The Professor Emeritus Sa-nga Nilvarangkun, MD, Endowed Lectureship: National Policy & Sustainability on Thailand Dialysis Program

Honorable Lecturer: Thanom Supaporn, MD, RTA GENERAL (retired)

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Short Biography

Current Selected Positions:

Senior Consultant in Nephrology and Internal Medicine, PhraMongkutklao Hospital.

Senior Consultant in Nephrology and Internal Medicine, Office of Medical Services of The Permanent Secretary, Ministry of Defence Bangkok Thailand

Advisor: Executive Committee of the Thai Society of Transplantation

Past Selected Careers

Member of the Executive Committee of the Nephrology Society of Thailand (2001-2008)

Chair: Thailand Renal Replacement Therapy subcommittee of the Nephrology Society of Thailand (2003-2008)

Member of the National Health Security Office working committee to develop national renal replacement therapy policy recommendation in 2007

President of the Thai Transplantation Society (2017-2019)

Keywords: reimbursement scheme; dialysis; coverage; renal replacement therapy; hemodialysis; peritoneal dialysis; universal coverage; social security; civil servant medical benefits; Thailand

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ปาฐกถาเกียรติยศ ศาสตราจารย์เกียรติคุณ นายแพทย์สง่า นิลวรางกูร: นโยบายและความยั่งยืนของโครงการบำบัดทดแทนไตในประเทศไทย:

องค์ปาฐก: พลเอกนายแพทย์ถนอม สุภาพร

ที่ปรึกษาด้านวิชาการ แผนกโรคไต และ กองอายุรกรรม โรงพยาบาลพระมงกุฎเกล้า

ประวัติโดยย่อ

ตำแหน่งปัจจุบัน:
ที่ปรึกษาอาวุโสด้านโรคไตและอายุรศาสตร์ โรงพยาบาลพระมงกุฎเกล้า
ที่ปรึกษาอาวุโสด้านโรคไตและอายุรศาสตร์ สำนักงานปลัดกระทรวงกลาโหม กรุงเทพมหานคร
ที่ปรึกษา: คณะกรรมการบริหารสมาคมปลูกถ่ายอวัยวะแห่งประเทศไทย
ผู้ทรงคุณวุฒิพิเศษ สำนักงานปลัดกระทรวงกลาโหม
ตำแหน่งในอดีต
นายกสมาคมปลูกถ่ายอวัยวะแห่งประเทศไทย พ.ศ. 2560-2562
คณะทำงานของ สปสช. เพื่อพัฒนาข้อเสนอแนะนโยบายการบำบัดทดแทนไตระดับประเทศในปี พ.ศ. 2550
ประธานคณะอนุกรรมการลงทะเบียนการรักษาทดแทนไต (TRT) ของสมาคมโรคไตแห่งประเทศไทย พ.ศ. 2546-2551
กรรมการบริหารสมาคมโรคไตแห่งประเทศไทย พ.ศ. 2544-2551

คำสำคัญ: ฟอกเลือด; สิทธิการรักษา; ล้างไต; ฟอกไต; ประกันสุขภาพ; ประกันสังคม; สิทธิราชการ; สิทธิรัฐวิสาหกิจ; ไตเทียม

The WHO has defined essential components relevant to sustaining the healthcare system shown in **Figure 1.**[1] In 1962, Professor Rajit Buri, MD, returned from Seattle, USA, to Thailand and initiated hemodialysis (HD) for the first time using a similar HD machine operated in the first-ever chronic HD center worldwide (Scribner in Seattle, USA, 1962). Thailand started Kidney Transplantation (KT) in 1972 and continuous ambulatory peritoneal dialysis (CAPD) in 1982. Thai nephrologists, along with other academicians, established the Thailand Society of Nephrology (TSN) in 1976, the Kidney Foundation of Thailand (KFT) in 1978, and the Thai Society of Transplantation (TST) in 1987. The TSN, KFT, and TST have rapidly developed renal replacement therapy (RRT) workforces, training more than 40 new adult and pediatric nephrologists annually and over 200 new dialysis nurses. For over four decades, the KFT has provided funding to support young nephrologists, surgeons, and nurses from Thailand in obtaining advanced RRT training domestically and overseas.

