

Economic evaluation in Hybrid Type-2 Trials: Evidence and lessons learned from the Substance Abuse Treatment to HIV Care Project

Jesse M. Hinde, Bryan R. Garner, Colleen J. Watson, Rasika Ramanan, Elizabeth L. Ball, Stephen J. Tueller

Objective: The Implementation & Sustainment Facilitation (ISF) Strategy increased the number and quality of brief interventions (BIs) and reduced patient substance use relative to the Addiction Technology Transfer Center (ATTC) Strategy (Garner et al., 2020). This study presents lessons learned from the economic evaluation.

Methods: We conducted a cost-effectiveness analysis on the number & quality of BIs implemented and aggregated client days abstinent (N=78 staff). We chose \$50 as the threshold for cost-effectiveness, which is the average BI reimbursement rate.

Challenge #1: A 3 BI per month limit kept recruitment below cost-effective levels

- Would have needed 9 BIs per month to be cost-effective
- In hindsight, may have wanted to tweak study protocol
- Researchers should consider a plausible range of differences in outcomes and costs when designing a trial

Challenge #2: No clear guidance on how to define the aggregated days abstinent measure

- Only the first version fell below the \$50 threshold
- Measure choice influences interpretation of study results

Bottom line: ISF will be cost-effective for improving the integration of BIs for substance use disorders within HIV service organizations when scaled up to reach more clients.

| Exhibit 1: Average costs and outcomes ¹ | ATTC-only | ATTC + ISF | Diff. | Incremental Cost Effectiveness Ratio |
|---|--------------|---------------|----------|--------------------------------------|
| Cost per staff trainee | \$3,259 (99) | \$5,938 (112) | \$2,679* | |
| Number of BIs | 3 (1) | 7 (1) | 4* | No - \$719 |
| Quality of BIs | 100 (126) | 161 (164) | 61* | Yes - \$44 |
| Sum of client days abstinent at follow-up | 42 (10) | 101 (14) | 59* | Yes - \$45 |
| Sum of client days abstinent at follow-up, controlling for average baseline | 52 (12) | 97 (16) | 45* | No - \$59 |
| Sum of the difference in days abstinent between baseline and follow-up | 9 (4) | 28 (6) | 19* | No - \$144 |

Garner, B. R., et al. (2020). The implementation and sustainment facilitation strategy improved implementation effectiveness and intervention effectiveness: Results from a cluster-randomized, type 2 hybrid trial. *Implementation Research and Practice*, 1. <https://doi.org/10.1177/2633489520948073>

¹Standard deviations in parentheses. *p<0.05

RTI International is a trade name of Research Triangle Institute. RTI and the RTI logo are U.S. registered trademarks of Research Triangle Institute.

