

# Strategies of CKD Prevention in Taiwan

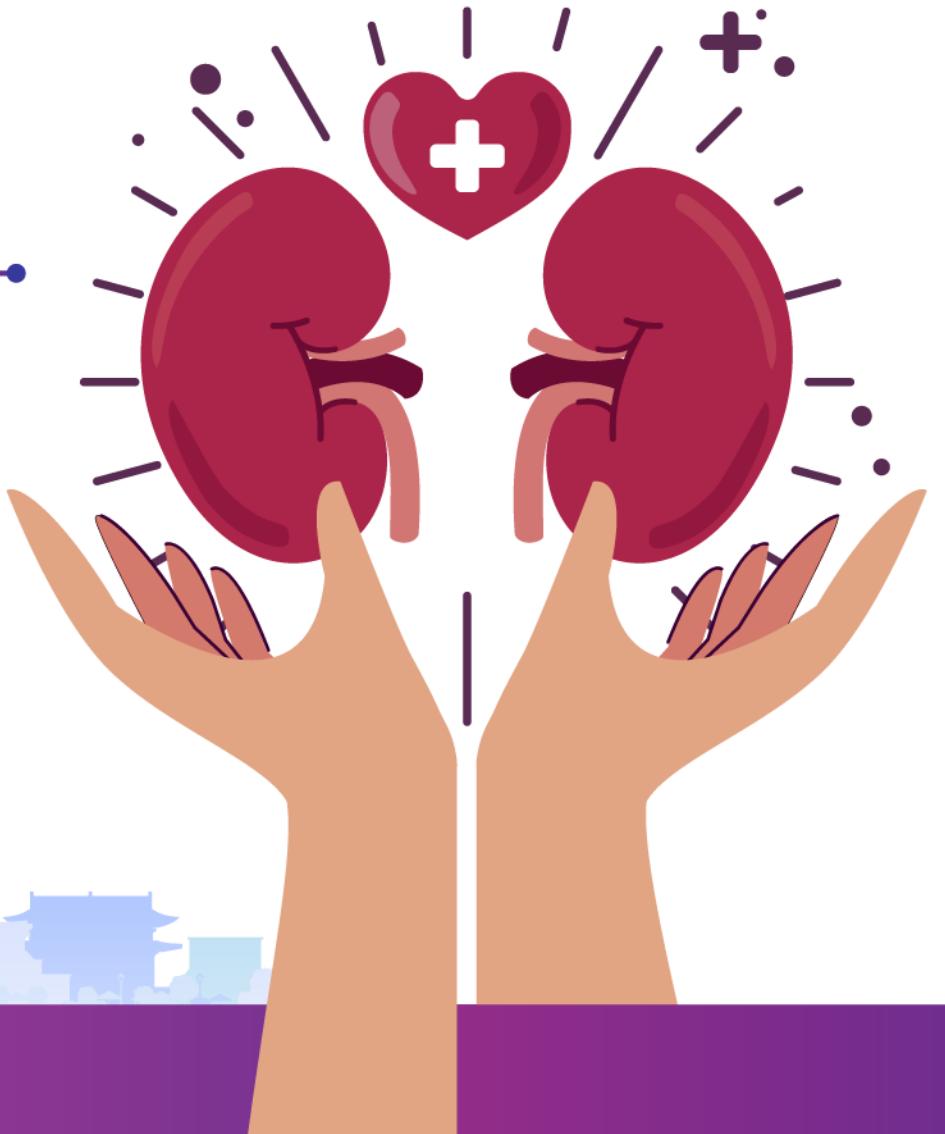
How to Early Screen CKD Patients?  
How to Establish Integrated Care Program?