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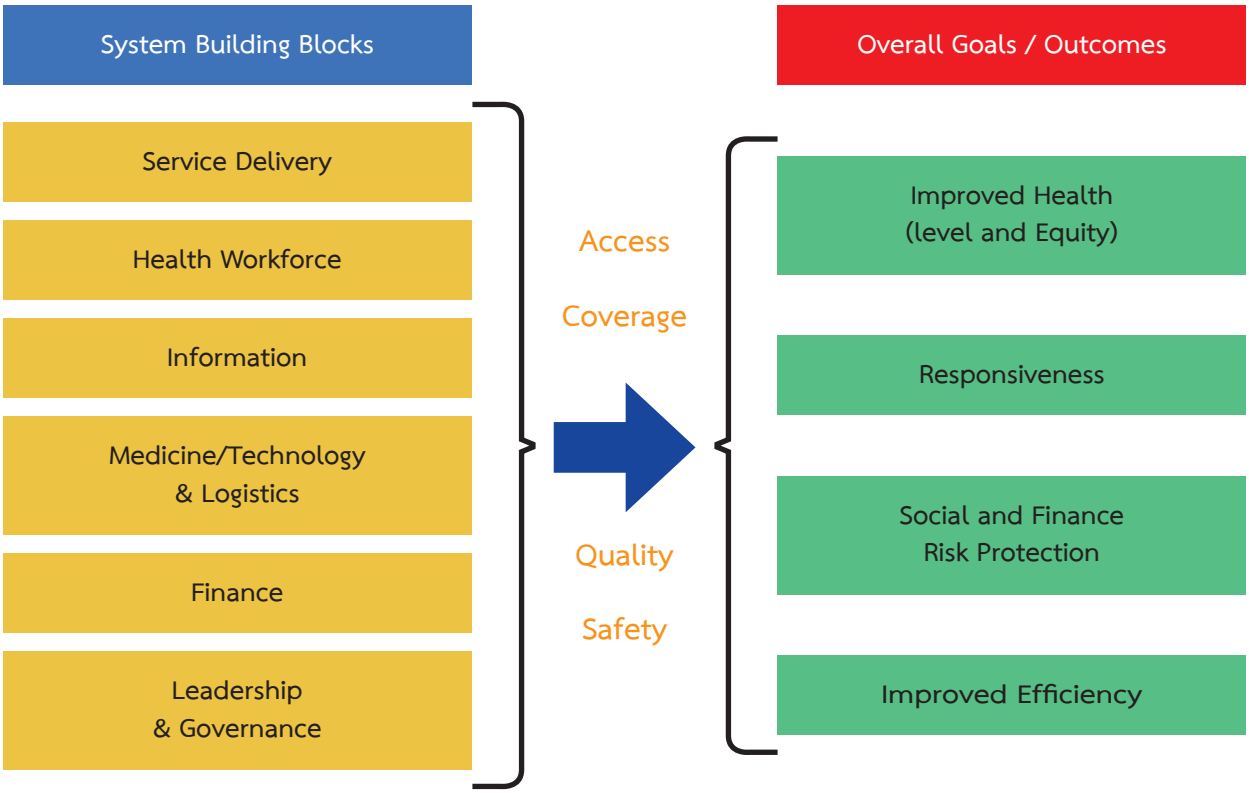

Figure 1 WHO Sustainability Factors for Healthcare System
Modified from Okpechi IG. Nephrology (Carlton). 2021;26(12):948-60

The TSN has organized the Thailand RRT Registration (TRT) since 1996. Following the success of TRT, TSN collaborated with the Central Office of Health Information of Thailand (CHI) to establish an RRT network, which has become the backbone of the country's reimbursement system. For over two decades, TRT and CHI networking have provided essential national RRT information and information technology (IT) systems for the reimbursement program. These RRT and IT systems have enabled policymakers in the Thai Ministry of Public Health and the three funding agencies—the Civil Servant Medical Beneficiary Scheme (CSMBS), the Social Security Scheme (SSS), and the National Health Security Office (NHSO)—to develop and expand financial coverage for RRT for their members. CSMBS has provided government employees and their families coverage since 1962, while SSS has offered coverage for private sector workers since 2003. Before 2008, NHSO provided universal coverage for those not eligible under the first two funding agencies but without coverage for RRT due to a limited budget.

In October 2007, policymakers from NHSO, TSN, TST, and KFT collaborated to propose a policy recommendation to the Thai Ministry Cabinet, advocating for RRT coverage for all Thai citizens under the Universal Coverage Scheme (UCS). This policy, known as the "PD First Policy," was approved and implemented on January 1, 2008. The policy promotes PD as the first choice for RRT for Thai citizens with end-stage kidney disease (ESKD), unless a kidney transplantation (KT) is feasible. HD is covered only for those who have contraindications for PD. The advantages of the Thailand PD First Policy are summarized in **Figure 2**.

