

**Title:**

Impact of Interdisciplinary Rounds on Palliative Care Measures and Patient Outcomes in Non-Intensive Care Settings

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**Session Title:**

Rising Stars of Research and Scholarship Invited Student Posters

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**References:**

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### Abstract Summary:

Interdisciplinary rounds (IDRs) have been described as a method to enhance teamwork, collaboration, and contribute to high-quality, patient-centered decisions. In this study, Clinical Nurse Specialist-led IDRs had a positive impact on select quality and utilization outcomes for adult patients on a hospitalist service.

### Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
Summarize literature describing interdisciplinary rounds as a method to improve teamwork and collaboration leading to increased referrals, decreased length of stay and readmissions.	Review previous studies exploring the impact of IDRs on consultation and referral rates. Review previous studies exploring the impact of IDRs on quality and utilization outcomes. Describe limited literature describing impact of IDRs in non-specialty settings.
Describe the impact of interdisciplinary rounds on palliative care measures, quality, and utilization outcomes for adult patients on a hospitalist service.	Present purpose, research question, and methods of the current study. Detail sample demographics. Present study findings, results, conclusions, limitations, and implications.

### Abstract Text:

**PROBLEM:** Despite the emergence of palliative care (PC) as an essential aspect of comprehensive health care, it is widely acknowledged that most people face inadequate access to PC services. The greatest need for PC in the Americas is among adults with progressive, non-malignant and non-communicable diseases. Delaying or under-utilizing PC services may compromise patient outcomes and serve as a barrier to the cost-effectiveness of the PC program.

**PURPOSE:** The purpose of this study was to explore differences in PC service measures, quality outcomes, and utilization outcomes for hospitalized, adult patients following implementation of an interdisciplinary rounding program (IRP) in a non-Intensive Care Unit (ICU) setting.

**EBP QUESTION:** Is there a difference in PC service measures (rate of PC referrals and timeliness to PC referrals), quality outcomes (inpatient mortality, 30-day mortality, and transition of care), and utilization outcomes (length of stay [LOS], 30-day readmission rate, and total direct costs) among hospitalized, adult patients following implementation of an IRP in a non-ICU setting?

**METHODS:** This study was conducted using a non-experimental, descriptive design with secondary data analysis. The setting was a 145-bed community medical center in eastern Virginia. Participants ( $N = 800$ ) included two groups of hospitalized adults, 18 years of age and older, who were admitted to and transitioned from a non-ICU setting on the hospitalist service. The Pre-IRP group ( $n = 400$ ) included patients hospitalized prior to the implementation of the IRP and the Post-IRP group ( $n = 400$ ) included those hospitalized following implementation of the IRP. Data elements were extracted from electronic medical records and billing repositories. The study was approved by the local Institutional Review Board.

There was no current intervention in this non-experimental study. The IRP was initially implemented in January 2014, underwent modifications early in the year, and became fully operational and stable by the end of the first year. Therefore, 2014 served as a period of transition between the Pre-IRP group and the Post-IRP group. The IRP included daily (Monday – Friday) interdisciplinary rounds (IDRs) that were attended by multiple interdisciplinary team members in addition to the hospitalists on duty for the day. The interdisciplinary team members included representatives from several clinical departments including general nurses, care coordinators, pharmacists, dietitians, physical therapists, social workers, palliative care nurse, clinical nurse specialist, home care liaison, hospice liaison, and chaplain. During IDRs, the hospitalists presented each patient on their service to include an overview of the current hospitalization, medical plan of care, and discharge/transition plan. The interdisciplinary team members contributed information based on their assessment and interactions with the patient, individual expertise, and scope of practice. Based on the collaborative input from all disciplines and with consideration given to the patient's individual preferences and personal goals, a mutual plan of care was established. In cases where the plan of care included a recommendation to initiate a PC referral, the PC nurse was present and accepted the referral at that time.

**RESULTS:** Palliative care service measures included rate of PC referrals and timeliness to PC referrals. Palliative care referral rate was higher in the Pre-IRP group (9.5%) compared to the Post-IRP group (6.3%). The *chi-square test of independence* revealed differences between study groups were not statistically significant ( $\chi^2(1) = 2.912, p = .088$ ). Overall, 66 (8.3%) patients in the sample had a PC referral documented in the medical record. The average time from hospital admission to the PC referral was 3.8 days ( $SD = 5.0$ ) for the Pre-IRP group compared to 4.2 days ( $SD = 7.2$ ) for the Post-IRP group. The *Mann-Whitney U* test revealed differences (0.4 days) between study groups were not statistically significant ( $Z = .000, p = 1.00$ ).

