THE ART OF THE MEDICATION HISTORY: AVOIDING COMPOUNDING MISTAKES

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LEARNING OBJECTIVES

1. Describe common methods for obtaining medication histories and the inherent flaws associated with them

2. Apply systematic, but practical approaches to optimize accuracy and completeness of medication histories and assess for medication adherence

3. Discuss opportunities for streamlined reviews of medication histories in conjunction with provider medication reconciliation

ROADMAP

- Background (LO-1)
  - Common Methods
  - Missed Opportunities and Flaws
- Standardizing Processes (LO-2)
  - Optimizing accuracy and completeness
  - Incorporating adherence screening
- Key Takeaways (LO-3)
- Active Learning
- Self-Assessment Questions
- Summary

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DEFINITIONS

Medication Discrepancy (Coleman 2005)	**Inconsistencies in medication orders between two different medication lists as identified through systematic medication reconciliation.**
Medication History (Gleason 2012)	Process of gathering the best possible medication list of what the patient is currently taking and past medication allergies or adverse effects from at least 2 sources.
Medication Reconciliation (AHRQ 2020-2)	The process of reviewing the patient's complete medication regimen at the time of admission, transfer, and discharge and comparing it with the regimen being considered for the new setting of care in order to avoid such inadvertent inconsistencies across transitions in care.
Medication Therapy Problem (Cipolle 2012)	Any undesirable event experienced by a patient that involves, or is suspected to involve, drug therapy, and that interferes with achieving the desired goals of therapy and requires professional judgment to resolve.

BACKGROUND

- **> 33% of medication histories contain medication-related discrepancies (underestimate)**
  - Inefficient and heterogeneous processes (and terminology) even within single institutions
- **Streamlining methods of interviewing patients while obtaining medication histories that are followed by pharmacist validation**
  - Shown to better identify major medication safety and adherence concerns compared with non-pharmacy providers
  - Triaging resolution of medication discrepancies with open communication among multi-disciplinary team members further optimizes safety within comprehensive transitions of care models

Gleason K, et al. *J Gen Intern Med* 2010;25(5):441–7.
Digiantonio N, et al. *P T*. 2018;43(2):105–110.
Bowman C, et al. *J Pharm Pract.* 2019;32(1):62-7.
Buckley M, et al. *Ann Pharmacother* 2013;47(12):1599–1610.

BACKGROUND

American College of Clinical Pharmacy White Papers

Stranges P, et al. 2020

- Addresses elements of roles/approaches pharmacy team members in completing transitions of care activities (including medication histories)
- Heterogeneity and best-practices are addressed.

King P, et al. 2020

- Addresses quality measure standardization for structures, processes, and outcomes with associated metrics.
- Heterogeneity in identification of medication discrepancies and medication therapy problems.
- Recommends "intermediate" quality measures associated with medication processes potential surrogate endpoints to clinical and economic outcomes.

Stranges P, et al. *J Am Coll Clin Pharm*. 2020;3(2):532-45.
King P, et al. *J Am Coll Clin Pharm*. 2020 [*accepted, pending publication*]