• **Utilize CAPD if KT is not available** - CAPD requires lessor RRT personnel than HD**; HD can be approved if contraindication for PD is demonstrated** - CAPD can be used as a screening tool for those who are expecting longer life expectancy with a good quality of life
• **Easy technology for urban and remote rural areas**
• **Minimal indirect costs (medical, travel, food, accommodation, caregivers which are not reimbursable)**
• **Spare HD** for those with CAPD contraindications of CAPD failure
• **Better Cost Control** (central and national supply purchasing with vendor mandatory inventory)
• **Committee to monitor and recommend policy adjustment**
• **Provide proper personnel incentives as CAPD units are public services**

Figure 2 Advantages of PD First Policy

Since the implementation of the PD First Policy in Thailand, all components of RRT as WHO building blocks for healthcare sustainability have been established. This policy ensured that all Thai citizens access standard quality RRT services. With increasing demand, RRT services have expanded. However, some patients under UCS had expressed a strong preference for HD over PD. This preference, coupled with the higher costs incurred by the NHSO for PD compared to HD, has led to a change in national policy

As of February 1, 2022, NHSO policymakers discontinued the PD First Policy. Now, ESKD patients can choose their preferred dialysis modality with the advice of their attending nephrologists. Following this policy change, there has been a significant decline in PD patients and a considerable increase in HD patients **(Figure 3)**. The NHSO has observed a marked increase in mortality among HD patients and a reduction in mortality among PD patients **(Figure 4)**. This is likely due to an increase in the number of HD patients with frailty and multiple comorbidities. Before the policy change, patients who refused PD opted for palliative care and later chose to undergo regular HD. Nevertheless, the policy change in 2022 has resulted in a slight decline in the overall NHSO budget allocated to RRT **(Figure 5)**.

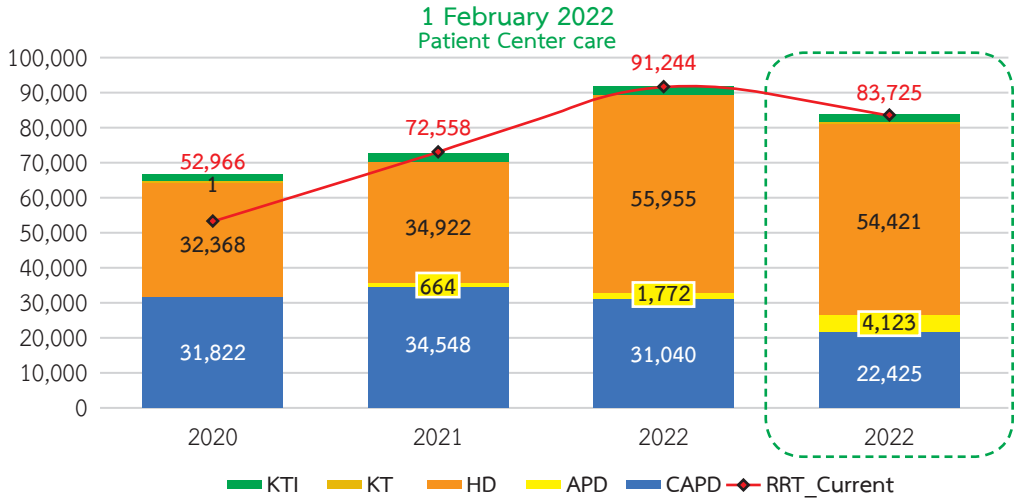

Figure 3 The annual coverage of renal replacement therapy by the National Health Security Office. *Courtesy from Chutidej Tab-ongkarak MD*

พ.ศ.	APD			HD			KT			PD		
	Death (%)	Alive (%)	Total (%)	Death (%)	Alive (%)	Total (%)	Death (%)	Alive (%)	Total (%)	Death (%)	Alive (%)	Total (%)
2021	27 (4.1)	637 (95.9)	664 (100.0)	4,034 (11.5)	30,888 (88.5)	34,922 (100.0)	54 (2.1)	2,563 (97.9)	2,617 (100.0)	6,035 (17.5)	28,513 (82.5)	34,548 (100.0)
2022	132 (7.5)	1,640 (92.5)	1,772 (100.0)	7,186 (12.8)	48,769 (87.2)	55,955 (100.0)	53 (1.9)	2,640 (98.1)	2,693 (100.0)	5,715 (18.4)	25,325 (81.6)	31,040 (100.0)
2023	409 (9.9)	3,714 (90.1)	4,123 (100.0)	9,416 (17.3)	45,005 (82.7)	54,421 (100.0)	50 (1.7)	2,841 (98.3)	2,891 (100.0)	3,868 (16.4)	18,739 (83.6)	22,425 (100.0)

