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MeRiT: To Increase Number of Full Medicine Reconciliation Completed within 30 minutes by 50% for Patients with 2 or more Co-morbidities

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Project Background

Medication reconciliation (MR) is the process of obtaining the most up to date list of medications patient was taking prior to admission. The process involves multidisciplinary team (doctors, nurses and pharmacists) effort in reducing medication discrepancies. Pharmacists spend much time carrying MR and noticed there were duplicate efforts by the team, for example, patient and caregiver interviews and physical medication checks. This not only compromises patient review time but also increase patient's dissatisfaction and nurses' workload to help obtain patient's physical medications from patient or caregivers. There was also no platform of communication for any useful findings from any healthcare professionals. The aim of this project is to streamline the MR process for a more time-efficient result.

Mission Statement

To increase number of full medicine reconciliation completed by multidisciplinary team within 30 minutes by 50% for patients with 2 or more co-morbidities.

Methodology

1. Baseline time data was collected to verify root causes to the problem. Time spent at pre-implementation stage were recorded. Doctors, nurses and ward pharmacists will key in time spent performing MR as per routine workflow.
2. Brainstorming session to identify causes leading to increased time spent on MR.
3. Three rounds of multi-voting including non-weighted 1/2 rule and weighted 1/3 rule were used to narrow down the root causes.
4. Causes with zero votes were omitted which resulted in 19 causes identified.
5. Pareto Rule was used to further filter out the top 20% vital causes; 8 vital causes were identified as shown in the figure 1.

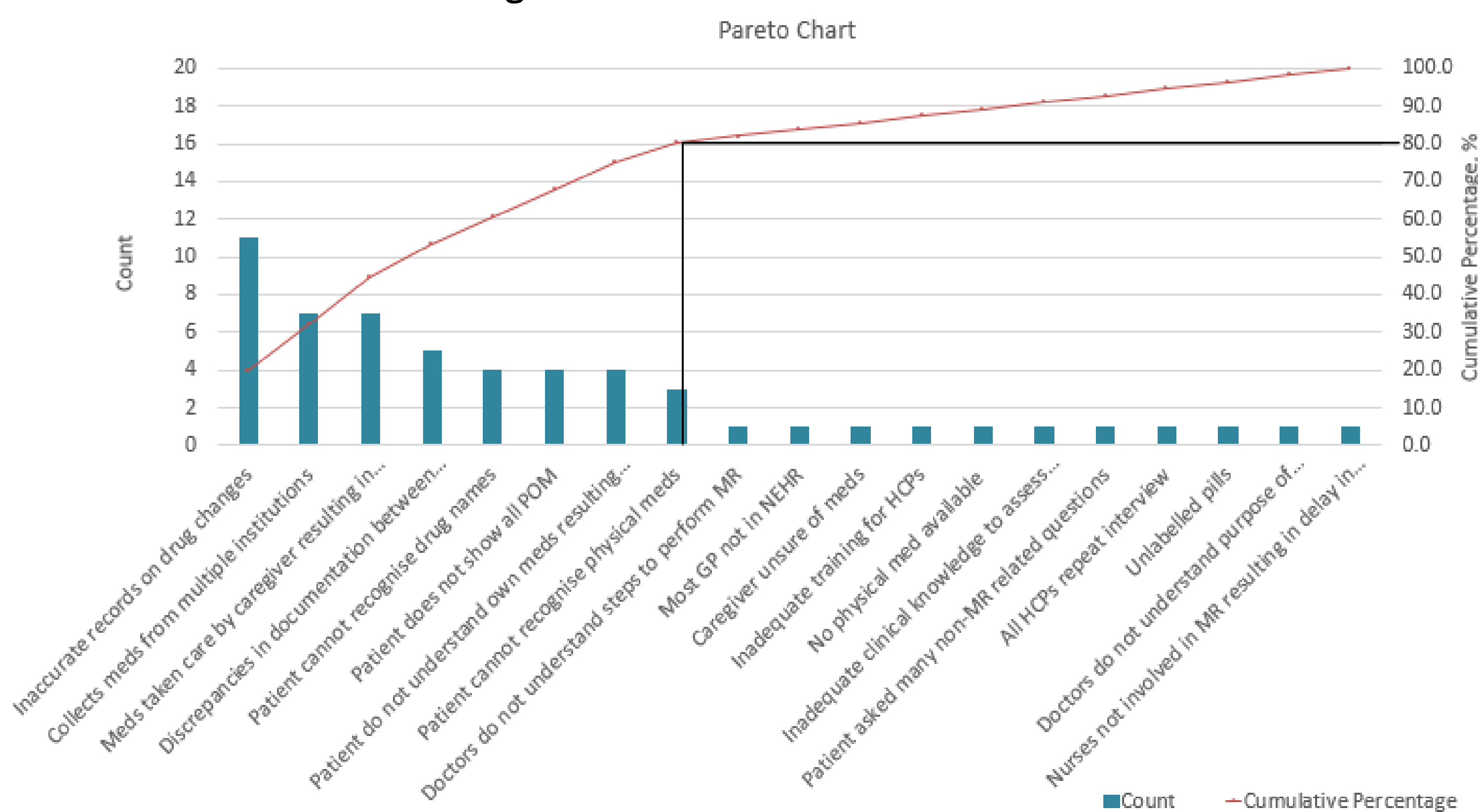


Figure 1: Pareto Chart to identify root causes

6. During implementation phase, a structured form with details required to be filled in by respective healthcare professionals and time recorded to perform the tasks was used.

