The Medical Neighborhood: HIT Enablement of Medication-Related Care Coordination
Collaborative Members

Founding Organizations
- 9 Professional Pharmacy Associations
- Represents over 250K members in all practice settings

Founding Members
- AACP-ACCP-ACPE-AMCP-APhA-ASCP-ASHP-NASPA-NCPA

Associate Members
- Surescripts
- NCPDP
- RelayHealth
Primary Goal – Why the Collaborative Exists

Effective Medication Use

- To assure the meaningful use of standardized electronic health records (EHR) that supports safe, efficient, and effective medication use, continuity of care, and provides access to the patient-care services of pharmacists with other members of the interdisciplinary patient care team.

Pharmacist’s Role in HIT

- To assure the pharmacist’s role of providing patient-care services is integrated into the National HIT interoperable framework.
Collaborative’s Primary Goal for Patient Centered Medical Home (PCMH)

- To assure the pharmacists providing patient care services, particularly as members of the inter-professional teams supporting PCMH and ACO structures, are integrated from a technology standpoint
Education and Outreach

Inside
- Pharmacists-Faculty-Students-Pharmacy Staff

Ancillary
- Providers-vendors-networks-payers
- Researchers

Outside
- Policymakers-healthcare providers
- Patients-consumer organizations
PCPCC Medication Management – Resource Guide

• "Integrating Comprehensive Medication Management to Optimize Patient Outcomes"

• [http://www.pcpcc.net/content/medication-management](http://www.pcpcc.net/content/medication-management)
The Need for Comprehensive Medication Management Services

• "More than 3.5 billion prescriptions are written annually in the US"

• *Four out of five patients who visit a physician leave with at least 1 prescription*

• *Medications are involved in 80% of all treatments and impact every aspect of a patient’s life “*

Source: "Integrating Comprehensive Medication Management to Optimize Patient Outcomes“ Section 1 page 4 [http://www.pcpcc.net/content/medication-management](http://www.pcpcc.net/content/medication-management)
The 10 Steps to Achieve Comprehensive Medication Management

1. Identify patients that have not achieved clinical goals of therapy

2. Understand the patient’s personal medication experience/history and preferences/beliefs

3. Identify actual use patterns of all medications including OTCs, bioactive supplements, and prescribed medications

Source: "Integrating Comprehensive Medication Management to Optimize Patient Outcomes” Section 4 page 14 http://www.pcpcc.net/content/medication-management
The 10 Steps to Achieve Comprehensive Medication Management

4. Assess each medication (in the following order) for appropriateness, effectiveness, safety (including drug interactions), and adherence, focused on achievement of the clinical goals for each therapy.

5. Identify all drug therapy problems (the gap between current therapy and that needed to achieve optimal clinical outcomes).

Source: "Integrating Comprehensive Medication Management to Optimize Patient Outcomes” Section 4 page 14 http://www.pcpcc.net/content/medication-management
The 10 Steps to Achieve Comprehensive Medication Management

6. Develop a care plan addressing recommended steps, including therapeutic changes needed to achieve optimal outcomes.

7. Patient agrees with and understands care plan, which is communicated to the prescriber/provider for his/her consent/support.

8. Document all steps and current clinical status versus goals of therapy.

Source: "Integrating Comprehensive Medication Management to Optimize Patient Outcomes" Section 4 page 14 http://www.pcpcc.net/content/medication-management
The 10 Steps to Achieve Comprehensive Medication Management

9. Follow-up evaluations with the patient are critical to determine effects of changes, reassess actual outcomes, and recommend further therapeutic changes to achieve desired clinical goals/outcomes.

10. Comprehensive medical management is a reiterative process—care is coordinated with other team members and personalized (patient unique) goals of therapy are understood by all team members.