Figure 4 Prevalence and survival of patients with end-stage kidney disease in the Universal Coverage Scheme. *Courtesy from Chutidej Tab-ongkarak MD*

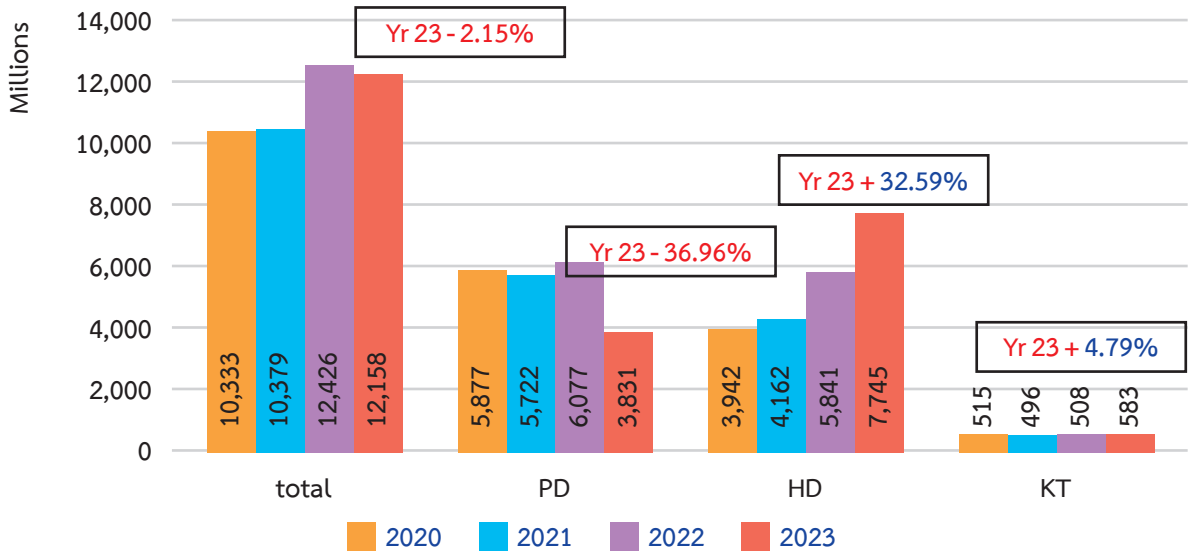

Figure 5 Comparisons of the cost for renal replacement therapy in Thai Baht.
Data provided by the National Health Security Office. Courtesy from Chutidej Tab-ongkarak MD

The impacts of indirect costs related to RRT were demonstrated in a study by Sangthawan et al., as shown in **Figures 6 and 7**.[2] Indirect costs, which include expenses for medicine, travel, food, accommodation, and caregivers, are not reimbursable and tend to be higher for individuals on HD under UCS. The study highlighted that the financial burden on patients was significantly lower under the PD First Program. The higher costs for HD patients under UCS particularly affect individuals with limited financial means.