Description of Intervention

Phase 1 baseline data collection was carried out at SKH Ward 4, 5, 12 and 13 for all MRs including those without any co-morbidities prior to admission. Results were analysed and team decided to redefine mission statement to only include patients with 2 or more co-morbidities as patients with less than 2 co-morbidities already has a baseline time data of less than 30 minutes.

Phase 2 baseline data collection with redefined mission statement was carried out at only Ward 12 and 13 because MRs performed at Ward 4 and 5 only were very minimal especially when Joint Admitting Ward (JAW) was started around September 2016.

Upon implementation phase, a detailed data collection form was used to provide clearer guidance on the steps to be performed and questions to be asked by each healthcare professional to minimise duplicate steps and better utilize information already obtained by other healthcare professionals.

Details of the form is as shown in Figure 2.

NURSE	DOCTOR	PHARMACIST
Start Time: <input type="text"/> am/pm	Start Time: <input type="text"/> am/pm	Start Time: <input type="text"/> am/pm
Did you perform any of the followings? 1. Ask patient/caregiver for availability of POM a) Yes b) No 2. Obtaining POMs (if any) a) Yes b) No 3. Asked who takes care of patient's medications? a) Yes b) No 4. Reminded caregivers to bring in POMs during next visit a) Yes b) No 5. Asked for any NON-oral chronic meds? a) Yes b) No 6. Asked for any meds collected from private sources (i.e. GP/overseas) a) Yes b) No 7. Documented details in Nursing Care Record under POM section a) Yes b) No	<ul style="list-style-type: none"> Start time = Time upon first review patient's medication history; both in system/paper copy 1. Did you interview the patient/caregiver about pre-admission medications? a) Yes b) No 2. Compliance issues (if any): _____ _____ 3. Were these meds checked? <ul style="list-style-type: none"> Eye/ear/drops Injections/patches Traditional meds Supplements 4. Reasons for suspending/stopping/adding new meds documented in Clin Doc? a) Yes b) No Stop Time: <input type="text"/> am/pm <ul style="list-style-type: none"> Stop time = Time upon completion of ordering all medications in CLMM 	First attempt Start Time: <input type="text"/> am/pm <ul style="list-style-type: none"> Start time = Time upon first review of patient's medication history; both in system/paper copy Stop Time: <input type="text"/> am/pm <ul style="list-style-type: none"> Stop time = Time upon completion of SCM med recon documentation Comments: _____ Second attempt* (if applicable) Start Time: <input type="text"/> am/pm <ul style="list-style-type: none"> Start time = Time upon re-starting MR process Stop Time: <input type="text"/> am/pm <ul style="list-style-type: none"> Stop time = Time upon completion of SCM med recon documentation Comments: _____ *Second attempt is applicable for any reasons which cause cessation of med recon process during first attempt No. of co-morbidities: _____ No. of CHRONIC medications: a) <5 b) 6-10 c) 11-15 d) >15

Figure 2: Data collection form for implementation phase

Results

PHASE 1 BASELINE RESULTS (Mid-May to Mid-June 2016)

Data for 15 full MRs were collected, out of which 7 had less than 2 co-morbidities prior to admission. Average time taken for these MRs were 32 minutes.

PHASE 2 BASELINE RESULTS (Mid-June to September 2016):

Data for 30 full MRs with 2 or more co-morbidities were collected. **Only 10% of these MRs were performed under 30 minutes.** Average time taken for these full MRs was 45 minutes, with longest time taken of 120 minutes.

PRELIMINARY POST-IMPLEMENTATION RESULTS (Oct to beginning Dec 2016):

Total of 56 data collected and 91% of full MRs with 2 or more co-morbidities were performed within 1 hour with an average time taken of 37 minutes for each MR. **55% of these MRs were completed within 30 minutes**, with longest time taken of 97 minutes.

Also, with a checklist of questions, doctors and nurses found that it was useful as a reminder to ask questions that were often missed out. Pharmacists were able to perform physical medications check with lesser delays and can focus questioning on compliance issues rather than sorting out logistical matters. Collection of data is still ongoing till end of December 2016.

In order to achieve a secondary outcome to explore the satisfaction rate for healthcare professional with this implementation, a satisfaction survey will be conducted after completing data collection.

Conclusion/Future Plans

The challenge faced during implementation phase was frequent rotations of medical team and new batch of nurses added to the piloted wards resulting ward pharmacists to re-conduct briefing to ensure the "Doctor" column is filled. With the ongoing positive results, we foresee the sustainability of this practice and hopefully can be packaged into the orientation programme for doctors and nurses upon their rotation to SKH.

Positive feedbacks or results may be presented to senior management to effect necessary changes in IT system to create a common platform in existing IT system to share MR findings from respective HCP involved.

With a structured guideline and a common platform (currently on the form) for sharing findings, all healthcare professionals are carrying out the process in a more time-efficient manner. A structured method is required to carry out MR and all HCP should recognise their roles in the process as it is a multi-disciplinary effort to minimise medication error.