Prof. Yi-Chun Tsai

Chairperson, Chronic Kidney Disease Network Committee

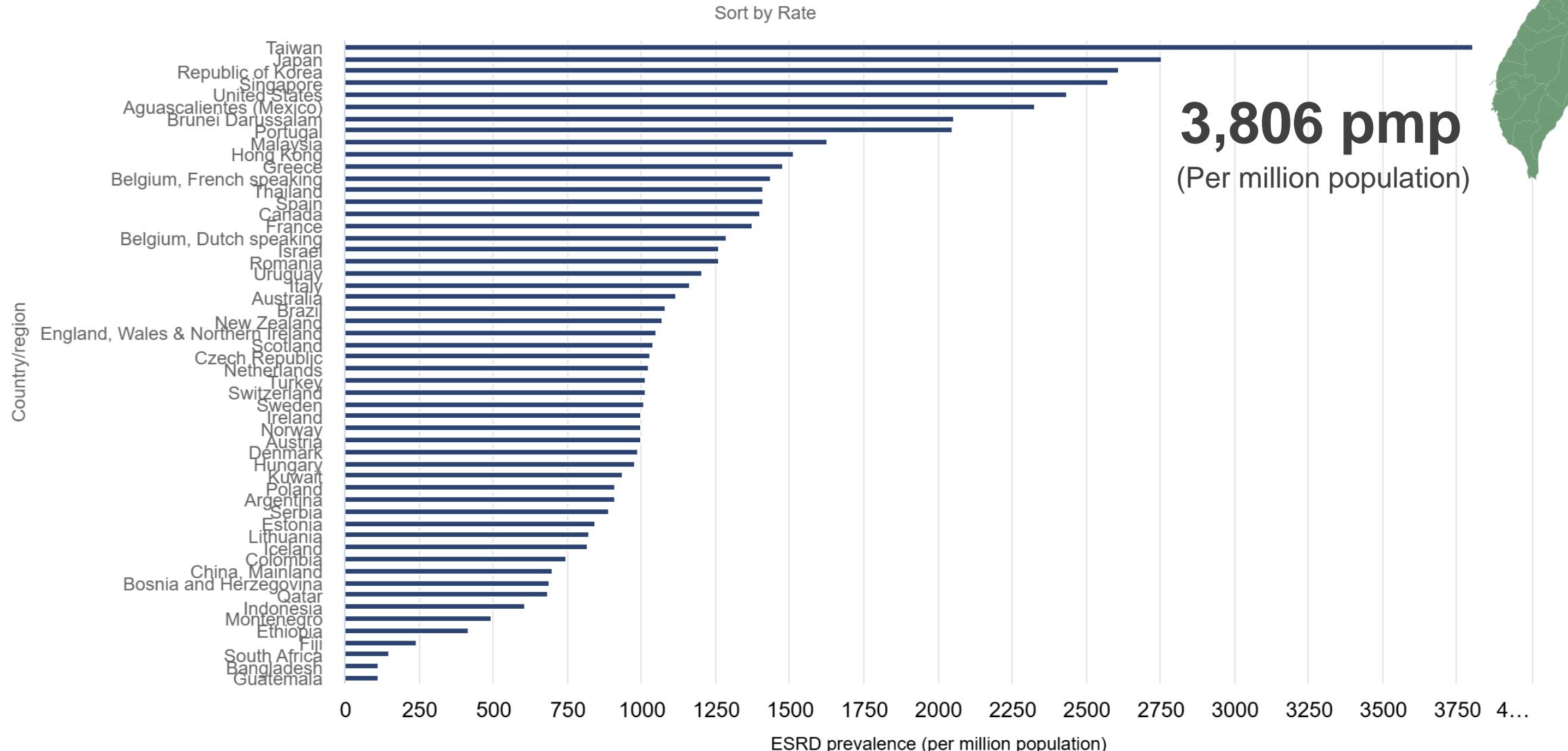
Superintendent, Kaohsiung Municipal Cijin Hospital

