

Implementation and Results of a Standardized Process for Identifying Ambulatory Clinical Outcome Measures

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Background: Minimal guidance is available in the literature for approaches to implement or validate pharmacy clinical outcome measures. Given the variation in clinical practice from clinic-to-clinic and institution-to-institution, a clinician-centric, standardized process was sought to identify inputs and outputs for refinement.

Objectives: The aims of this project were to (1) implement the clinical outcome measures identified from the development process in a reproducible manner and, (2) validate the clinical outcome measures against a gold standard.

Methods: For implementation of a validated measure list, each clinic underwent an iterative process to define, refine, and delegate the build of measure inputs and outputs. Starting with a list of identified measures, the clinic workgroups met to discuss each measure and identify gaps in measure implementation. Once the measures were fully defined, formalized requests were made to the subject matter experts representing the Epic@UNC Willow Team and Pharmacy Analytics and Outcomes Team. Outputs from these two teams were validated by the clinic pharmacist via sensitivity and specificity analysis.

Results: Of 32 pre-identified measures, 29 were implemented through this study, identified in existing reports, or implemented through other means. Of the 14 measures implemented through SmartForm and report development process, 11 were determined to meet appropriate sensitivity parameters (i.e., sensitivity greater than 90%). Likewise, 9 of 14 measures were determined to meet appropriate specificity parameters (i.e., specificity greater than 90%). Time to implementation decreased from Pilot #1 (Cardiothoracic Transplant) to Pilot #4 (Gynecologic Oncology) as demonstrated through SmartForm development by 9 fewer days and report development by 31 fewer days turnaround time.

Conclusion: A standardized and reproducible process was developed for the implementation of clinical outcomes measures for CBP-embedded specialty clinics. The process was successfully utilized to develop measurable outputs for a variety of oncology and non-oncology specialty disease states based upon robust multidisciplinary stakeholder input.