

# Sierra Leone's Decision-Aware Machine Learning Tool Lifts Essential-Medicine Consumption 19% Nationwide for \$30 a Month

AI in the Public Sector · Good practice · Sierra Leone

Quality score: 87/100

Evidence strength: Quasi-experimental

### Summary

Sierra Leone's National Medical Supplies Agency and University of Pennsylvania researchers built a decision-aware ML tool that raised essential-medicine consumption 19% ( $p<0.01$ ) in a five-district pilot, then scaled nationwide for \$30/month, reaching 2 million women and children.

### Key dimensions

| Dimension                                  | Score |
|--------------------------------------------|-------|
| Evidence of impact / measured public value | 3/3   |
| Transparency, fairness & accountability    | 2/3   |
| Transferability / demonstrated replication | 2/3   |
| Scalability beyond pilot                   | 3/3   |
| Governance, capability & sustainability    | 3/3   |

Evaluated by C-NAPSE

### Data sources

C-NAPSE web research — accessed 2026-08-22

Sierra Leone National Medical Supplies Agency (NMSA); University of Pennsylvania (Wharton School & School of Engineering and Applied Science) — accessed 2026-08-22

Penn Today — accessed 2026-08-22

Nature paper: Improving access to essential medicines via decision-aware machine learning — accessed 2026-08-22

EurekAlert release — accessed 2026-08-22

arXiv preprint — accessed 2026-08-22

Knowledge at Wharton — accessed 2026-08-22

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