COMMON METHODS

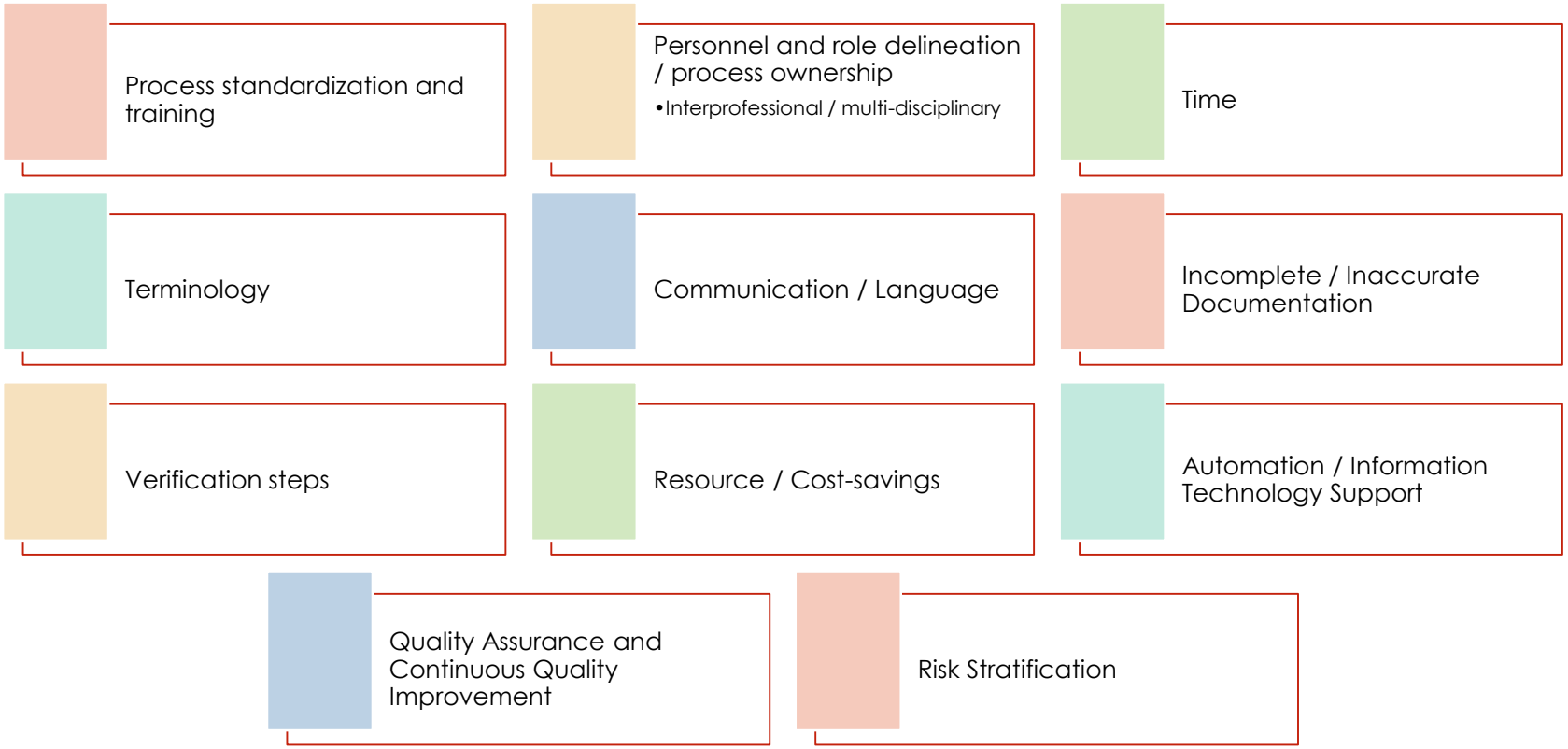
Non-Pharmacy Personnel	Pharmacy Personnel
• Physician / Other Providers • Nurse • IT • MA • Others	• Pharmacists • Pharmacy Technicians / Assistants • Pharmacy learners

COMMON METHODS

Questions

- Source of information
  - Patient vs. other individual
  - Pharmacy vs. pharmacies
  - Documentation from health record (internal or external)
- Lines of questioning
  - Open vs. Close-ended
    - "Any changes to your medications?"
    - "Do you take any medicine?"
    - "What pharmacy do you go to?"
    - " Do you take your medications regularly?"
- Timing during encounter

MISSED OPPORTUNITIES



STANDARDIZING PROCESSES

Optimizing accuracy and completeness

- Lines of questioning **(It Makes All The Difference!)**
  - Early verification of most reliable primary information source
  - Balance of open- and close-ended questions
- Adherence and Medication Access Screening
- Shared Language and Terminology
- Documentation Components
- Clinical Assessment
- Communication / Hand-off / Triage

EXAMPLE

Best Possible Medication History (BPMH)

- "Most accurate list of medications the patient ***should*** be taking and also includes medications the patient is ***actually*** taking prior to admission (i.e., documents adherence)."

