

**Title:** Specialist pharmacist reviews supporting ART optimisation in complex HIV care

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**Background / Purpose**

Despite the availability of modern, better tolerated antiretroviral therapy (ART), a cohort of people living with HIV remain on complex and potentially toxic regimens. These patients are often considered too clinically complex for ART optimisation due to extensive treatment histories, resistance concerns, comorbidities, and polypharmacy. This may result in prolonged use of sub-optimal ART despite emerging safety, tolerability, long-term risks or metabolic complications. This practice explores the role of a specialist HIV pharmacist in providing the treating team with evidence and confidence required to safely consider ART optimisation in highly complex patients.

**Approach**

The pharmacist conducts extended patient consultations to obtain a comprehensive medication history and explore the patient's experience of HIV management, including treatment goals and challenges. A holistic review is undertaken, considering both HIV and non-HIV medicines to assess the broader impact of ART decisions on overall health management. Historical pathology, genotypic resistance assays, antiretroviral exposure, and comorbidities are reviewed to develop a longitudinal treatment and resistance profile. Medication-related problems are identified, including resistance implications, drug–drug interactions, cumulative toxicity risk, adherence concerns, and treatment limitations. Evidence-based recommendations are developed that rank the risks and benefits of continuing versus switching ART, supporting shared decision-making between patients and the multidisciplinary HIV team.

**Outcomes / Impact**

This model improves clarity around complex HIV treatment histories and enables structured, risk-stratified ART optimisation discussions. Pharmacist-led reviews have supported multiple highly complex patients to safely switch from legacy or high-risk regimens to optimised ART. These changes have been associated with improved management of comorbidities, reduced interaction risk, and decreased long-term toxicity concerns. Virologic suppression has been maintained following ART switches, increasing clinician and patient confidence in complex ART decision-making.

**Innovation and significance**

This practice demonstrates the value of integrating specialist HIV pharmacists as medication experts within routine HIV care, to support sustainable management of increasing treatment complexity and multimorbidity.

**Disclosure of Interest Statement**

The authors declare no conflicts of interest. This practice was conducted as part of routine clinical service delivery and did not receive any external or industry funding.