Accepting the Challenge to Improve Medication-Reconciliation in Ambulatory Settings

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**INTRODUCTION/BACKGROUND:**

- CMS defines Medication Reconciliation as the process of identifying the most accurate list of all medications that the patient is taking by comparing the medical record to an external list of medications obtained from a patient, hospital or other provider (e.g., pharmacies).
- Accuracy of patients’ medication list presents a major challenge to all health care providers.
- Studies report that < 25% of medical records have accurate documentation.
- Literature typically focuses on in-patient settings, with limited emphasis on medication list accuracy in primary care clinics.
- Accuracy of medication reconciliation and documentation has been attributed to multiple human and system factors including:
  - Patient/physician literacy and social determinants of health
  - Lack of 2-way communication between pharmacy and physician
  - Provider knowledge of EHR
  - Primary care clinic workflows

**HYPOTHESIS**

Accuracy of family physician providers’ medication records is limited by their lack of knowledge regarding EHR med-rec features and a clear, logical med-rec clinic workflow.

**METHODS: SITES, PARTICIPANTS & TRAINING**

**PROJECT SITES & PARTICIPANTS**

- 2 family medicine residency clinics served as primary sites for this project.
  - Urban underserved
  - All Providers expected to participate: MA’s, RN’s, Physicians, Pharmacists

**BASELINE**

- Through an informal provider quiz, EPIC informatics support specialist’s feedback, and work group providers’ self-assessment it was determined that all providers lacked knowledge of EPIC & Workflow

**TRAINING**

- Training interventions were provided by project team members: EPIC Informatics Support Specialist, Chief Residents, Faculty, Pharmacists
- Training occurred at each clinic site using common materials/approach

**TRAINING INTERVENTION #1: EPIC/EMR**

- MA/RNs: 30 min session by EPIC specialist
- Residents: 45 min interactive session during core curriculum
- Faculty: 15 min during standing faculty meeting

**TRAINING INTERVENTION #2: MedRec Workflow**

- Attended all clinic meetings

**METHODS: TRAINING TOOLS**

![Diagram of MedRec Workflow]

**METHODS: POST TRAINING ASSESSMENT**

All providers completed a 2-part knowledge assessment adapted to their “role” and corresponding EPIC view and individual perception survey.

**KNOWLEDGE ASSESSMENT:**

1. EPIC medication-related icons including checked box, red push pin, and hospital bed, etc. (6 Items)
2. MedRec Ambulatory Workflow for MA/RN and physician provider (8 Items)

**PERCEPTION SURVEY:** Providers asked (6 items)

1. Estimate “percentage of our clinic’s patients (on which) you perceive that proper medication reconciliations are being performed”
2. “MedRec training has positively changed how I reconcile medications with our patients”

**RESULTS: EPIC, WORK FLOW & PERCEPTION**

<table>
<thead>
<tr>
<th>EPIC Knowledge Assessment (%) Correct</th>
<th>Physicians</th>
<th>MA/RN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper with writing symbol means</td>
<td>91%</td>
<td>100%</td>
</tr>
<tr>
<td>b. Inpatient medication required</td>
<td>80%</td>
<td>88%</td>
</tr>
<tr>
<td>c. Cell phone</td>
<td>61%</td>
<td>71%</td>
</tr>
<tr>
<td>d. On admits</td>
<td>61%</td>
<td>71%</td>
</tr>
<tr>
<td>e. Hospital bed symbol means</td>
<td>80%</td>
<td>88%</td>
</tr>
<tr>
<td>f. Patient faced with doctor</td>
<td>51%</td>
<td>100%</td>
</tr>
<tr>
<td>g. Medication on bed</td>
<td>77%</td>
<td>54%</td>
</tr>
<tr>
<td>h. Controlled substance</td>
<td>17%</td>
<td>54%</td>
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</tbody>
</table>

**MedRec Workflow (%) Correct**

<table>
<thead>
<tr>
<th>Questions linked to key steps in workflow: Overall % correct by group</th>
</tr>
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<tbody>
<tr>
<td>60</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Perception Survey</th>
<th>10%</th>
<th>15%</th>
<th>20%</th>
<th>25%</th>
<th>30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td>MA/RN</td>
<td>70%</td>
<td>80%</td>
<td>90%</td>
<td>100%</td>
<td>110%</td>
</tr>
</tbody>
</table>

**Medication reconciliation training has positively changed how you use/ review medication reconciliation?**

<table>
<thead>
<tr>
<th>Percentage Changed</th>
<th>Before</th>
<th>During</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase</td>
<td>14%</td>
<td>20%</td>
<td>26%</td>
</tr>
<tr>
<td>Decrease</td>
<td>76%</td>
<td>80%</td>
<td>84%</td>
</tr>
</tbody>
</table>

**DISCUSSION & NEXT STEPS:**

- Improving the accuracy of patient medication records is complex.
- 1st rapid cycle QI project was to assure that all providers are knowledgeable about EHR documentation and established clinical workflows.
  - A brief training intervention improved knowledge re: EPIC MedRec Workflow processes are more difficult to impact
- Next Steps – Initiate PDSA cycles to:
  - Reinforce workflow
  - Training for new hires/new resident class for EPIC & Workflow
  - Identify next phase via fishbone analysis to improve med-rec accuracy