

## Shielding Dialysis Patients from Pneumonia: NKF's Vaccination Initiative Shows Early Success

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For patients living with kidney failure, life-saving haemodialysis also brings new health challenges. With weakened immune systems and frequent hospital visits, dialysis patients face a much higher risk of infections. Among these, **pneumonia remains one of the leading causes of hospitalisation and death.**



*Prevention is always better than cure. This initiative shows how evidence-based strategies can make a tangible difference in saving lives*

Recognising this urgent threat, the **NKF** launched a free pneumococcal vaccination programme in early 2024 across all 29 of its dialysis centres nationwide. The initiative provided patients with **PCV13 followed by PPSV23 eight weeks later**, in line with global KDIGO (Kidney Disease: Improving Global Outcomes) recommendations.

### Strong Uptake, Stronger Protection

The response from patients was overwhelming. Of the 1,368 patients eligible for vaccination, **83% voluntarily received the vaccine**. This high acceptance rate reflected patients' trust in NKF and their shared belief that prevention is key to better health.

To evaluate the impact, NKF conducted a **retrospective cohort study** comparing outcomes from the year before vaccination (January–December 2023) with the months after vaccination (November 2024–April 2025). Researchers collected data on patient demographics, hospital stays, infections, use of ventilators, and mortality.

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## Encouraging Results

The findings were clear: vaccination made a difference.

- **Lower pneumonia infections** caused by *Streptococcus pneumoniae*
- **Reduced severity of illness**, with fewer cases requiring ventilation
- **Shorter hospital stays**, easing both patient burden and healthcare costs
- **Improved overall survival and wellbeing** for dialysis patients

These outcomes underscore the importance of making pneumococcal vaccination a standard part of care for dialysis patients in Malaysia.

## More Than Just Data

For NKF, the programme was never just about numbers. It was about protecting vulnerable patients and giving them the dignity of a healthier life.

## Looking Ahead

NKF hopes that the success of this initiative will inspire broader adoption of pneumococcal vaccination across dialysis centres nationwide, and perhaps even among other high-risk groups. By focusing on prevention, NKF continues its mission of improving kidney care and easing the burden of disease for thousands of Malaysians.

**Because every hospitalisation prevented means more time for patients to spend with their families — and more life beyond dialysis.**

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## Early Impact of Pneumococcal Vaccination on Hospitalisation and Clinical Outcomes Among Hemodialysis Patients: Experience from NKF

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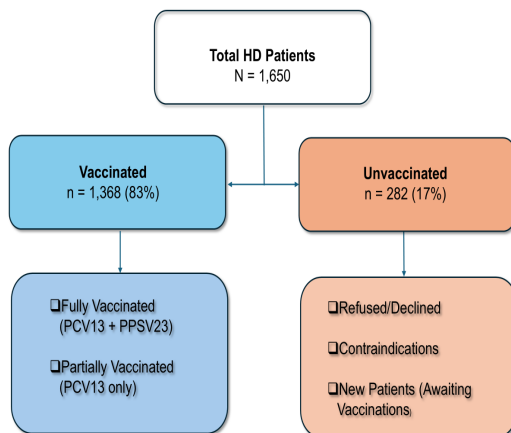
### ABSTRACT

#### Introduction

Hemodialysis (HD) patients face heightened risk of infection due to immunocompromised state and frequent healthcare exposure. Pneumonia remains a major cause of hospitalisation and mortality in this patient group. In response, the National Kidney Foundation (NKF) Malaysia initiated a free pneumococcal vaccination programme from January to May 2024, offering PCV13 followed by PPSV23 after 8 weeks, in line with KDIGO recommendations. This clinical audit study evaluates early outcomes following pneumococcal vaccination across 29 NKF dialysis centres.

### METHODS

**Figure 1. Study cohort selection and vaccination schedule (PCV13 → PPSV23)**



**Study Design:** Retrospective cohort study.

**Comparison:** Pre-vaccination (January–December 2023) versus post-vaccination (November 2024–April 2025).

**Data Collected:** Demographics, causative organisms, need for ventilation, hospital stay duration, mortality, and vaccination status.

**Study Population:** 1,368 patients across 29 NKF centres (83% voluntary vaccination rate).

### RESULTS

**Table 1. Demographics of Pneumonia Cases**

Characteristic	Pre-Vaccination (n=55)
Mean Age (years)	62.8
Male (%)	29 (52.7%)
Female (%)	26 (47.3%)
Mean Dialysis Duration (years)	6.11

**Table 2. Clinical outcomes**

Outcome	Pre-Vaccination (n=55)	Post-Vaccination (n=53)	P value
<i>Streptococcus pneumoniae</i> infection	9 (16.4%)	0%	P=0.001
Required ventilation	14 (25.4%)	0%	P=0.002
Mortality	11 (20%)	11 (21%)*	P > 0.05
Median hospital stay (days)	10	8	P < 0.05

\*5 of 11 deaths occurred in partially vaccinated patients.

#### Post-Vaccination Case Breakdown

- Fully vaccinated: 51% (27/53)
- Unvaccinated/partially vaccinated: 40% (21/53)
- New patients awaiting vaccination: 9% (5/53)

### CONCLUSIONS

Our study findings highlighted that pneumococcal vaccination reduces *Streptococcus pneumoniae* infections and severity of pneumonia among HD patients. These results support the rollout of universal pneumococcal vaccination in dialysis centres to improve clinical outcomes and reduce disease burden in this high-risk group.

### REFERENCES

1. Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group (2024). KDIGO 2024 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. *Kidney international*, 105(4S), S117–S314. <https://doi.org/10.1016/j.kint.2023.10.018>