



Our findings support that there are differences in IV smart pump compliance both within and between hospital systems and that IV smart pump type and the number of drug library profiles may be influencing factors” Giuliano et al (2018).

Reference:

Background: Although intravenous (IV) smart pumps with built-in dose-error reduction systems (DERS) can reduce IV medication administration error, most serious adverse events still occur during IV medication administration. Sources of error include overriding DERS and manually bypassing drug libraries and the DERS.

Methods: Our purpose was to use the Regenstrief National Center for Medical Device Informatics data set to better understand IV smart pump drug library and DERS compliance. Our sample consisted of 12 months of data from 7 hospital systems, 44 individual hospitals, and descriptive data from the American Hospital Directory (AHD) for 2015. The aims of the study were (1) to determine whether there are differences in IV smart pump drug library compliance between hospital systems and (2) to provide a broad descriptive overview of relevant trends related to IV smart pump compliance.

Results: For aim 1, we found 3 significant relationships among the 7 hospital systems: systems 3 ($P < 0.001$), 6 ($P = 0.003$), and 7 ($P = 0.002$) had significantly higher IV smart compliance as compared with system 4. For aim 2, the number of drug library profiles was

positively correlated ($P = 0.029$) with IV smart pump compliance and the IV smart pump type used was significantly correlated ($P = 0.013$) with IV smart pump compliance. Conclusions: Our findings support that there are differences in IV smart pump compliance both within and between hospital systems and that IV smart pump type and the number of drug library profiles may be influencing factors. Further research is required to more accurately identify the impact of these factors in this very important area of patient safety.

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Reference:

Giuliano, K.K., Su, W-T., Degnan, D.D., Fitzgerald, K., Zink, R.J. and DeLaurentis, P. (2018) Intravenous Smart Pump Drug Library Compliance: A Descriptive Study of 44 Hospitals. *Journal of Patient Safety*. 14(4), p.e76–e82.

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