Kaohsiung Medical University Chung-Ho Memorial



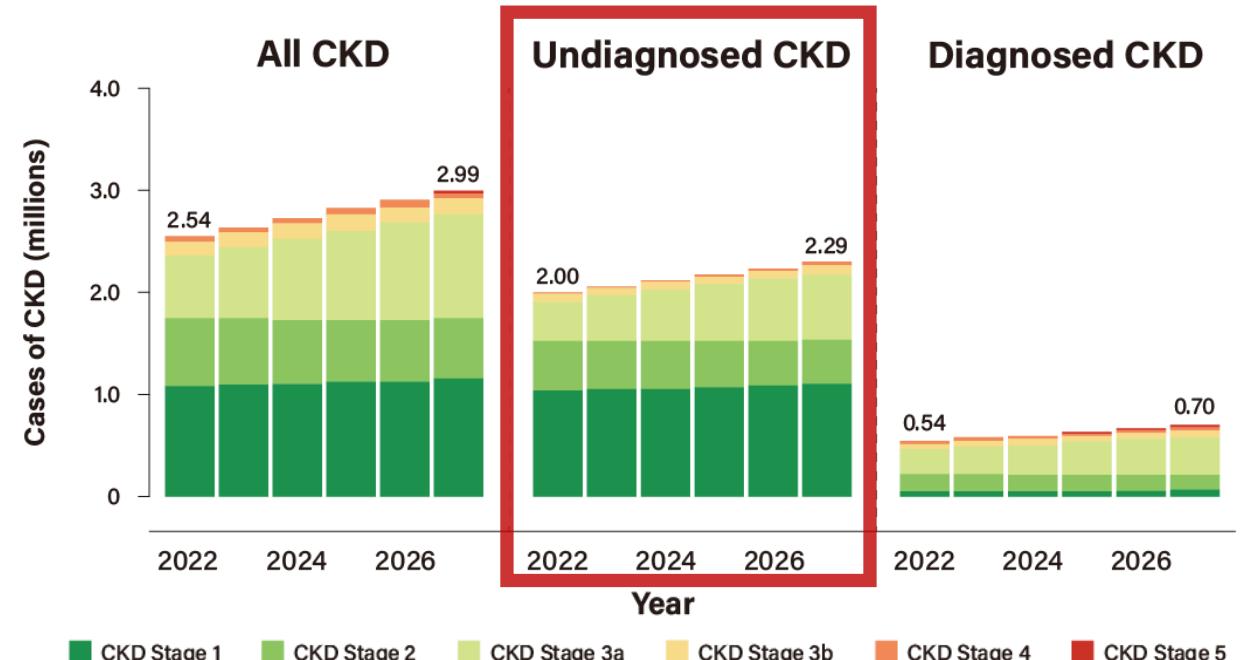
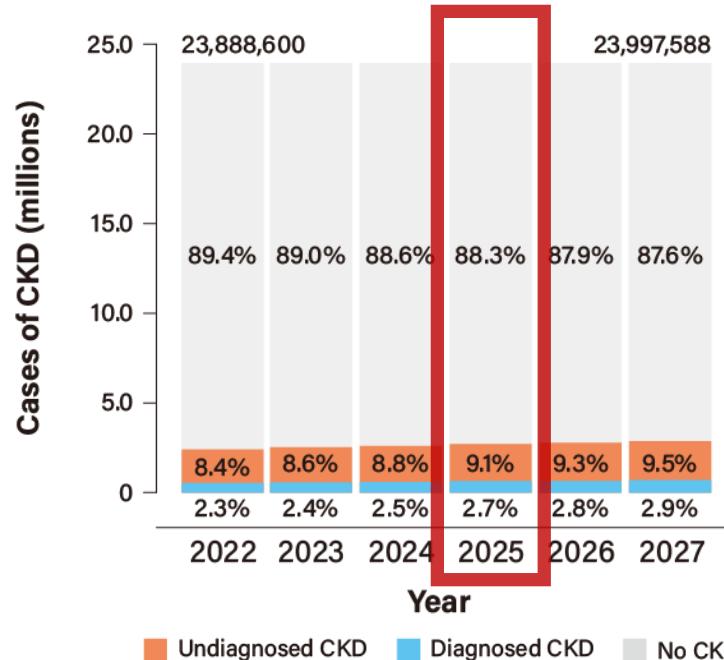
# Taiwan had the highest prevalence of ESRD