Components

- Name of each medication
  - Formulation (e.g., extended release)
  - Dosage
  - Route Frequency
  - Purpose
  - Non-prescription medications (e.g., samples, over-the-counter drugs, vitamins, herbals, nutraceuticals and health supplements)
- Recent changes [prescriber directed or not]
- Time of last dose
- Allergies and reactions
- Name and specialty of prescribers
- Contact information of **ALL** pharmacies

EXAMPLE

Questions to elicit a complete medication list (according to MARQUIS BPMH):

Begin with an open-ended question that cannot simply be answered with a yes or no.

- What medications do you take at home?

Ask about scheduled medications.

- Which medicines do you take every day, regardless of how you feel?

Ask about PRN medications.

- Which medicines do you take only sometimes?
- What symptoms prompt you to take them?
- How many doses per week do you take?
- What's the most often you are allowed to take it?
- Do you often take something for headaches? Allergies? To help you fall asleep? When you get a cold? For heartburn? For constipation?

Fill in gaps

- For each medication, elicit the dose and time(s) of day the patient takes it
- When appropriate, ask about formulation (e.g., extended release forms of diabetes and blood pressure agents) and route of administration (e.g., by mouth, in both eyes).

EXAMPLE

Assessing the purpose of each medication may lead to additional prompts.

- What is each medicine for?
- Do you take any other medications for that condition?

Ask about medications for specific conditions that the patient has.

- What medicines do you take for your diabetes, high blood pressure, etc.?

Ask about medications prescribed by subspecialists who follow the patient based on the patient's problem list.

- Does your [arthritis doctor] prescribe any medications for you?

Ask about medications that are easy to forget,

- Including those that are not taken orally, are taken at night, or are used at longer intervals, such as weekly or monthly.
  - Do you take any inhalers, nebulizers, nasal sprays, ointments, creams, eye drops, ear drops, patches, injections or suppositories?
  - Do you take any medications in the evening or at night?
  - Do you take any medicines once a week or once a month?

Ask about non-prescription products.

- Which medicines do you take that don't require a prescription (over-the-counter medicines, vitamins, herbals and minerals)?

EXAMPLE

- **<u>Incorporating adherence screening</u>**

- Assess recent medication use and adherence
  - When did you take the last dose of each of your medicines? (This is especially important for antihypertensives, analgesics, anticoagulants, insulin and oral hypoglycemics.)
  - Tell me about any problems that you've had taking these medicines as prescribed.
  - Many patients have difficulty taking their medications exactly as they should every day. In the last week, how many days have you missed a dose of your [medication]?

EXAMPLE

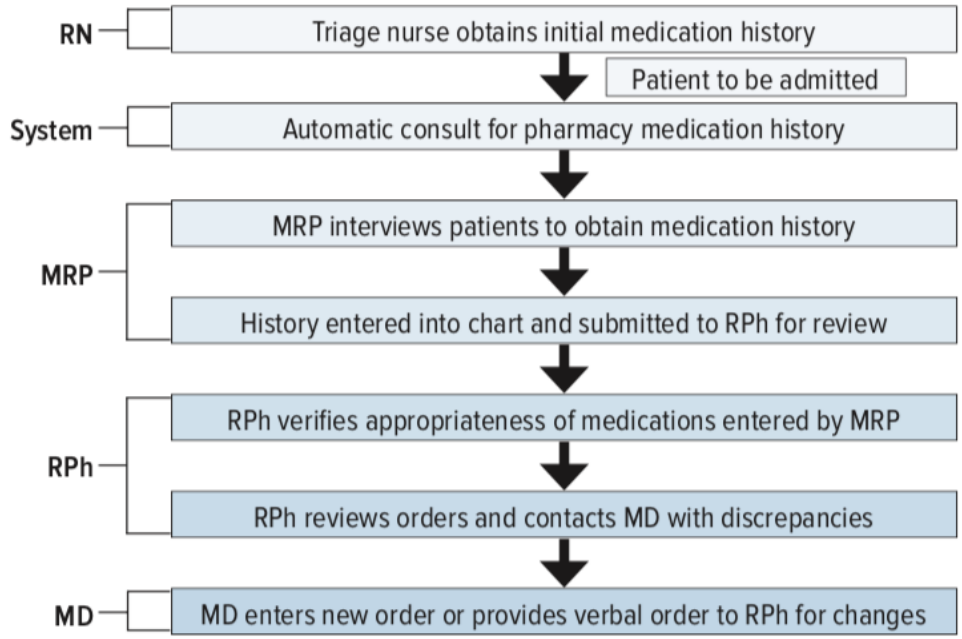
- **Documentation**
  - Variance between each medication patient is ***prescribed*** versus what they are ***actually*** taking
  - Complete medication information
    - Drug, dose, route, frequency, strength, formulation, indication, start/stop dates
    - Adherence
  - Allergies and reactions
  - All information sources
  - Impression of overall quality of medication history