Quality outcome measures included inpatient mortality rate, 30-day mortality, and transition of care from the inpatient setting. Overall, 1.9% ( $n = 15$ ) of patients died during the hospital visit. Inpatient mortality rate was 1.5% ( $n = 6$ ) in the Pre-IRP group compared to 2.3% ( $n = 9$ ) in the Post-IRP group. The *chi-square test of independence* revealed differences between study groups were not statistically significant ( $\chi^2(1) = 0.611, p = .434$ ). Approximately 7.4% ( $n = 29$ ) of patients died within 30 days of transition from the inpatient setting during the Pre-IRP phase compared to 3.7% ( $n = 16$ ) during the Post-IRP phase. The *chi-square test of independence* revealed differences between study groups were statistically significant ( $\chi^2(1) = 5.431, p = .021$ ). Illness burden was similar between study groups. The mean Charlson Comorbidity Index was 2.92 ( $SD = 1.8$ ) in the Pre-IRP group compared to 3.04 ( $SD = 1.9$ ) in the Post-IRP group. Likewise, number of chronic conditions between study groups were similar ( $M = 2.32$  [ $SD = 1.3$ ],  $M = 2.39$  [ $SD = 1.4$ ]), respectively. The *chi-square test of independence* revealed patients were significantly more likely to be transitioned home or home with home health following IRP implementation ( $\chi^2(1) = 4.742, p = .029$ ). Differences in transition to post-acute care or hospice between study groups were not statistically significant ( $\chi^2(1) = 1.845, p = .174$ ),  $\chi^2(1) = 3.287, p = .070$ ), respectively.

Utilization outcome measures included LOS, 30-day readmissions rate, and total direct costs. Length of stay and direct costs were evaluated using the *Mann-Whitney U* tests. On average, patients remained in the hospital longer ( $M = 4.32, SD = 3.1$ ) during the Pre-IRP phase compared to patients during the Post-IRP phase ( $M = 4.03, SD = 3.2$ ). Likewise, direct cost was higher ( $M = 3781, SD = 2852$ ) during the Pre-IRP phase compared to the Post-IRP phase ( $M = 3547, SD = 3292$ ). Differences in length of stay ( $Z = -2.109, p = .035$ ) and direct cost ( $Z = -2.494, p = .013$ ) were statistically significant. The overall 30-day

readmission rate ( $\chi^2(1) = 0.000, p = .983$ ) and days to readmission ( $Z = -0.895, p = .371$ ) did not differ significantly between study groups. Patients with a palliative care consult during the Post-IRP phase were significantly less likely to be readmitted compared to patients without a palliative care consult ( $\chi^2(1) = 6.416, p = .011$ ); while differences in 30-day readmission rates during the Pre-IRP phase were not statistically significant ( $\chi^2(1) = 2.862, p = .091$ ).

**DISCUSSION/SIGNIFICANCE:** Enhanced teamwork and collaboration among interdisciplinary team members as a result of the IRP had the most significant impact on quality and utilization outcomes but did not affect the rate or timeliness of PC referrals. The PC referral rate in both groups was within the expected range suggested by the Health Research and Educational Trust (HRET) for a hospital with an established PC service. It is important to note that inaccurate or missing documentation may have impacted PC study results. Lack of documentation did not indicate the absence of PC consults but rather the absence of PC consults documented in the EMR. An evolving EMR which underwent several upgrades over the course of the study period may account for some of the difficulty retrieving specific data elements. Regardless, the lack of IRP influence on PC service metrics suggests that a more objective method of identifying patients with unmet PC needs is warranted. Technology-based solutions, such as an electronic screening tool to proactively identify potential PC candidates, should be considered.

More patients in the Post-IRP group were discharged to home as opposed to another nursing facility. This finding coupled with a lower 30-day mortality rate following the transition suggests an effective, team-based, and patient-centered discharge plan. The significantly shorter LOS and lower total direct costs in the Post-IRP group, without a difference in 30-day readmission rate, further supports collaborative goal-setting and efficient care-planning during IDRs.

Limitations of the study include a non-probability, convenience sample of patients hospitalized on a single hospital medicine service at one community-based hospital which limits generalizability of the study findings. Due to the non-experimental study design, it is feasible that factors other than the IRP contributed to group differences. While a consistent and standardized process has been developed to guide IDRs, variations may exist as a result of team members' participatory style and changes in personnel over the course of the study period.

In conclusion, results of this study support IDRs as a mechanism to improve select patient outcomes among hospitalized adults in a non-ICU setting. Findings are consistent with earlier studies that described reductions in 30-day mortality and LOS for patients following implementation of IDRs. Whereas most prior studies were conducted in critical care or specialty units, this study had similar findings in a non-ICU setting. There are implications for teambuilding as the existing literature describes IDRs as a mechanism to improve teamwork and collaboration and this study lends support to a positive impact on specific patient outcomes in the Post-IRP group. Faced with an increasingly complex health care environment, highly functional and collaborative interprofessional teams are essential to the provision of efficient, cost-effective, and patient-centered care.