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**

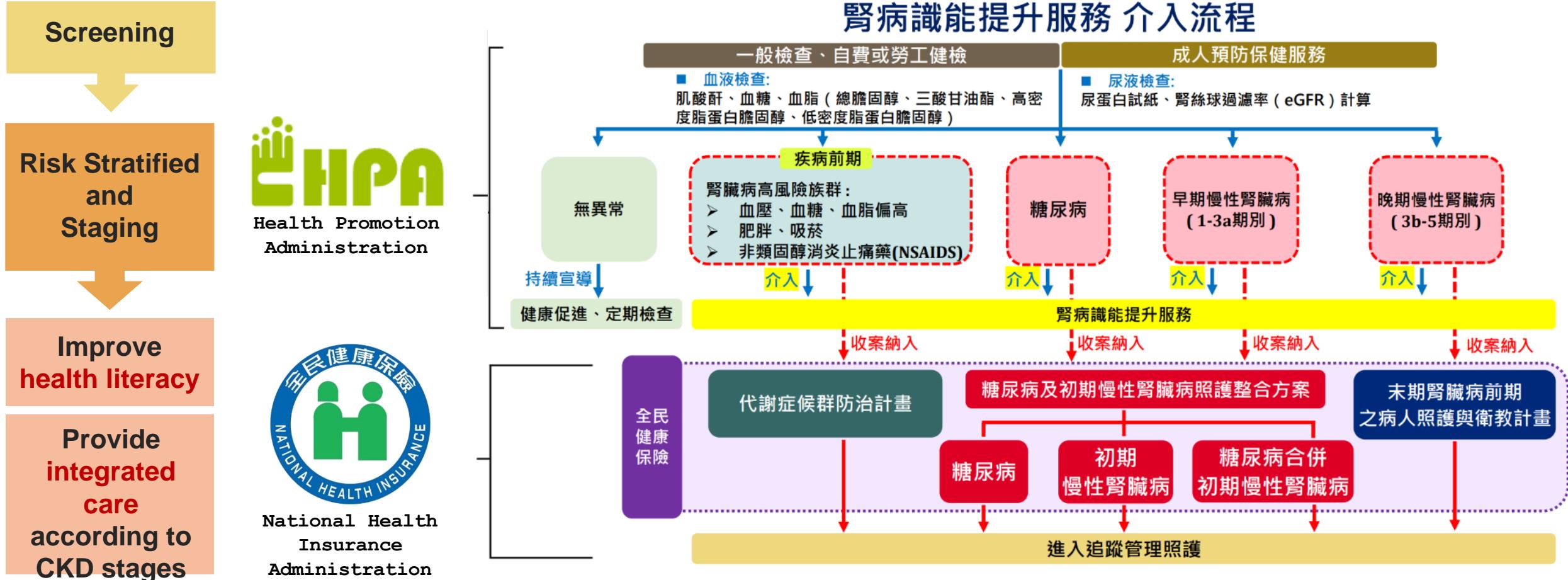


**Ensure that 80% of those enrolled receive better management and treatment care**



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

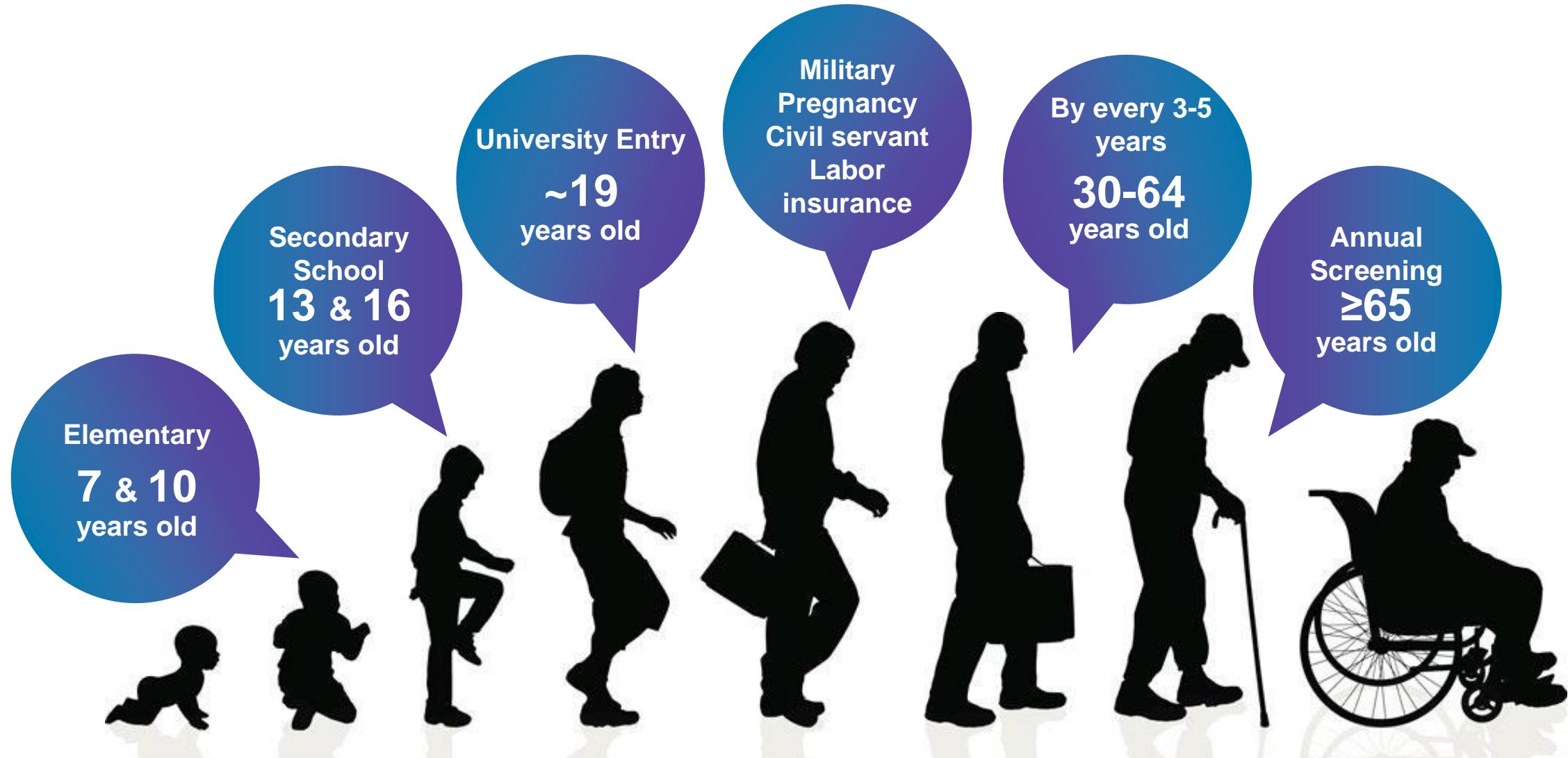
## From kidney health literacy enhancement to risk-based service intervention, we have **comprehensive CKD care programmes** in Taiwan



