

# STRONG CHILDREN'S RESEARCH CENTER

## Summer Research Scholar

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### ABSTRACT

**Title:** *Quantifying Differences in PICU Documentation Practices: A Multi-Institution Study*

**Background:** Effective communication through the Electronic Health Record (EHR) is crucial for ensuring patient safety. However, redundant information, copying and pasting, and the use of “smart text” to automate note writing, all have contributed to increasing note length and provider frustration. While substantial research exists on outpatient documentation practices, there is a notable gap in critical care documentation. This multisite study aims to address this gap by examining note documentation practices among providers in the PICU.

**Methods:** This retrospective observational study was conducted at two academic PICUs (CHOA and URMC). The cohort includes all patients who were admitted to the PICUs from 1/1/2016 to 6/1/2023. We extracted data locally at each site using standardized queries and merged centrally into a single repository. We divided documentation into relevant metrics such as note type, time written, and character count by source. We calculated “smart text” usage metrics by type and name. Descriptive statistics were calculated to summarize the data and compare metrics between institutions.

**Results:** Our cohort included 84,575 PICU encounters resulting in 2.65m notes (CHOA: 2.0m, URMC: 658k). Distribution of author type differed significantly by site ( $p < 0.001$ ). At both sites, physicians wrote the largest proportion of notes (51% vs 47%). However, there were differences between sites in terms of therapist and nurse (URMC: 10% and 38% vs CHOA: 19% and 6%). Total note lengths at CHOA were significantly longer than at URMC [CHOA: 2929 (IQR 1049, 7033) vs URMC: 1434 (IQR 621, 4343),  $p < 0.001$ ]. Physicians' notes were significantly longer than those of other providers at both sites. Differences among other provider types were minor compared to the difference with physicians. Median note length increased at both sites (CHOA: 13% URMC: 17%) from the first to last year of study. At CHOA, a significantly lower percentage of characters were manually inserted than at URMC (25% vs 33%), while a significantly higher percentage of characters were cut / pasted (75% vs 67%). Overall physicians had a lower percentage of manually entered characters compared to the other provider types (20% vs 45%). Across all author types, number of “smart text” elements differed by site than at URMC [CHOA: 18 [IQR: 13, 26] vs 7 [IQR: 2, 16],  $p < 0.001$ ]. Physicians used a significantly greater number of “smart text” elements compared to other providers.

**Conclusion:** This study highlights variations in note documentation practices among different provider types across two academic PICUs, suggesting both provider type and institutional practices influence documentation habits. Understanding these differences and improving documentation practices can help mitigate note bloat, thereby enhancing the quality of clinical notes and improve patient safety.