Health care use and out-of-pocket costs after a transitional palliative care intervention for rural family caregivers and care recipients: a randomized controlled trial

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BACKGROUND

- Rural family caregivers (FCGs) often experience physical, emotional, and financial burdens.
- This randomized controlled trial compares a transitional palliative care intervention (TPC) to support FCGs in rural and medically underserved areas for seriously ill care recipients (CRs) to an attention control condition.

Objectives

To evaluate the effect of a transitional palliative care intervention using data collected from a multi-site RCT supporting family caregivers of palliative care patients on *health care use* and *out-of-pocket spending.*

METHODS

Evaluation of TPC Approach

- **Trial:** Community-dwelling rural caregivers of hospitalized patients with a serious life-limiting illness and receiving palliative care during hospitalization in Minnesota, Iowa, and Wisconsin were randomized into an attention control and intervention group. After randomized assignment, 282 participants were eligible for analysis (Control n = 131; Intervention n = 151).
- **Intervention:** TPC FCGs received counseling via video calls for 8 weeks following CR's discharge from the hospital.
- **Data Collection (2020-2022):** After discharge, a research assistant called all FCGs once a month for up to 6 months to collect cost data for CR & FCGs on:
  - self-reported health care utilization *(e.g. outpatient, emergency department, and hospital)*
  - out-of-pocket health care spending *(e.g. deductibles and coinsurance)*
  - health-related travel costs *(e.g. transportation, lodging, food)*
- **Analysis:** Unadjusted incidence rate ratios (IRR) and marginal effects were estimated using negative binomial regressions with offset to account for censoring. We mitigated the effect of extreme values for out-of-pocket cost (but not health care use) outcomes by truncating outliers at 90%.

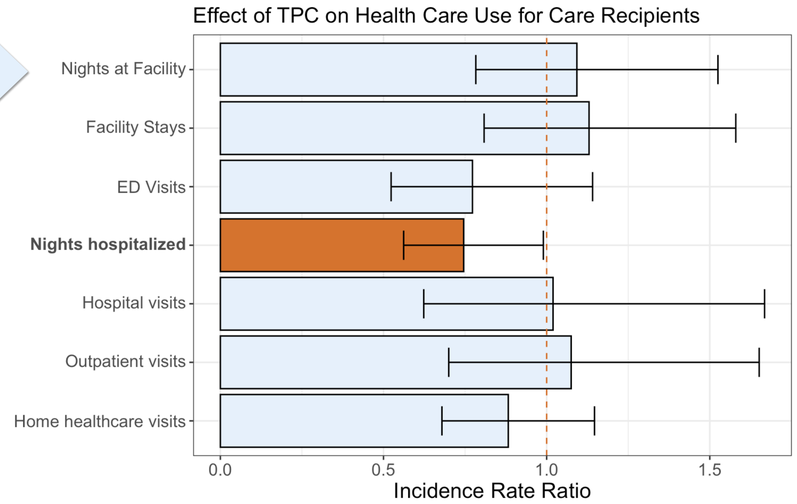
Conclusion

Transitional palliative care for rural caregivers reduced hospitalization for seriously ill care recipients.

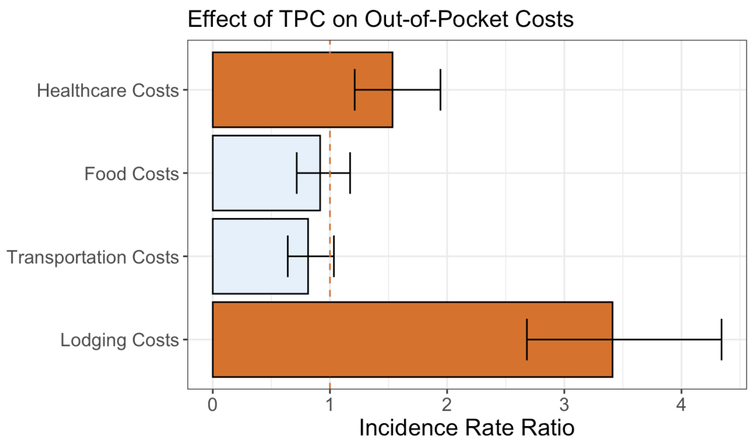
RESULTS

TPC Reduced Care Recipient's Hospital Use

- On average, participants were involved in the study for 95.5 days of the six month period.
- Following discharge from the initial hospitalization, reported hospital nights during the study period were 3.97 and 5.34 in TPC vs control CR (unadjusted).
- **We found a significant reduction in rates of hospital use among TPC vs control CR (unadjusted IRR = 0.746; 95% CI = 0.562 – 0.990).**
- We found TPC prevented 1.91 hospital nights compared to control.



We observed increased emergency department use among FCG in TPC; however, FCG utilization results were unreliable due to low event rates in a small sample.



TPC had mixed effects on out-of-pocket costs

- **Total out-of-pocket spending including health care coinsurance was not significantly higher for TPC versus control.**
- Across both groups, mean out-of-pocket spending for dyads was $770.61, with healthcare payments contributing $539.92 and travel expenses contributing $230.68.
- TPC dyads reported greater total health care (unadjusted IRR = 1.534; 1.211 – 1.943) and lodging (unadjusted IRR = 3.412; 2.681 – 4.342) costs.
- The increase in predicted out-of-pocket costs associated with TPC was $663.10 and $356.46 for health care and lodging, respectively.
- The unadjusted IRR other out-of-pocket costs were not significant.

IMPLICATIONS

- For many (29%) of the seriously ill CR in the study, the six months study period includes their end-of-life care. High hospital use at the end of life is frequently used as a proxy for low-quality end-of-life care, so our finding of decreased hospitalizations may suggest TPC improved end-of-life care and experiences for seriously ill CR.
- Despite the reduction in hospital nights associated with TPC, we did not observe reductions in reported health care cost-sharing for care recipients and family care givers. This raises questions about the reliability of self-reported health care out-of-pocket costs.
- Increased emergency visits among rural FCGs were unexpected. It is possible that TPC intervention may have elevated awareness of impending issues, prompting FCG to seek necessary emergency care in a timely manner when they may not have otherwise.
- Across treatment arms, the financial burden on rural FCGs is substantial, with nearly $800 in out-of-pocket costs in less than 6 months (FCGs participated for 95.5 days on average). Interventions to support caregivers should consider evaluating impacts on out-of-pocket spending as a critical patient-centered outcome.

Limitations

- Health care use and out-of-pocket costs were self-reported, and our findings may be biased by differences in reporting between arms. We are particularly concerned about this because we would expect reduced hospital use among care recipients to reduce lodging costs for care givers; however, we observed increased lodging costs.
- The relatively small sample size combined with highly variable distributions reduced our power to detect meaningful differences in health care use; the low event rates among caregivers make interpretation of these results particularly challenging.

Takeaway

This study contributes to evidence that palliative care interventions reduce unnecessary hospitalization for seriously ill patients

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