COMMUNICATION

- **Communication**
  - Speak the same clinical language, emphasizing consistency with terminology and documentation
    - Ex: medication history vs. reconciliation
    - Ex: medication discrepancy vs. medication therapy problem
  - Clinicians should integrate two-way, open communication (i.e., within electronic health records)
    - Accessible by entire health-care team
  - Triaging concerns to other members of the multi-disciplinary team for ongoing resolution or hand-off
  - Clear ownership by ALL clinicians (*and administrators*) to address medication safety concerns

MULTI-DISCIPLINARY PROCESSES

Figure 1 Medication History Workflow



MD = medical doctor; MRP = medication reconciliation personnel; RN = registered nurse; RPh = registered pharmacist.

Digiantonio N, et al. *P T*. 2018;43(2):105–110.

MULTI-DISCIPLINARY PROCESSES

- Results summary

Digiantonio N, et al. *P T*. 2018;43(2):105–110.

MULTI-DISCIPLINARY PROCESSES

- Figure 1. Components of the pharmacy process for transitions of care at the study site.

Fosnight S, et al. *Am J Health-Syst Pharm*. 2020;77(12):943-9.

MULTI-DISCIPLINARY PROCESSES

Adherence Screening: COST-B

Table 1. Quick Medication Adherence Screen: COST-B Method

Nonadherence Issue	Sample Open-ended Question
Cost	Medications can be expensive. How do you afford to pay for your medications?
Organization	How do you remember to take your medications when they are due?
Side effects	What side effects are you having from your medications?
Transportation	How do you obtain your medications?
Benefit	How are your medications helping you?

Fosnight S, et al. *Am J Health-Syst Pharm*. 2020;77(12):943-9.

MULTI-DISCIPLINARY PROCESSES

- Results (N=284 consecutive patients; no exclusion criteria)

Figure 2. Readmission rates at various stages of the intervention project.

Mean medication changes per patient: 9.56 (w/ ~1 clinically significant)

Readmission rates and mean length of stay with partial (n=137)vs. full (n=147) pharmacy intervention: 20.4% vs. 10.2% (p=0.003) & 5.3 vs. 3.6 days (p=0.016), respectively

Fosnight S, et al. *Am J Health-Syst Pharm*. 2020;77(12):943-9.

SO WHAT?

QUESTIONING LINES

- "Assume all medication lists are inaccurate"
- Consider BPMH approach
  - See Example Presentation Online

Taking a "Best Possible Medication History"

