

4th International Conference on

Medical Informatics & Telehealth

October 6-7, 2016 | London, UK

ANTIBIOTIC STEWARDSHIP OPERATIONALIZED: EMR-FACILITATED IV TO PO CONVERSIONS

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Background: Antibiotic Stewardship is a crucial imperative, yet all-too-often elusive to operationalize. Intravenous (IV) therapy for hospitalized patients is common practice, particularly for patients sufficiently ill to require hospitalization. However, medications providing oral (PO) bioavailability alternatives allow for therapeutic IV to PO conversions for reduce cost-per-case and length of stay (LOS), and improved stewardship. Evidence shows that appropriate conversions from IV to PO have decreased LOS by 1.53 days with average medication-related cost-per-case \$15,149 savings.

Methods: Physicians, pharmacists and IT-professionals teamed to define bioavailability alternative antibiotics appropriate for IV to PO conversions, and then designed optimal within-EMR computations triggering alerts recommending conversions. Pharmaceutically-pertinent guidance indicated 12 appropriate antibiotics. Pre-versus-post prospective study of patterns contrasted a 12-month baseline versus month-to-month post-implementation.

Results: Post-implementation from baseline 85%-to-15% IV-versus-PO mix (all $p < 0.001$):

- 68%-to-32% mix within 4 months, sustained for 6 additional
- 11.4% decreased IV-associated infections
- 36.8% decreased LOS due to earlier discharges with PO management.
- 6.8% lower cost-per-case, with 14.1% less IV costs, 42.5% more in PO costs.
- Thus \$3,300 lower cost-per-antibiotic-case per discharge.

Conclusions: Antibiotic stewardship, and other medication-related undertakings, can be made more tangible and manageably operationalized through EMR-enabled strategies like IV to PO conversions. A 6.8% reduced cost-per-case totaled over \$30,000 in the first 4 months in this organization. Shortened loss also mean improved facility capacity without bricks-and-mortar, and sooner patient capability for self-management.

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ELECTRONIC PATIENT RECORD (EPR) SYSTEM IN SOUTH AFRICA: RESULTS OF A PILOT STUDY

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Patient health records contain sensitive information for which an electronic patient record (EPR) system can safely secure and transmit amongst clinicians for use in improving health delivery. Clinician's use behaviour of these systems is under scrutiny to assess their attributes towards health technology. South Africa (SA) clinicians responded to a pilot study survey to assess their understanding of EPR, what attributes are important towards technology use and more importantly streamlining the survey for a larger study. Descriptive statistics using mean scores were used because of the small sample size of 11 clinicians who completed the survey. Nine (9) constructs comprising 62 items were used and a Cronbach alpha score of 0.883 was obtained. Limitations and discussions conclude the study.

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