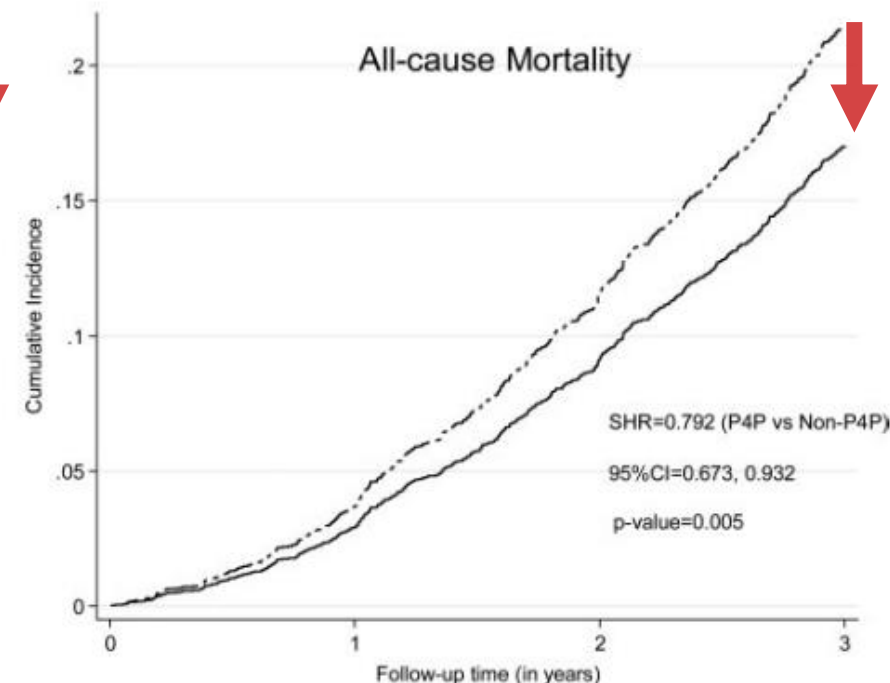
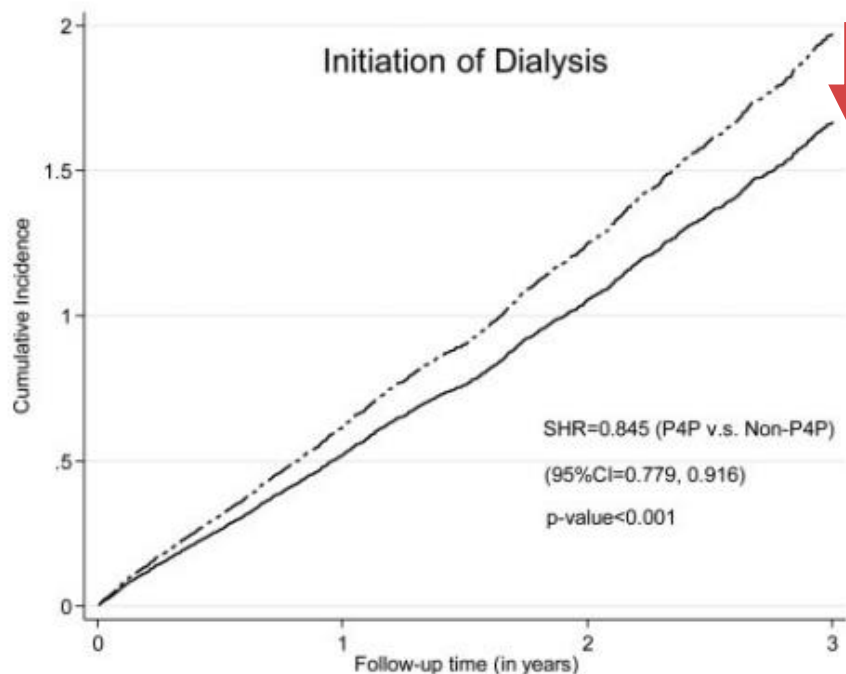
Chronic kidney disease care program improves quality of pre-end-stage renal disease care and reduces medical costs

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CHIH-JEN HUANG,^{6,7} HUNG-CHUN CHEN^{4,5} and SHANG-JYH HWANG^{4,5}



Nephrology 2010;15:108-115
NDT 2009;24:3426-3433
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Adjusted cumulative incidence curve for risks of events in pre-ESRD patient cohort



--- Non-P4P — P4P

--- Non-P4P — P4P

These perfect CKD care practices needs the perfect tools and technology

My Health Bank Your own Health care assistant



Medical history is no longer unclear!



Visualized blood glucose and lipid profile



Visualized CKD staging with KDIGO risk



Regularly remind renal function check

Kingdom of Health Kidney Your CKD patient education partner



Online website



One-click to nearest CKD P4P

Comprehensive educational toolkits



From CKD high risks to kidney health literacy

E-education



Slide decks and videos

TSN-CKD Integrated Care Platform Your clinic CKD care helper



eGFR annual slope Help predict CKD progression



RRT shared decision-making



CKD P4P care indicators and quality

Milestones we have achieved in CKD care, and the journey continues



- **2003** Set up “Kidney Health Promotion Institutes” provide CKD care
- **2007** Pre-ESRD P4P program launch
- **2011** Early CKD P4P program launch
- **2015** Taiwan CKD Clinical Guidelines
- **2021** Acute kidney disease (AKD) P4P Program
- **2022** Revised Taiwan CKD Clinical Guidelines
- **2024** Total 274 institutes join the CKD care network
- **2025** Taiwan CKD Consensus



“We believe that **introducing more people at earlier CKD stages to a formal multidisciplinary care via collaborative efforts from all health professionals is an essential task.**”

- Taiwan faces one of the world's highest ESRD burdens, making early detection and prevention essential.
- Life-course screening and expanded adult health check help close the CKD detection gap.
- Risk-stratified, stage-based P4P programs (Early CKD & Pre-ESRD) provide standardized, multidisciplinary care.
- Evidence shows significant benefits: slower CKD progression, reduced dialysis initiation and mortality, and lower healthcare costs.
- National policies, primary-care engagement, and digital tools strengthen Taiwan's integrated CKD care network.
- Early identification and coordinated care are key to prevent CKD progression and improve long-term outcomes.

THANK YOU
for your attention

