Identifications of medicines in an EHR

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A Puzzling Problem

• Why has it been so difficult to include medicines and a medication history in the EHR?
• Why are most of the medical errors due to errors in medications?
What do we need?

• Within the EHR, we need to know the drug and its prescribing components.
• We need to know management or administration details.
• External to the EHR we need to know additional attributes of the drug.
• The EHR System needs to provide a set of functionalities to support the medication process.
Prescribing

- Name of medicine
- Strength of medicine
- Amount dispensed
- Form of medicine
- Method/route of administration (site)
- Frequency medicine is taken
- Prescribing modifiers
- Prescribing conditionals
Administration Details

- Date prescribed
- Date dispensed
- Date medicine is all taken
- Number of refills
- Daily dose
- Prescribing clinician
- Dispensing physician
Conditional Entries

- Drug stopped for adverse reaction
- Reason for not giving drug
Medication history

- List of **ALL** active medicines a patient is taking. Includes prescribed drugs, over the counter drugs, complementary and alternative medicines.
- Drugs prescribed elsewhere
- List of all allergies specific to cause and response
Past Medicine History

- Drug name, daily dose, start dates, end dates
- If any reaction to drug note
Metadata Dictionary

• Contains additional information about medicine that may be used for management, query, or other supporting activities

• Includes therapeutic class, potential drug interactions, brand or generic tag. If brand generic equivalent, manufacturer

• ID in one or more controlled terminologies

• Therapeutic equivalents less expensive
THERAPIES SECTION
1 DRUG NAME
2 FREQUENCY TABLE
3 ROUTE TABLE
4 METHODS OF ADMINISTRATION TABLE
5 DRUG FORM TABLE
6 THERAPEUTIC CATEGORY TABLE
7 PRESCRIBING MODIFIERS TABLE
8 PRESCRIBING CONDITIONALS TABLE
9 MANUFACTURERS SECTION
10 DRIP SHEET
11 TRANSLATION TABLE
12 CODED COMMENTS
13 SITE TO ADMINISTER DRUG TABLE
14 REASON FOR NOT GIVING DRUG TABLE
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<tr>
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NAME: CALCIUM CARBONATE 650 MG T
SIG: 1 PO QID
DAILY DOSE: 2600
MD: STEPHEN J COX
STARTED: 10/12/99
WRITTEN: 10/12/99
EXPIRATION: 12/10/99

SELECT FOR UPDATE (APQDNRSWEX):
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**BETHANECHOL**

**DATE THERAPY FOR (MO/DA) =** 9/19
Current Problems
- Diabetic Neuropathy
- Ulcer-Lower Limb left foot
- Diabetic Retinopathy
- Retinal Laser Therapy OU
- Diabetic Nephropathy
- Nephrotic Syndrome
- Hypertension
- Atherosclerotic Cardiovascular Disease coronary
- Acute Myocardial Infarction inferior
- Angioplasty - Coronary Artery LCX
- Hypercholesterolemia
- Tobacco Abuse

Current Medications
- ASPIRIN 325 mg TAB 1 PO QD
- FLUVASTATIN Na 20 mg CAP 1 PO QHS
- HUMULIN N 100 units/ml INJ 32u sq acB, 12u sq acB
- HUMULIN R 100 units/ml INJ 16u sq acB, 12u sq acB
- Isosorbide Dinitrate ORAL 30 mg TAB 1 PO TID
- LISINOPRIL 10 mg TAB 1 PO QD

Action List
- WT
- BP
- foot exam
- hgba1c
- follow up visit
- ophthalmology consult
- smoking cessation
- Lisinopril 10 mg po qd

Allergies
- PENICILLAMINE - rash