One of the most important things you can do to keep patients safe

By, Jeffrey L. Schnipper, MD, MPH, FHM

https://slideplayer.com/slide/7071513/

LANGUAGE AND TERMINOLOGY

- Pharmacy Quality Alliance. PQA Endorses A New Monitoring Measure to Evaluate Resolution of Medication Therapy Problems. May 2019. Available from www.pqaalliance.org/pqa-endorses-new-monitoring-measure.
- Pharmacy Quality Alliance. PQA Medication Therapy Problem Categories Framework. August 2017. Available from www.pqaalliance.org/assets/Measures/PQA%20MTP%20Categories%20Framework.pdf.
- By the 2019 American Geriatrics Society Beers Criteria. Update Expert Panel. American Geriatrics Society 2019 Updated AGS Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc. 2019 Apr;67(4):674-94.
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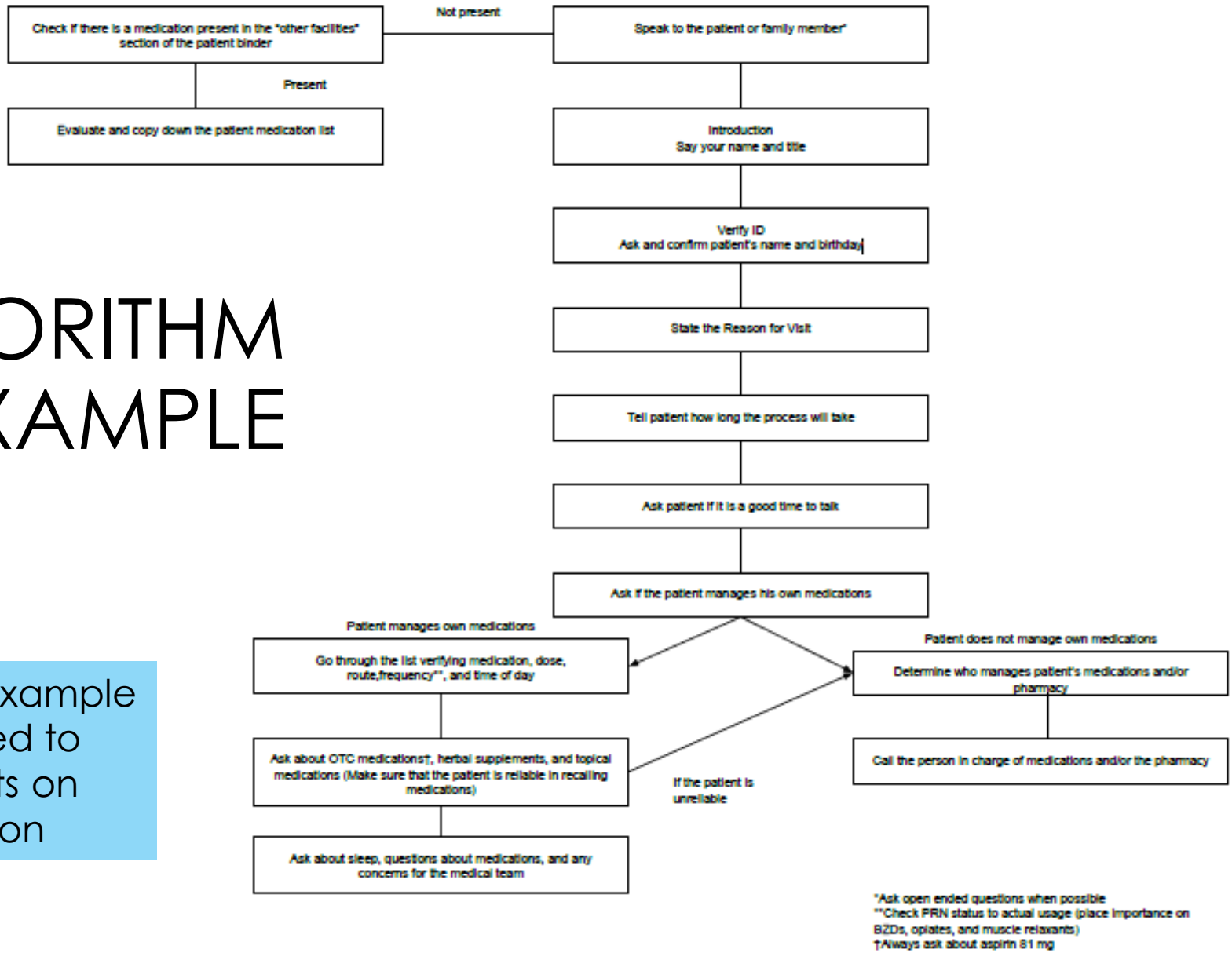
- O'Mahony D, O'Sullivan D, Byrne S, O'Connor MN, Ryan C, Gallagher P. STOPP/START criteria for potentially inappropriate prescribing in older people: version 2. Age Ageing. 2015 Mar;44(2):213-8.
- Zullo AR, Gray SL, Holmes HM, Marcum ZA. Screening for Medication Appropriateness in Older Adults. Clin Geriatr Med. 2018 Feb;34(1):39-54.

