Background: Decision support tools in the electronic medical record (EMR) are utilized by ASPs to identify antimicrobial regimens that require review and intervention. We implemented the Epic® Antimicrobial Stewardship Module (EASM) in July 2015 (Figures 1a and b), introducing an automated process for the identification of patients meeting criteria for daily ASP review. The alerts built into our EMR decision support using the EASM to identify antimicrobial regimens requiring ASP review include: new start restricted antimicrobials, new start antiretroviral therapy, IV to PO, antibiotic therapy drug monitoring, bug-drug mismatch, Staphylococcus aureus and yeast in blood culture.

Methods: To assess the impact of the use of the EASM, we compared the number and type of interventions made pre-module (7/1/2013 – 6/30/2014) and post-module (5/1/2016 – 4/30/2017). The total number of antimicrobial regimens reviewed, total number of interventions, and type of interventions were compared between these two time periods.

Results: The number of antimicrobial agents reviewed and the number/types of interventions made pre- and post-module are shown in Table 1. Conclusion: Utilizing EMR decision support can significantly increase the overall proportion and number of ASP interventions.

Abstract

1. Background
   - Antimicrobial Stewardship Programs help to ensure safe, judicious, and optimized use of antimicrobials.
   - Decision support tools in electronic medical records (EMRs) can help Antimicrobial Stewardship Programs identify patients that require review to ensure appropriate use of antimicrobials.
   - The Epic® Antimicrobial Stewardship Module (EASM) is a tool used by programs to identify patients to review on a daily basis based on specified criteria.

2. Background
   - At UChicago the EASM was implemented by the Antimicrobial Stewardship team in July 2015.
   - A scoring tool (list) based on customized alerts was created with the EASM to identify patients requiring review by an antimicrobial stewardship pharmacist.
   - Patients are reviewed by the UChicago Antimicrobial Stewardship team based on the following:
     - Receiving a restricted antibiotic
     - Receiving highly active anti-viral therapy
     - IV-to-PO conversion
     - Active antifungal serum concentration resulted
     - Drug-bug mismatch
     - Staphylococcus aureus bacteremia
     - Candidemia

3. Methods
   - Study Design
     - Retrospective, observational, single-center study
   - Study Population
     - Impact of EASM, assessed by determining total number of antimicrobial interventions, and total number of interventions reviewed.
   - Statistical Analysis
     - Descriptive statistics for summarizing the overall number of antibiotic regimens and type of interventions.
     - Paired t-test was used to assess the proportion of types of interventions relative to total interventions between the two time periods.

4. Results
   - Pre-EASM Limitations/Post-EASM Improvements
     - Interventions completed within EHR specific to each patient and drug order (using Epic®-sient feature)
     - Pass/fail for follow-up noted within scoring tool

5. Conclusion
   - The EASM significantly improved the efficiency of the UChicago ASP.
   - The total number of antimicrobials reviewed and total number of interventions made by ASP significantly increased.
   - We also observed a significant increase in the proportion of interventions related to optimization of therapy and safety/monitoring while the proportion of interventions related to cost-savings, de-escalation, and ID consultation remained stable.

References

Disclosure
The authors of this presentation have no financial relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.