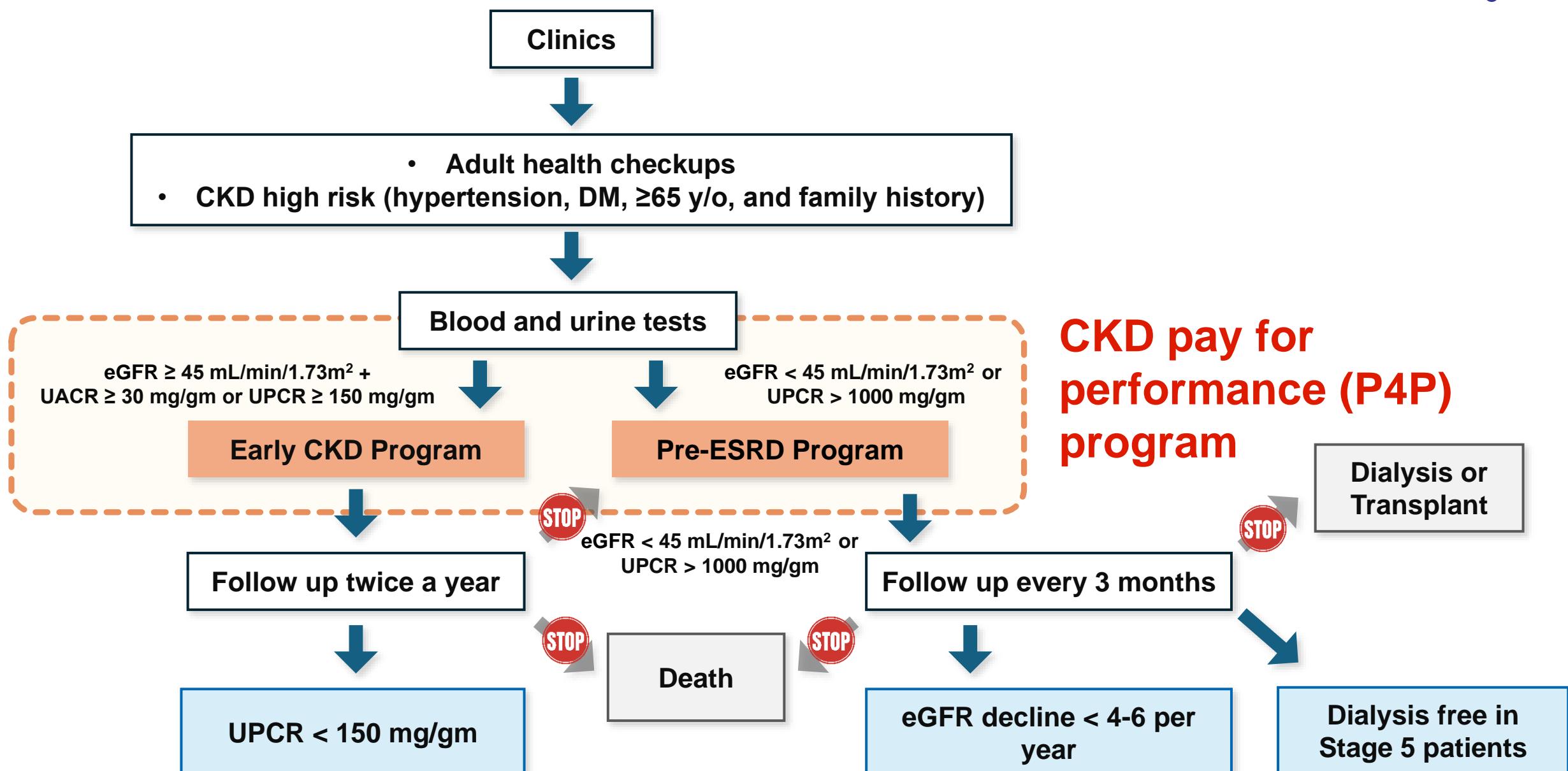
**All these services are covered by Health Promotion Administration (HPA) and National Health Insurance Administration (NHIA)**

