Table-1 **Pharmacoeconomic Analyses in Therapeutic Drug Monitoring**

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| **Study description** | **Cost effectiveness comparators** | **Result of PE** |
| CEA of model-basedclinical pharmacokinetic dosing of aminoglycosides[[[1]](#endnote-1)] | ATM group versus Non-guided TDM  Steps involved in ATM:   * Pharmacokinetic dose optimization * Bayesian adaptive control * Frequent patient evaluation | Combining efficacy with savings ATM offered significant advantage. |
| CEA of serum vancomycin concentration in patients with hematologic malignancies[[[2]](#endnote-2)] | TDM group versus Control  Steps involved in TDM group:   * Clinical Pharmacist follow up to interpret vancomycin levels * Dose individualization | An incremental cost of $435 per case of nephrotoxicity prevented was found. |
| CE of DBS versus conventional sampling for TDM in children[[[3]](#endnote-3)] | DBS versus conventional TDM sampling in hemato-oncology and nephrology patients | A cost reduction of 43% in the hemato-oncology group and 61% in the nephrology group with DBS was observed. |
| PE analysis of TDM in adult patients with GTCS in a large public hospital[13] | TDM group versus Control  Only direct cost was measured:   * Cost to hospital for TDM service provided * Cost to hospital per seizure saved * Cost to patient per seizure saved | The cost of TDM to hospital per seizure prevented was ₹22.35 while cost to the patient was ₹4.50. |

PE = Pharmacoeconomic, CEA = Cost effective analysis, ATM = Active therapeutic drug monitoring, TDM = Therapeutic drug monitoring, DBS = Dried blood sampling, GTCS = Generalized tonic clonic seizures.

1. Van Lent-Evers, Nicolette A. E. M.; Mathôt, Ron A. A.; Geus, William P.; van Hout, Ben A.; Vinks, Alexander A. T. M.M ,Impact of Goal-Oriented and Model-Based Clinical Pharmacokinetic Dosing of Aminoglycosides on Clinical Outcome: A Cost-Effectiveness Analysis.Therapeutic Drug Monitoring: February 1999 - Volume 21 - Issue 1 - p 63-73 [↑](#endnote-ref-1)
2. Fernández de Gatta MD, Calvo MV, Hernández JM, Caballero D, San Miguel JF, Domínguez-Gil A., Cost-effectiveness analysis of serum vancomycin concentration monitoring in patients with hematologic malignancies.

   Clin Pharmacol Ther. 1996 Sep;60(3):332-40. [↑](#endnote-ref-2)
3. Martial LC, Aarnoutse RE, Schreuder MF, Henriet SS, Brüggemann RJM, Joore MA (2016) Cost Evaluation of Dried Blood Spot Home Sampling as Compared to Conventional Sampling for Therapeutic Drug Monitoring in Children. PLoS ONE 11(12): e0167433. https://doi.org/10.1371/journal.pone.0167433 [↑](#endnote-ref-3)