Quantifying the Benefit of Nurse Practitioners in Pediatric Trauma

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Pediatric trauma patients require multidisciplinary teams and significant coordination of care.

- 53 roles directly involved in patient care$^{1,2}$
- 69 different workflows from arrival to discharge$^{1,2}$

Introduction

• Early evaluation by physical, occupational, and speech/swallow therapy associated with better functional outcomes\(^3,4,5\)

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Introduction

Certified Child Life Services

- Use of CCLS during PIV placement in the ED associated with reduced pain on the Wong-Baker Faces pain rating scale and greater satisfaction.6
- CCLS involvement with pediatric patients undergoing laceration repairs in the ED decreased the emotional distress as measured by The Children’s Emotional Manifestation Scale.7
- Children who had CCLS present during casting procedures had lower heart rates and lower subjective behavioral anxiety scores.8

Introduction

• Health Psychology
  • 19% of pediatric patients who experienced injury, illness, or major health events went on to develop PTSD symptoms.⁹
  • Severity of injury was not a predictor of developing PTSD⁹
  • PTSD is associated with depression and functional impairments 1 year after discharge.¹⁰
  • PTSD in pediatric patients is linked to higher utilization of future health care services.¹⁰,¹¹

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Pediatric Trauma Nurse Practitioner Role

Goal: To measure the effect of implementing a dedicated trauma NP at a Level I Pediatric Trauma Center on consultation of ancillary services and length of stay (LOS).

Pediatric Trauma NP role at our organization:
- Complete chart review
- Review and place orders
- Round with pediatric trauma team
- Ensure follow-up plan before discharge
- Coordinate consults
Methods

A retrospective cohort study was completed of trauma patients admitted to a Level I Pediatric Trauma Center, comparing 2015 (pre-NP) outcomes to 2017 (post-NP, NP hired in mid-2016) outcomes.

Outcomes included LOS and consults completed.

Groups were compared using chi-squared or Mann-Whitney tests, as appropriate.
Results

• In 2015, 526 patients averaged a LOS of 2.74 days.
• In 2017, 514 patients averaged a LOS of 2.45 days (p=0.97).
• Mean ISS in 2015 was 8.06, average ISS in 1017 was 10.01
Percentage of Admitted Trauma Patients with Consults from Select Ancillary Services

2015 (pre-NP) n=526
2017 (post-NP) n=514

P <0.001
Patients in 2017 with shorter length of stay were less likely to get consults for all ancillary services.
Patients admitted on weekdays were significantly more likely to receive consults from ancillary services via:

- Child Life Services, with p = 0.987
- Health psychology, with P < 0.001
- Occupational Therapy, with P < 0.001
- Pediatric Rehabilitation Medicine, with P < 0.001
- Physical Therapy, with P < 0.001
- Swallow/Speech Therapy, with P < 0.001
Conclusions

• A dedicated clinical role can address patient care gaps and discontinuity in care.
• A dedicated trauma NP at our organization was associated with significant increases in completed consultations to ancillary services.
• Increased involvement of ancillary services was not associated with increased length of stay, despite higher ISS.
• Shorter length of stay and weekend admissions were associated with lower consult rates.
• Future directions: cost analysis