# 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



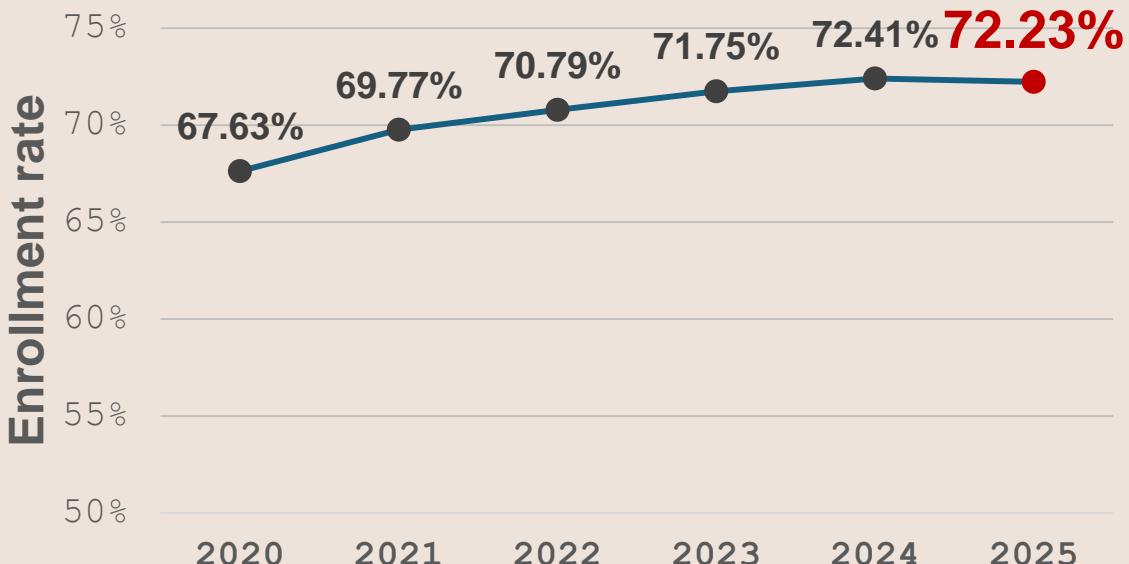
Started in 2021, they are mainly  
clinics with different specialties;  
**Need to provide guidance,  
platform, and incentive**  
to motivate them

# Together we make the P4P enrollment rate steadily increase

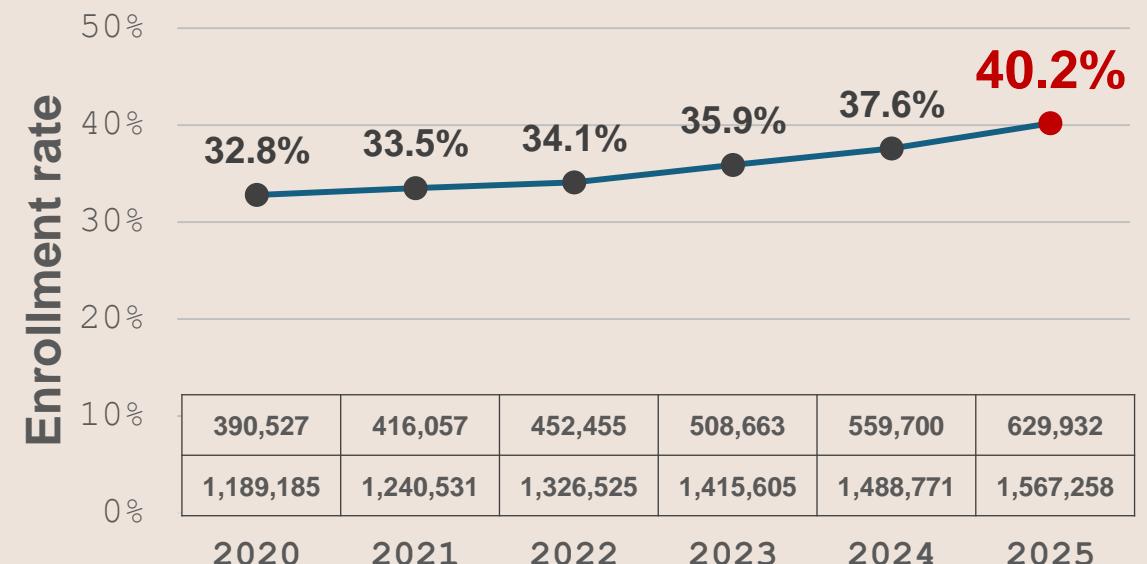
The care coverage rate in the Pre-ESRD P4P exceeds 70%, while in Early CKD it is over 40%.

