Enhancing Access to Medication Therapy Management (MTM) Services to Reduce the Burden of Diabetes Complications

Heather Brennan Congdon, PharmD, BCPS, CDE
Assistant Dean, Shady Grove Campus and
Assistant Professor, UMB School of Pharmacy

Hoai-An Truong, PharmD, AE-C, MPH
Assistant Director, Experiential Learning and
Assistant Professor, UMB School of Pharmacy

Faramarz Zarfeshan, RPh
Pharmacist Owner, ALFA Specialty Pharmacy

American Diabetes Association
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Acknowledgement of Partners & Team Members:

ALFA Specialty Pharmacy
Mercy Health Clinic
Primary Care Coalition of Montgomery County
University of Maryland School of Pharmacy

Rosemary Botchway, MHA
Director, Center for Medicine Access
Primary Care Coalition of Montgomery County

Diem-Thanh (Tanya) Dang
Coordinator, Center for Medicine Access
Primary Care Coalition of Montgomery County

Fariborz Zarfeshan, RPh
Pharmacist
ALFA Specialty Pharmacy

Heather Congdon, PharmD, BCPS, CDE
UMB School of Pharmacy

Nancy Ripp, MD
Medical Director
Mercy Health Clinic

Donna Romer, RN
Nurse
Mercy Health Clinic

Richard Pavlin
Executive Director
Mercy Health Clinic

Hoai-An Truong, PharmD, AE-C, MPH
UMB School of Pharmacy
Objectives

- **Identify the steps for establishing collaboration** among the Primary Care Coalition of Montgomery County, Mercy Health Clinic, University of Maryland School of Pharmacy, and ALFA Specialty Pharmacy to provide medication therapy management services. (Zarfeshan)

- **Describe the process and model for integrating medication therapy management** into a community-based safety net clinic. (Truong)

- **Explain the initial patient outcomes and next steps** to improve the quality of healthcare and minimize complications for high-risk, high-cost, complex patients. (Congdon)
MTM Program/Service AIMS

Primary Care Coalition
Population Health

Patients and Staff Experience

Treatment Cost per Patient
What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

Primary Care Coalition and Patient Population

- **Primary Care Coalition**
  - HRSA Patient Safety Initiative
  - Montgomery County Funding – 501c Organization
  - Primary Adult Care (Medicaid)
  - 11 sites, 6 sub-sites, 16-18 clinics
    - Mercy Health Clinic, Montgomery General Hospital, Holy Cross, Spanish Catholic Center, Mobile Medical Clinic Sites, etc.

- **Patient Population**
  - More than 22,000 unduplicated patients in fiscal year 10
  - 40,000 potential patients
    - Diabetes
    - Spanish-speaking
    - Uninsured
Partnership Roles

- **Primary Care Coalition of Montgomery County**
  - Facilitates project and serves as liaison between Mercy Health Clinic and pharmacists for MTM

- **Mercy Health Clinic**
  - Provides patients population receiving MTM and experiential rotation site for pharmacy students

- **University of Maryland School of Pharmacy**
  - Provides faculty pharmacist’s expertise and time for MTM and facilitates experiential rotations for students

- **ALFA Specialty Pharmacy**
  - Provides pharmacist’s expertise and time for MTM and precepts students
PATIENT SAFETY AND CLINICAL PHARMACY SERVICES COLLABORATIVE (PSPC)
Rationale

- **Clinical Pharmacy Services**
  - Several disease states: asthma, diabetes, dyslipidemia
  - Medication Therapy Management

- **Outcomes Data – The Lewin Group Report**
  - **Ex 1: Diabetes**
    - ↓ A1c, LDL and SBP
    - ↑ flu vaccine rate (52-77%), eye exam rate (46-82%) and foot exam rate (38-80%)
  - **Ex 2: MTM**
    - ↓ # of drugs, # of doses and 6 months drug costs
Goals and Benefits

- Improve patient health outcomes and optimize medication use through integration of Medication Therapy Management (MTM) services by pharmacists for a defined population of focus at a safety net clinic site.

- Foster inter-professional team approach to providing care and improving patient outcomes.

- Establish a multiple partnership among Primary Care Coalition of Montgomery County, Mercy Health Clinic, University of Maryland School of Pharmacy, and ALFA Specialty Pharmacy.

