

Executive summary

Chronic kidney disease (CKD) poses a significant public health and economic challenge in Malaysia, with over 5 million Malaysians diagnosed, and more than 51,000 patients with end-stage renal disease (ESRD) requiring renal replacement therapy (RRT). The number of dialysis patients is increasing annually.

While the government advocates for a Peritoneal Dialysis (PD) First policy to address this challenge, haemodialysis (HD) remains the dominant modality.

The private sector's involvement is crucial to scaling up existing PD adoption. This paper explores the barriers impeding private sector engagement in PD and proposes strategies, including financial incentives, policy reforms, and educational campaigns, to encourage a transition that aligns private sector goals with national healthcare objectives.

Without decisive intervention, the number of dialysis-dependent patients is projected to exceed 106,000 by 2040, creating an untenable healthcare and financial burden.

Treatment modalities

Renal replacement therapy involves dialysis (haemodialysis or peritoneal dialysis) or kidney transplantation. Kidney transplantation is a superior option but is limited due to shortage of organs, donors and relevant surgical expertise. Dialysis is the mainstay treatment for most patients.

Haemodialysis (HD) accounts for 90 percent of overall dialysis treatments, while peritoneal dialysis (PD) makes up around 10 percent, despite its economic and patient-centred advantages.

Dialysis infrastructure

The number of dialysis centres grew from 706 in 2012 to 987 in 2022, with the private sector leading this expansion. Private centres primarily focus on HD, while PD is predominantly supported by public facilities. Rural and economically less developed areas continue to face limited access to dialysis services.

Economic impact

Treatment of CKD and dialysis consume a disproportionate share of Malaysia's healthcare budget. The direct and indirect cost of treating dialysis patients is projected to rise from RM 1.5 billion currently to RM 4 billion by 2040, placing immense strain on resources.

Benefits of the PD First Policy

PD requires less infrastructure, and a lower staff-to-patient ratio compared to HD. The home-based nature of PD eliminates the need for frequent travel and large-scale facilities, reducing costs for both patients, caregivers, and healthcare systems.

PD provides a scalable solution for rural and underserved areas where HD infrastructure may be lacking. Its home-based nature also supports continuity of care during crises, such as the COVID-19 pandemic, which highlighted PD's advantages in limiting hospital visits.

PD is also associated with better preservation of residual kidney function, reduced cardiovascular stress, and fewer risks of infection compared to HD. It offers greater flexibility, allowing patients to maintain their lifestyle, including travel and work, while managing their treatment both at workplace and at home.

Challenges

HD's earlier adoption has ingrained it as the default treatment among healthcare providers and the public. Misconceptions about PD, such as its complexity or the need for specialized home facilities, deter patients and their families.

Private dialysis providers prioritize HD due to its revenue-generating capacity, and established and mature infrastructure. The lack of financial incentives for private centres to adopt PD further limits its uptake.

Public services currently carry the majority of the PD burden, with limited involvement from private and NGO sectors.

Private sector healthcare workers may lack adequate training in PD, and patients are frequently unaware of its potential benefits. More investment is needed in training healthcare providers and educating patients about PD's benefits.

Switching from an HD-focused model to include or transition to PD requires investment in infrastructure, training, and logistics. Smaller dialysis centres might be deterred from making this change.

Shifting Malaysia's private sector from HD to PD is a necessary step towards sustainable ESRD care.

Strategies to incentivize PD adoption

Government subsidies can cover infrastructure upgrades, staff training, and patient education programmes needed for PD adoption in private centres.

Tax breaks should be provided to private dialysis centres offering PD services. Bundled payments for dialysis care could be introduced, where providers receive fixed payments per ESRD patient regardless of modality. This creates financial incentives to support cost-effective treatments such as PD.

Government reimbursement schemes could begin prioritizing PD over HD, creating a financial incentive for private providers to adopt PD.

Towards sustainable care

A subscription-based peritoneal dialysis service model for private dialysis centres in Malaysia can potentially address the growing demand for dialysis and expand patient access to convenient, high-quality care.

By aligning financing, logistics, and clinical oversight within a well-structured framework, such a service could improve patient outcomes, streamline operations for private centres, and ensure long-term sustainability.

The proposed strategies offer a balanced approach to incentivize private providers, improve patient access, optimize healthcare spending, and better health outcomes.

Recommendations

Five recommendations were identified in this paper for the attention of policy and healthcare decision makers to encourage the private sector to shift from the resource-intensive haemodialysis to the cost-effective, patient-centric peritoneal dialysis.

- **Implement policy and funding reform:** Gradually shift funding priorities to incentivize PD over HD, including subsidies, tax incentives, and bundled payment models.
- **Engage with the private sector:** Enable private hospitals and dialysis centres to derive revenue from PD consumables and provide related PD services such as treatment subscription plans to help relieve burdens of the public health system.
- **Awareness campaigns:** Increase public and healthcare professional awareness about PD's benefits through education and advocacy programmes.
- **Cross-sector collaboration:** Foster partnerships between public hospitals, private centres, and NGOs to expand PD accessibility.
- **Learn from other countries:** Adapt strategies from successful PD-first policies in Hong Kong and Thailand to enhance implementation and patient outcomes