## Taiwan CKD care network program enrollment rate

### Pre-ESRD P4P enrollment rate

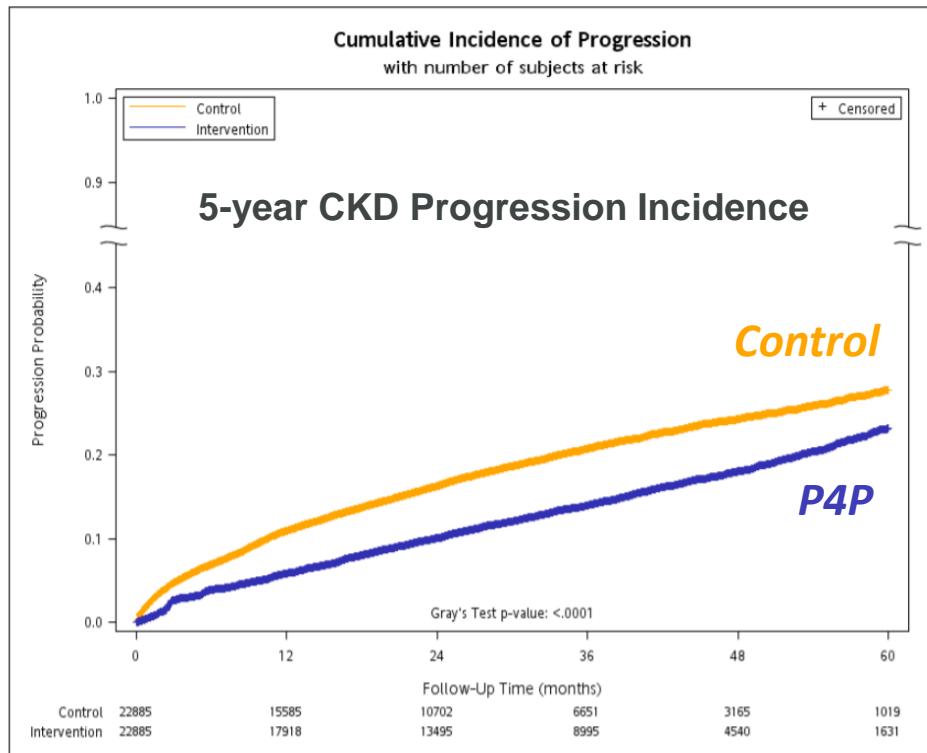


### Early CKD P4P enrollment rate



# 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
<b>Overall</b>				
N	22885	22885		
No. of events	3913	2998		
Rate per 100 patient-months	0.69	0.44	0.64 (0.61–0.67)	<.0001
<b>Stage 1</b>				
N	671	671		
No. of events	4	6		
Rate per 100 patient-months	0.02	0.03	1.35 (0.38–4.79)	.6413
<b>Stage 2</b>				
N	12530	12530		
No. of events	712	587		
Rate per 100 patient-months	0.20	0.15	0.73 (0.66–0.82)	<.0001
<b>Stage 3a</b>				
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) <sup>a</sup>	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