- Provide potentials for clinical research and funding/grants.
Target Population

- Low income, uninsured, predominately Latino population who experience difficulty controlling their diabetes

- Multiple medications (i.e. ≥ 3 medications), including prescription and over-the-counter medications, dietary supplements, and herbal products

- Multiple chronic conditions (i.e. ≥ 2 chronic conditions), especially patients with uncontrolled diabetes and adverse drug events (i.e. adverse drug reactions, drug interactions, over-/under-dosage, etc.)
Process – Steps in Implementation

- Initial pharmacists meeting with leadership from the PCC and MHC to provide an overview of clinical pharmacy services and the MTM service model

- Multiple and ongoing meetings with the Medical Director, Executive Director, physicians, and nurses at the MHC to discuss integration of clinical pharmacy services into routine care

- Pilot then full implementation of pharmacist-provided MTM and diabetes education as appropriate for patients referred by the clinic’s physicians, nurses, and other staff

- Referrals for patients meeting criteria; complex; high-risks
Process – Steps in Implementation

- Referred patients are scheduled for MTM clinic appointment; for patients whose primary language was Spanish, an interpreter was used either in person or through the Language Line.

- During MTM clinic, pharmacists meeting with patient and conducting a comprehensive medication therapy review to identify, resolve and prevent medication-related problems (i.e. untreated indication, drug use without indication, improper drug selection, sub-therapeutic, overdose, adverse drug reaction, drug interaction, failure to receive medication, etc.)

- Individualized diabetes education also provided as appropriate.
Process – Steps in Implementation

- A summary of the pharmacist’s findings and recommended changes in therapy were discussed with the physicians, and/or provided to the physician as part of the patient chart prior to the physician-patient encounter.

- Changes in therapy, when appropriate, are implemented prior to patient leaving clinic.

- Patients also received counseling and scheduled for follow-up visits, if needed.

- Patients also receiving a Personal Medication Record (PMR) going forward.
Elements of MTM Service Model

- **Medication Therapy Review (MTR)**
  - Systematic process; comprehensive versus targeted

- **Personal Medication Record (PMR)**
  - Rx, OTC, dietary supplements, and herbal products

- **Medication-Related Action Plan (MAP)**
  - List of actions to track progress of self-management

- **Intervention and/or Referral**
  - Addressing medication-related problems; referral

- **Documentation and Follow-up**
  - Continuity of care; outcomes; legal compliance
Personal Medication Record (PMR)

Prime Questions for Patient Counseling

- **What Is My Medication For?**
- **How Do I Take It?**
- **What Are Some Expected Side Effects?**
**MY MEDICATION RECORD**

**Name:** ___________________________  **Birth date:** ___________________________

Include all of your medications on this record: prescription medications, nonprescription medications, herbal products, and other dietary supplements. Always carry your medication record with you and show it to all your doctors, pharmacists and other healthcare providers.

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Dose</th>
<th>Take for...</th>
<th>When do I take it?</th>
<th>Start Date</th>
<th>Stop Date</th>
<th>Doctor</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyburide</td>
<td>Smg</td>
<td>Diabetes</td>
<td>1</td>
<td>1/15/08</td>
<td></td>
<td>Johnson (000-0000)</td>
<td>Take with food</td>
</tr>
</tbody>
</table>
The Medication Therapy Management Core Elements Service Model

The diagram below depicts how the MTM Core Elements (✧) interface with the patient care process to create an MTM Service Model.

✧ MEDICATION THERAPY REVIEW

- Interview patient and create a database with patient information
- Review medications for indication, effectiveness, safety and adherence
- List medication-related problem(s) & Prioritize

✧ INTERVENTION AND/OR REFERRAL

- Interventions directly with patients
- Interventions via collaboration
- Physician and other healthcare professionals
- Possible referral of patient to physician, another pharmacist or other healthcare professional

Implement plan

- Create/Communicate
- Create/Communicate
- Complete/Communicate & Conduct

PERSONAL MEDICATION RECORD (PMR)

MEDICATION-RELATED ACTION PLAN (MAP)

DOCUMENTATION & FOLLOW-UP
Status on MTM Services at Mercy Health Clinic

- Started on Thursday, October 1, 2009
- Joined HRSA PSPC Sessions 2.0 and 3.0
- 2 half-day (8 hours total) clinics weekly
- 2 MTM and 1 CDE clinical pharmacists
- Interventions on medication-related problems
- Collaboration with physicians, nurses, and others
- Implementation of an IMPACT grant and next steps
Status on MTM Services at Mercy Health Clinic

- Interventions: 18-Months Results
  - # of patients: 124
  - # of medications at visits: 987 [average 8 meds/patient]
  - # of chronic conditions: 542 [average 4.4 conditions/pt]