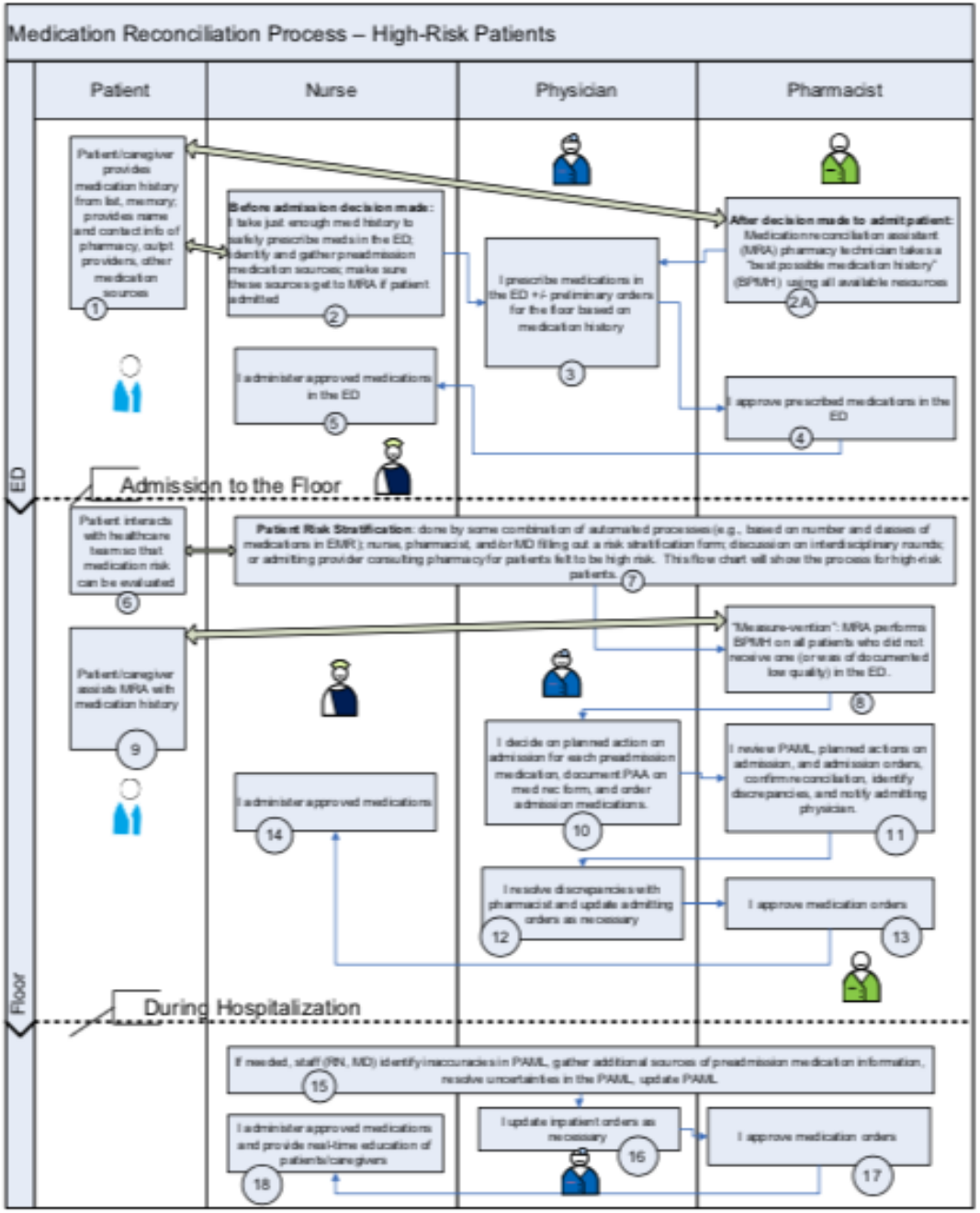
COMPREHENSIVE INTERVENTIONS AND MULTI-DISCIPLINARY ROLES

ALGORITHM EXAMPLE

Personal example provided to students on rotation

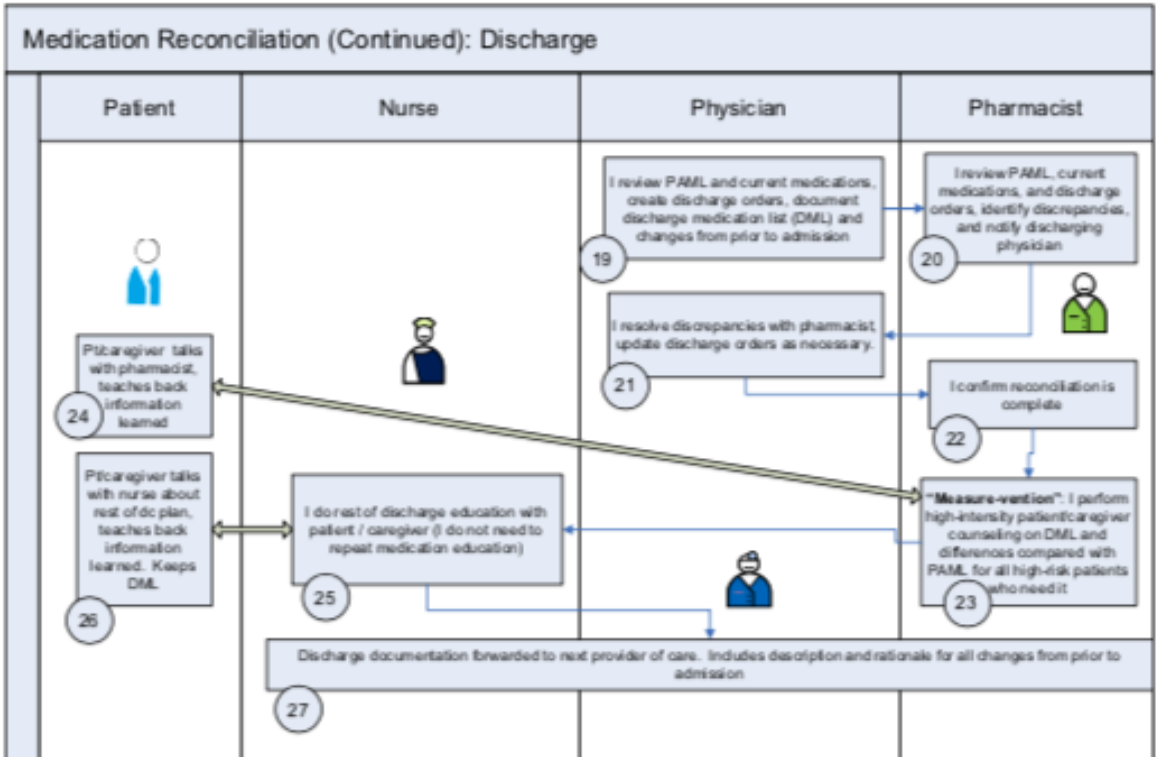


ALGORITHM EXAMPLE



www.hospitalmedicine.org/MARQUIS.

ALGORITHM EXAMPLE



www.hospitalmedicine.org/MARQUIS.

KEY TAKEAWAYS

Identify current medication history obtainment procedures (including documentation, adherence screening, personnel, etc) in your own practice setting for missed opportunities to improve medication history accuracy

Identify processes within your own practice setting to facilitate review of medication history documentation as it aligns with active inpatient medication orders up to and through the point of discharge

RESOURCES AND TOOLKITS

Medication History/Reconciliation

- World Health Organization. High 5s Project: Assuring Medication Accuracy in Transitions of Care, Implementation Guide. Available from: https://www.who.int/patientsafety/implementation/solutions/high5s/h5s-guide.pdf?ua=1.
- Agency for Healthcare Research and Quality. Medications at transitions and clinical handoffs (MATCH) toolkit. Available from: http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/match/index.html .
- Queen's University, Canada. Medication Reconciliation: A Learning Guide. Available from: http://meds.queensu.ca/central/assets/modules/mr/.
- AHRQ and Society of Hospital Medicine. Multi-Center Medication Reconciliation Quality Improvement Study (MARQUIS). Available from: http://www.hospitalmedicine.org/web/quality_innovation/implementation_toolkit/MARQUIS/overview_medication_reconciliation.aspx.