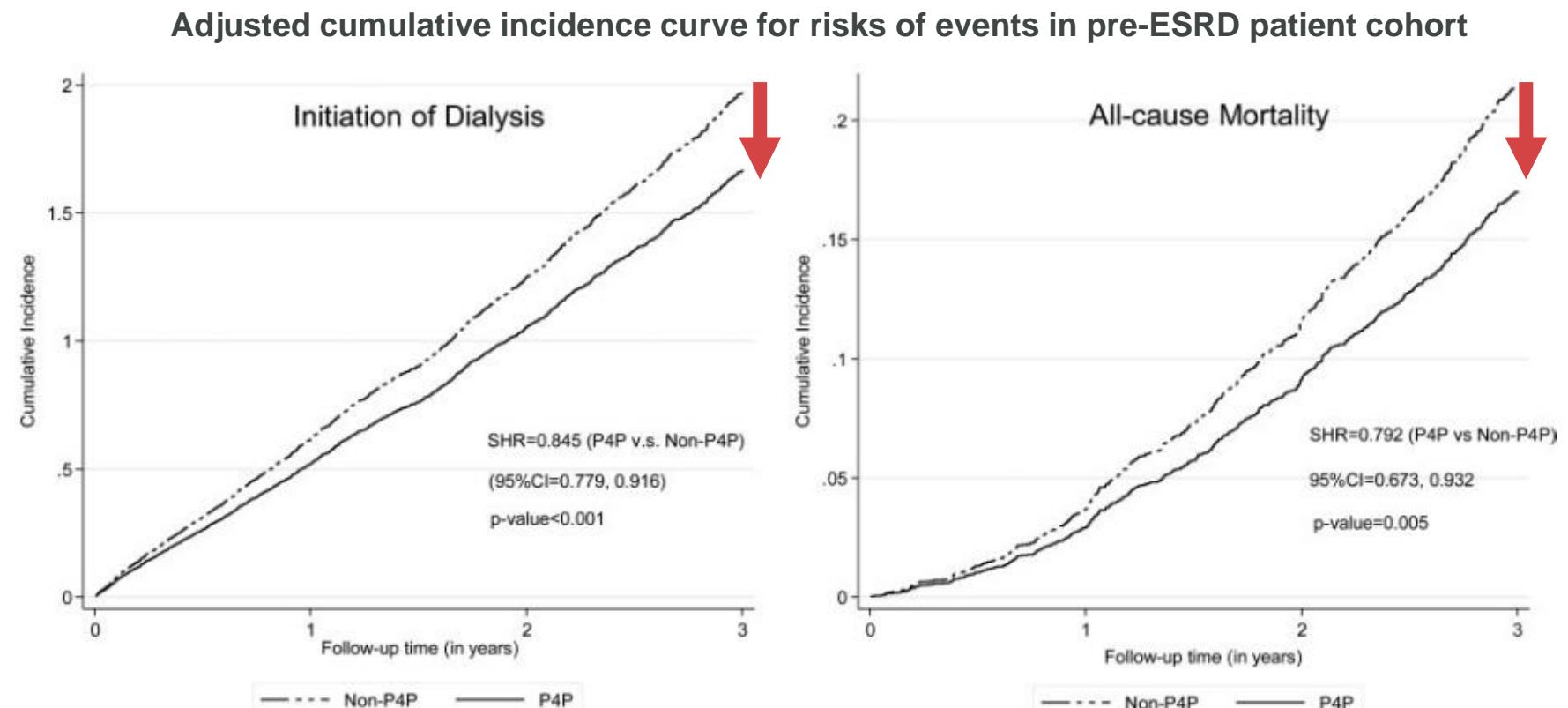
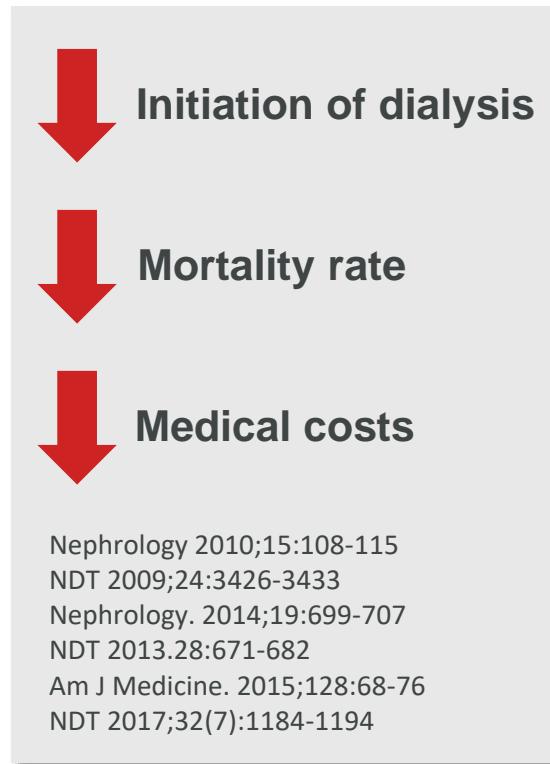
<sup>a</sup> The HRs were adjusted for age, sex, CKD stage, and CCI score.

# 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**

SHU-YI WEI,<sup>1</sup> YONG-YUAN CHANG,<sup>2</sup> LIH-WEN MAU,<sup>3</sup> MING-YEN LIN,<sup>4</sup> HERNG-CHIA CHIU,<sup>3</sup> JER-CHIA TSAI,<sup>4,5</sup>  
CHIH-JEN HUANG,<sup>6,7</sup> HUNG-CHUN CHEN<sup>4,5</sup> and SHANG-JYH HWANG<sup>4,5</sup>





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



Prevention of CKD Progression



Mortality reduction



Cost-effectiveness



- 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.”*

# Conclusion



- 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