Source: "Integrating Comprehensive Medication Management to Optimize Patient Outcomes" Section 4 page 14 [http://www.pcpcc.net/content/medication-management](http://www.pcpcc.net/content/medication-management)
Medical Neighborhood

- Patient-Centered Medical Home
- Primary Care Physician/Care Coordinator
- Pharmacists – Patient Care Services MTM - Med Rec
- Pharmacy – Prescription Dispensing & Immunizations
- Hospital – Discharge Summary Med Rec
- Laboratory
- PHR
MU of EHR – CMS Incentives for Eligible Professionals (EP) and Eligible Hospitals (EH)

Stage 1 – January 1, 2011

Stage 2 – January 1, 2013

Stage 3 – January 1, 2015

Care Coordination (MR) & Patient Safety (ADE) Domains

ONC Defining in 2010-2011

Complete
Electronic Health Record – Concept Overview

The EHR represents the integration of healthcare data from a participating collection of Systems for a single patient.

Each Patient encounter with a department results in the capture of data.

Electronic Health Record
Patient (x)

- Admin Data (x)
- Admin Meta Data (x)
- Nursing Data (x)
- Nursing Meta Data (x)
- Lab Data (x)
- Lab Meta Data (x)
- Clinical Data (x)
- Clinical Meta Data (x)
- Radiology Data (x)
- Radiology Meta Data (x)
- Pharmacy Data (x)
- Pharmacy Meta Data (x)
- Coord of Care Data (x)
- EHR Patient ID (x)
- EHR Context Data (x)

Coordination of Care
Patient (x)

The EHR Network integrates data from the systems of participating organizations to create the EHR for a specific Patient/Subject.

EHR Network Services
- Data Discovery
- Data Management
- EHR Security
- System Data Registry
- EHR Business Rules
- EHR Patient Index

EHR Network
- System Data *
- System Meta Data *
- System Patient ID
- Context Data *

EHR Data

* Using Terminology from Standard Nomenclature or Structured Vocabulary

Pharmacist EHR Information Exchange Model

- Pharmacy Practice System
- Pharmacist EHR
- HIE or e-Prescribing Network
- Other EHRs and PHRs
HL7 EHR Functional Profile

Direct Care
Supportive
Information Infrastructure
### Pharmacist EHR Functionality Example

<table>
<thead>
<tr>
<th>ID#</th>
<th>Type</th>
<th>Name</th>
<th>Statement/Description</th>
<th>See Also</th>
<th>Conformance Criteria</th>
</tr>
</thead>
</table>
| DC.1.8.4| F    | Manage Patient Clinical Measurements | **Statement:** Capture and manage patient clinical measures, such as vital signs, as discrete patient data. **Description:** Within the context of an episode of care, patient measures such as vital signs are captured and managed as discrete data to facilitate reporting and provision of care. Other clinical measures (such as expiratory flow rate, size of lesion, etc.) are captured and managed, and may be discrete data. | IN.2.5.1  
IN.2.5.2 | 1. IF required by the scope practice, THEN the system **SHALL** capture patient vital signs such as blood pressure, temperature, heart rate, respiratory rate, and severity of pain as discrete elements of structured or unstructured data.  
2. IF required by the scope of practice, THEN the system **SHALL** capture psychiatric symptoms and daily functioning as structured or unstructured data.  
3. The system **SHOULD** capture other clinical measures such as peak expiratory flow rate, size of lesions, oxygen saturation, height, weight, and body mass index as discrete elements of structured or unstructured data.  
4. The system **SHOULD** compute and display percentile values when data with normative distributions are entered.  
5. The system **MAY** provide normal ranges for data based on age and other parameters such as height, weight, ethnic background, gestational age. |
Pharmacist/Pharmacy Provider EHR (PP-EHR) Process

**Define**
- Through the SDO’s, define minimum data set (EHR functional profile)
- SDO balloting and ANSI accreditation

**Certify**
- NIST defines the certification criteria
- CCHIT and other certification entities certify the PP-EHR

**Adopt**
- System vendors certify the PP-EHR
- Pharmacists use the certified PP-EHR

**Shared EHR**
- PP-EHR adoption leads to pharmacists share EHR information with other members of the interdisciplinary patient-care team
- Pharmacists’ provided patient care services demonstrates value and improves quality of care
Medication Management Value Set

Define
• Gap analysis on the MTM Reasons-Actions-Results proposed codes to SNOMED-CT

Create Value Set
• Create an MTM “Value Set”

Ongoing
• Provide ongoing mechanism for identifying SNOMED-CT codes that don’t have codes
MU of EHR