RESOURCES AND TOOLKITS

Medication History/Reconciliation

- Agency for Healthcare Research and Quality. Medications at Transitions and Clinical Handoffs (MATCH) Toolkit for Medication Reconciliation. Available from: https://www.ahrq.gov/patient-safety/resources/match/index.html.
- Society of Hospital Medicine. Better Outcomes for Older Adult Safe Transitions (BOOST) Toolkit. 1st ed. Available from: http://www.hospitalmedicine.org/web/quality_innovation/implementation_toolkits/Project_Boost/web/quality_innovation/implementation_toolkit/boost/boost_interventions/boost_tools.asp

RESOURCES AND TOOLKITS

Medication History/Reconciliation

- American Pharmacists Association (APhA) Transitions of Care Toolkit. Available from: https://www.pharmacist.com/transitions-care
- American Society of Health-System Pharmacists (ASHP) and American Pharmacists Association (APhA). ASHP–APhA medication management in care transitions best practices. Available from: *http://media.pharmacist.com/practice/ASHP_APhA_MedicationManagementinCareTransitionsBestPracticesReport2_2013.pdf*

RESOURCES AND TOOLKITS

Medication Adherence

- American Association of Colleges of Pharmacy (AACP) and National Community Pharmacists Association (NCPA) Medication Adherence Educators Toolkit
  - American Association of Colleges of Pharmacy and National Community Pharmacists Association. Medication adherence educators toolkit. *https://www.aacp.org/sites/default/files/aacp_ncpa_medication_adherence_educators_toolkit_0.pdf*

RESOURCES AND TOOLKITS

Medication Access

- Clayton CD, Veach J, Macfadden W, Haskins J, Docherty JP, Lindenmayer JP. Assessment of clinician awareness of nonadherence using a new structured rating scale. J Psychiatr Pract. 2010 May;16(3):164-9.
- Resources for Government Assistance
  - Medicare Prescription Drug Assistance Tool. Available from: www.Medicare.gov/prescription/home.asp.
  - Eldercare. Available from: https://www.medicareinformation.com/.
- Resources for Uninsured or Underinsured
  - Patient Advocate Foundation. Available from: https://www.patientadvocate.org/.
  - Needy Meds. Available from: http://www.needymeds.org.
  - Rx Outreach. Available from: http://rxoutreach.org.
  - Rx Assist. Available from: http://www.rxassist.org.
  - GoodRx. Available from: http://www.goodrx.com.
  - CoverMyMeds. Available from: https://www.covermymeds.com/main/.
  - SingleCare. Available from: https://www.singlecare.com/prescription-discount-card.
- Resources for Co-pay Assistance
  - Patient Advocate Foundation Co-Pay Relief. Available from: https://www.copays.org.
  - HealthWell Foundation. Available from: https://www.healthwellfoundation.org .

RESOURCES AND TOOLKITS

Interprofessional Collaboration

- Agency for Healthcare Research and Quality, Team STEPPS. Available from https://www.ahrq.gov/teamstepps/index.html.
- American Medical Association, Embedding Pharmacist into the Practice. Available from https://edhub.ama-assn.org/steps-forward/module/2702554.
- Collaborative Care Alliance. Available from https://www.createbettercare.org/.
- Interprofessional Education Collaborative Resources. Available from https://www.ipecollaborative.org/resources.html.
- National Center for Interprofessional Practice and Education Resource Center. Available from https://nexusipe.org/informing/resource-center-start.

SELF-ASSESSMENT QUESTIONS

SUMMARY

- Medication lists are almost always inaccurate
- Lines of questioning are essential to ensure medication related information is complete
- Integrating adherence screening is needed
- Standardized, comprehensive, multi-disciplinary approaches are most effective
- Communication is critical and must use common language and terminology
- Documentation should note what is prescribed versus what is actually being taken (in all settings)
- Leveraging pharmacy personnel has been shown to be most effective in identifying and resolving medication discrepancies and medication therapy problems

QUESTIONS?

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