Regression Analysis Shows Early Palliative Care Consultation Significantly Impacts Length of Hospital Stay

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Introduction

A growing body of literature supports early Palliative Care (PC) interventions as benefitting patients, families, as well as hospitals.

- Improve quality of care
- ↓ unnecessary admissions
- ↓ emotional distress early
- Honor patients' goals of care
- Respect patient autonomy, even if patient is unable to communicate

Objective: To understand the effect PC consultation has on length of stay and what aspects of the hospitalization affect length of stay.

Methods

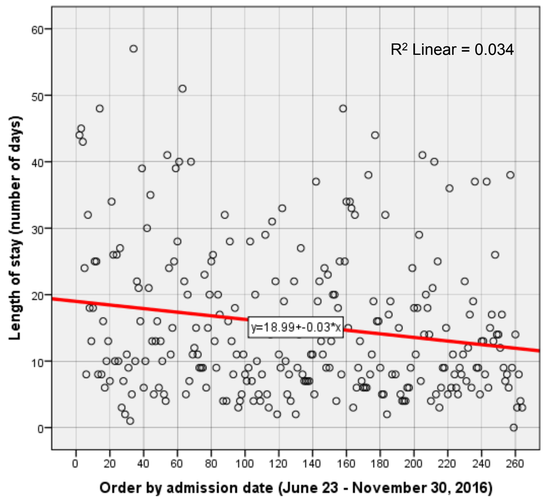
Data Collection

- Cross-sectional study in an academic tertiary care trauma center in New Jersey.
- Evaluated data from 286 patients consulted by Palliative Care from June to November in 2016.

Statistical Analysis

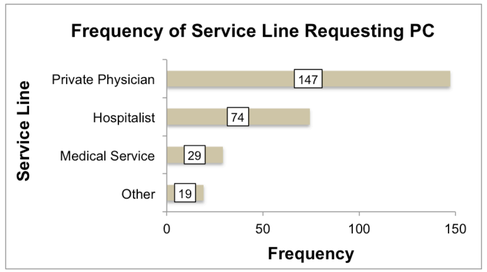
- Conducted via Healthcare Environment Data and Survey Software (HEDSS), G-Power, and SPSS 22.0.
- **Regression analysis** and **model specification** were used with an alpha of .05, power of .80 and effect size of .15. Parametric statistics were used to identify what aspect(s) of operations were most related to the outcome data. This measures impact of ever evolving processes in real time.
- Main outcome = **Length of stay (LOS)** was a dependent variable
- Independent variables included patients' age, primary diagnosis, service line that requested PC, date of admission, date of PC consultation, date of discharge, changes in code status, and disposition. Excluded outliers.

Results



LOS ↓ from 19 to 11 days on average over the course of this study!

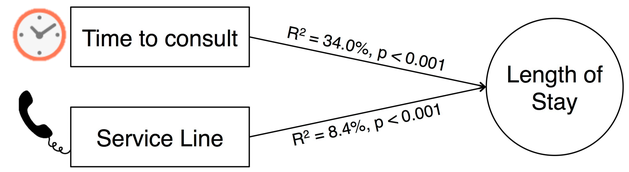
Admission date ➔ date of PC consultation = ranged from 0-30 days (p<0.001).



Private physicians most commonly requested PC consultation (p<0.001).

Regression analysis showed that this ↓ **in LOS** was most significantly attributed to two variables:

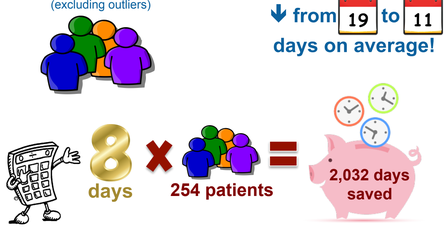
- Timing of PC consultation predicted 34.0% of the variance (p<0.001).
- Service line predicted 8.4% of the variance (p<0.001).



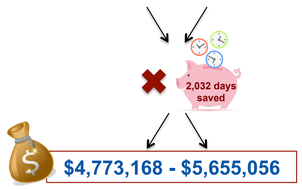
Cost Savings

Total patients = 254 (excluding outliers)

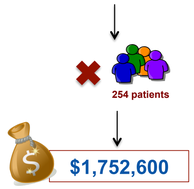
LOS ↓ from 19 to 11 days on average!



Kaiser study:
Cost of hospital stay in NJ is $2,349 - $2,783 per day.



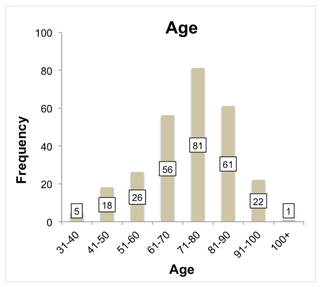
Morrison study:
Cost savings of PC over usual care is $6,900 per patient.



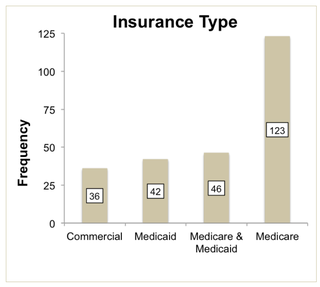
Discussion

- Our study adds to growing body of literature that PC consultation reduces LOS.
- Regression analysis was utilized to understand which factors of hospital stay contributed to this decrease in LOS. We found that this decrease was most significantly correlated with two factors:
  - Type of service that requested PC consultation: private physicians requested PC consultations than other services within the hospital. This indicates a need to expand education of all residents and attending physicians, to identify unmet PC needs.
  - Timing of initial PC consultation: the earlier consultations were requested, the greater impact on decreasing LOS.
- Our cost savings calculations suggest that PC may benefit hospitals by decreasing their expenditures.
- Overall, early PC consultation may prevent suffering by aggressive symptom management, avoid unnecessary hospital admissions, especially to intensive care settings, and decrease hospital costs.

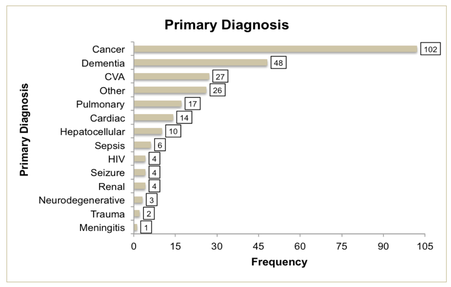
Demographics & Results



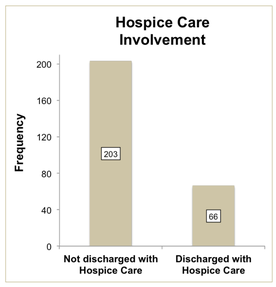
Patient ages ranged from 31-101.



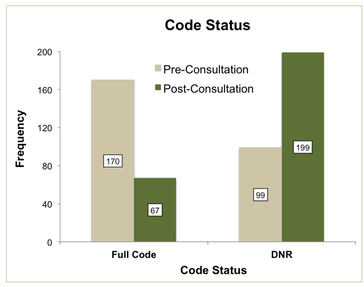
Most common type of insurance was Medicare (n=123).



Most common primary diagnoses were cancer (n=102) and dementia (n=48).



Most were discharged without hospice care (n=203).



Change in code status noted in 102 patients (60%).

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