EHR Measurement Goals

Value Set

MU of EHR
Items Necessary for Comprehensive Medication Management

- Pt’s Med Experience Record
- Medication Allergies & Adverse Reactions
- Med History (including Immunizations)
- Current Med Record
- Active Drug Therapy Problem List
- Therapeutic Treatment Plans shared with Pt and Practitioner

Source: "Integrating Comprehensive Medication Management to Optimize Patient Outcomes“ Section 4 page 11 [http://www.pcpcc.net/content/medication-management](http://www.pcpcc.net/content/medication-management)
Shared Information Available Using HIT Necessary for Comprehensive Medication Management

1. Connect indication for medication (reason for use)
2. Identify, resolve, and prevent drug therapy problems: Appropriateness, Effectiveness, Safety and Adherence
3. Record and evaluate drug therapy outcomes therapy; personalized therapy goals against each medical condition outcome; graph lab levels against drug changes; and record outcomes changes in med details
4. Provide post-marketing surveillance on appropriateness, effectiveness, safety, and adherence variables

Source: "Integrating Comprehensive Medication Management to Optimize Patient Outcomes“ Section 4 page 11-12 http://www.pcpcc.net/content/medication-management
Shared Information Available Using HIT Necessary for Comprehensive Medication Management (cont.)

- Record drug therapy problems specific to drug product, medical condition, and patient parameters
- Offer clinical decision support and analysis
- Support Pt participation and decision making in drug therapy
- Provide Pts with individualized med information that complements the therapeutic care plan
- Provide a Web site for Pts to participate in managing their meds

Source: "Integrating Comprehensive Medication Management to Optimize Patient Outcomes“ Section 4 page 11-12 [http://www.pcpcc.net/content/medication-management](http://www.pcpcc.net/content/medication-management)
Pharmacists’ Activities in InterProfessional Patient Care

• E-Prescribing
• Pharmacist/Pharmacy Provider EHR (PP-EHR)
• Bi-directional exchange of clinical information
  – Meaningful Use (MU) of EHR measurement goals
  – Immunizations
  – Patient Care Services
    • The 10 Steps to Achieve Comprehensive Medication Management
    • Medication reconciliation at transitions of care
  – Quality/outcomes performance measures
    • MTM Value Set
Medication Adherence

• PCPCC – recommends all providers shouldn’t look at medication adherence apart from total medication use process

• “MTM services evaluate a patient’s comprehensive active medication list for medication appropriateness, effectiveness, safety, and adherence (in this sequence).”

• Access to EHR (not eRX alone) equals better access to medication adherence outcomes, target medication related problems and improves patient care

Pharmacists’ MTM Process

Medication Therapy Review
Medication Review
Medication Related Action Plan
Documentation and Follow-up

Personal Medication
Intervention and/or Referral
Optimize Medication Therapy

Source: Medication Therapy Management in Pharmacy Practice: Core Elements of MTM Service Model; Version 2.0; March 2005; http://www.pharmacist.com/AM/Template.cfm?Section=Pharmacists&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=19013
The 10 Steps to Achieve Comprehensive Medication Management

1. Identify Pt not achieving clinical goals
2. Pt personal med history/experience
3. Identify all med patterns
4. Assess each med
5. Identify all drug therapy problems

Source: "Integrating Comprehensive Medication Management to Optimize Patient Outcomes” Section 4 page 14 http://www.pcpcc.net/content/medication-management
The 10 Steps to Achieve Comprehensive Medication Management

1. Develop a care plan
2. Pt agrees & understands care plan
3. Document steps vs. therapy goals
4. Follow up evaluations
5. Goals are understood by all team members

Source: “Integrating Comprehensive Medication Management to Optimize Patient Outcomes” Section 4 page 14 [http://www.pcpcc.net/content/medication-management](http://www.pcpcc.net/content/medication-management)
Cultural Diffusion

Adoption

Meaningful Use

Fully Integrated into the Workflow Process
Pharmacy e-HIT Collaborative

Policy
HHS-CMS-ONC

PCMH/ACO

Quality (PQA & NQF)

MTM Value Set

SDOs PP-EHR