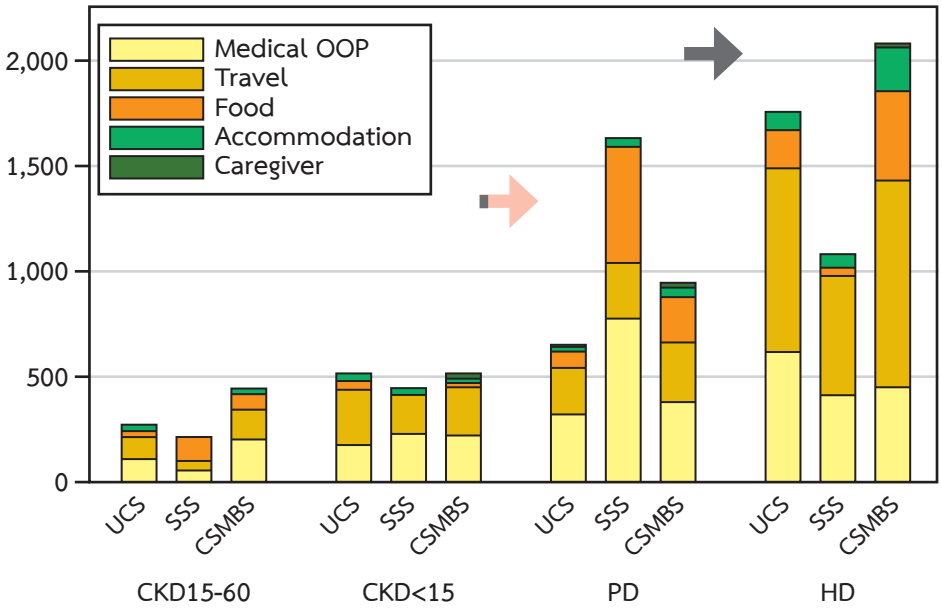

Figure 6 The annual out-of-pocket cost per capita in Thai Baht according to the reimbursement scheme

Data were derived from 11 tertiary or regional hospitals covering all five regions in Thailand between June 2019 and January 2021

UCS, universal coverage scheme; SSS, social security scheme; CSMBS; civil servant medical benefit scheme; CKD 15-60, chronic kidney disease with estimated glomerular filtration rate between 15-60 mL/min/1.73 m^2; CKD<15, chronic kidney disease with estimated glomerular filtration rate <15 mL/min/1.73 m^2; PD, peritoneal dialysis; HD, hemodialysis

Modified from Sangthawan et al. Frontiers in Pub Health 2022;10:965808

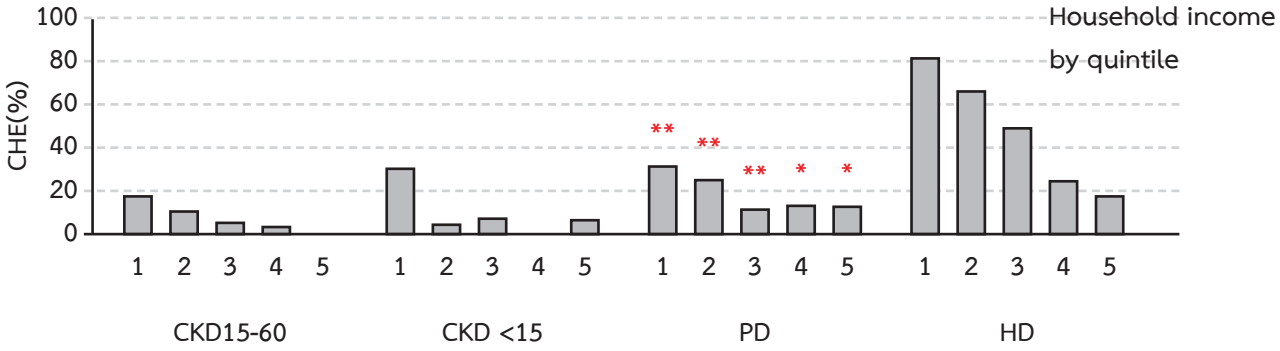

Figure 7 Socioeconomic status quintiles-specific proportion of the Catastrophic Health Expenditure 40 (CHE40) under the Universal Coverage Scheme

CHE40, WHO criteria of paying >40% of the Household Capacity to Pay; CKD 15-60, chronic kidney disease with estimated glomerular filtration rate between 15-60 mL/min/1.73 m^2; CKD<15, chronic kidney disease with estimated glomerular filtration rate <15 mL/min/1.73 m^2; PD, peritoneal dialysis; HD, hemodialysis

Modified from Sangthawan et al. Frontiers in Pub Health 2022;10:965808

In conclusion, Thailand has effectively established all essential components of its RRT system for sustainability. Leadership and governance are vital in sustaining and enhancing the system by adjusting access and coverage. Monitoring the quality and safety of services is crucial, requiring continuous evaluation and necessary adjustments. Policymakers should consult respective academic societies for advisory input before deciding on national policies. It is essential to prioritize the financial sustainability of patients' families, especially those who are economically disadvantaged, to ensure equitable access to quality care. These are important to the long-term success of RRT coverage in Thailand.

References

1. Okpechi IG, Bello AK, Luyckx VA, Wearne N, Swanepoel CR, Jha V. Building optimal and sustainable kidney care in low resource settings: The role of healthcare systems. Nephrology (Carlton). 2021;26(12):948-60.
2. Sangthawan P, Klyprayong P, Geater SL, Tanvejsilp P, Anutrakulchai S, Boongird S, et al. The hidden financial catastrophe of chronic kidney disease under universal coverage and Thai "Peritoneal Dialysis First Policy". Front Public Health. 2022;10:965808.