

## NZHPA Education Fund Report

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## Introduction

I am grateful to the NZHPA Education Fund for supporting my attendance at **ESICM LIVES 2026** in Munich, Germany. As a newly appointed Expert ICU Pharmacist, attending a leading international critical care congress was an important professional development goal. The conference provided an ideal opportunity to consolidate my knowledge in ECMO pharmacotherapy (a new service in Wellington), stay up-to-date with global advances in drug therapy and expand my international network.

The full programme is available here:

<https://esicmlives2025.process.y-congress.com/ScientificProcess/schedule/?setLng=en#>

Below, I highlight two sessions that I found most valuable and intriguing.

### 1. Clinical Debate: Therapeutic Challenges in an Elderly Patient with Sepsis

This session addressed common pitfalls in the management of sepsis in frail elderly patients. A central theme was that **initial treatment should not be de-escalated purely because of age**. Early, appropriate antimicrobial dosing remains essential, with adjustments made later as clinical response and organ function evolve.

The panel cautioned strongly against “halfway management”, for example, delaying central access or avoiding invasive monitoring due to frailty concerns. They stressed that if active treatment is chosen, it must be delivered effectively during the first 24–48 hours, after which prognosis and goals of care can be revisited.

Important pharmacological considerations included avoiding **quinolones**, especially levofloxacin, due to their interaction with GABA and dopamine receptors, increasing the risk of delirium and potentially contributing to long-term cognitive decline in elderly patients.

Strong emphasis was also placed on delirium prevention and sedation minimisation. Approaches included adding regular paracetamol to limit opioid exposure, considering dexmedetomidine where appropriate, and consistently applying the **ABCDEF bundle**. Daily medication reviews focusing on indications and interactions were highlighted as essential. The speakers summarised their approach as: **“start low and go slow” with all medicines except antimicrobials**.

### 2. Pharmacogenomics in the ICU

This session presented exciting developments in integrating pharmacogenomics into routine ICU practice, with the Netherlands leading current implementation.

Dutch ICUs have begun using pharmacogenomic testing to determine whether patients are poor, normal, or rapid metabolisers of drugs frequently used in critical care, including **voriconazole**,

**clopidogrel, omeprazole, and metoprolol.** This allows clinicians to target therapy more precisely, avoiding treatment failure in rapid metabolisers and toxicity in poor metabolisers.

Two types of tests are being used:

- **A 12-gene panel**, providing comprehensive metabolic profiling, with results available in approximately one week. This is particularly valuable for long-stay ICU patients.
- **A rapid saliva test for CYP2D6 and CYP2C19**, providing results within **three hours**. Although narrower in scope, it captures two key enzymes and is suitable for timely decision-making in the ICU.

The talk highlighted logistical considerations such as turnaround times, cost-effectiveness, and the need for clinician education, but overall demonstrated that personalised pharmacotherapy in the ICU is approaching realistic application.

## **Acknowledgement**

I sincerely thank **NZHPA** and the Education Fund sponsors for supporting my attendance at ESICM LIVES 2026. The knowledge gained will directly benefit patient care in Wellington ICU and support my development into my new Expert ICU Pharmacist role.