- Medication-related problems: 278 [average 2.2 MRP/pt]
  - Untreated indication: 27% [n=73]
  - Ineffective tx regimen: 25% [n=70]
  - Sub-therapeutic: 19% [n=53]
  - Non-adherence: 14% [n=38]
  - Adverse drug reaction: 8% [n=23]
  - Drug interaction: 5% [n=14]
Medication-Related Outcomes

- 124 patients seen between 10/1/09 to 3/31/11
- ~1000 medications reviewed over 18 months
- Inaugural year data analysis
  - Forty-nine patients received MTM between October 1, 2009 and September 30, 2010
  - Pre- and post MTM A1c, BP and LDL evaluated
Outcomes: A1c

- Pre-CPS A1c
- Post-CPS A1c

Patient

A1c

4.0%
5.0%
6.0%
7.0%
8.0%
9.0%
10.0%
11.0%
12.0%
13.0%
14.0%

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

A1c

4.0%
5.0%
6.0%
7.0%
8.0%
9.0%
10.0%
11.0%
12.0%
13.0%
14.0%

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

Patient
Outcomes: A1c

Mean Pre-CPS A1c
Mean Post-CPS A1c

p=0.002
Outcomes: LDL

Calculated LDL (mg/dL) vs Patient Pre-CPS LDL Post-CPS LDL
Outcomes: LDL

- Mean Pre-CPS LDL
- Mean Post-CPS LDL

p = 0.17
Outcomes: Blood Pressure

SBP: p=0.15
DBP: p=0.07
# Expected Outcomes

## Provider-Reported Improvements With Medication Therapy Management

<table>
<thead>
<tr>
<th>Type of Measure</th>
<th>Specific Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical</strong></td>
<td>• Adherence</td>
</tr>
<tr>
<td></td>
<td>• A1c</td>
</tr>
<tr>
<td></td>
<td>• Blood pressure</td>
</tr>
<tr>
<td></td>
<td>• Lipid profile</td>
</tr>
<tr>
<td></td>
<td>• Weight control</td>
</tr>
<tr>
<td></td>
<td>• Adverse drug reactions</td>
</tr>
<tr>
<td></td>
<td>• Smoking cessation</td>
</tr>
<tr>
<td></td>
<td>• Pain management</td>
</tr>
<tr>
<td></td>
<td>• Diabetes management</td>
</tr>
<tr>
<td><strong>Financial</strong></td>
<td>• Absenteeism</td>
</tr>
<tr>
<td></td>
<td>• Cost of medications</td>
</tr>
<tr>
<td></td>
<td>• Overall health care costs</td>
</tr>
<tr>
<td></td>
<td>• Cost savings</td>
</tr>
<tr>
<td></td>
<td>• Hospitalizations</td>
</tr>
<tr>
<td></td>
<td>• Length of stay in health facilities</td>
</tr>
<tr>
<td></td>
<td>• Profit increase</td>
</tr>
<tr>
<td><strong>Humanistic</strong></td>
<td>• Patient satisfaction</td>
</tr>
<tr>
<td></td>
<td>• Professional satisfaction</td>
</tr>
<tr>
<td><strong>Process/Other</strong></td>
<td>• Number of drug-related problems identified</td>
</tr>
<tr>
<td></td>
<td>• Number of interventions provided</td>
</tr>
<tr>
<td></td>
<td>• Inappropriate therapy identified</td>
</tr>
<tr>
<td></td>
<td>• Wait times in pharmacy</td>
</tr>
<tr>
<td></td>
<td>• Nurse/physician/patient education</td>
</tr>
</tbody>
</table>

Source: APhA MTM Digest: Perspectives on MTM Service Implementation. March 2008
Evaluation

- Ongoing or at each 6-month and 1-year intervals
- Process
  - Meeting specific objectives for clinics and services?
- Impact
  - Meeting partnership goals?
- Outcome
  - Improving Patient Outcomes and Public Health?
  - Meeting Primary Care Coalition Mission?
  - Meeting Mercy Health Clinic Mission?
  - Meeting University of Maryland School of Pharmacy Mission?
  - Meeting ALFA Specialty Pharmacy Mission?
Next Steps

- Communities IMPACT (Inspired and Motivated to Prevent and Control) Diabetes Center Legacy Grant
- Continued evaluation of clinical outcomes
- Potential for more structured research
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Heather Congdon, PharmD, BCPS, CDE
Phone: 301-738-6344
E-mail: hcongdon@rx.umaryland.edu

Hoai-An Truong, PharmD, AE-C, MPH
Phone: 410-706-3462
E-mail: htruong@rx.umaryland.edu

Faramarz Zarfeshan, RPh
Phone: 301-754-2532
E-mail: faramarz@alfapharmacy.com

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