Medication Therapy Management: Opportunities in an Underutilized Service

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In collaboration with:
Los Angeles County Department of Public Health, Chronic Disease and Injury Prevention Program
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Objectives

• Identify the need for medication therapy management (MTM)
• Describe how MTM benefits patients and providers
• Explain the scope, process and components of MTM
• Explain how to collaborate with MTM providers
• Evaluate how current opportunities coincide with your practice as a primary care provider.
Outline

1. What is MTM?
2. What is the impact of MTM?
3. How does MTM work?
4. How can providers get involved?
What is MTM?
Medication therapy management (MTM) is medical care aimed at optimizing drug therapy and improving therapeutic outcomes for patients (not just counseling).

Medicare Modernization Act of 2003

Sponsors of prescription drug plans (PDP) and Medicare advantage plans (MAPD) are mandated to offer MTM

Basic eligibility and components are determined by CMS
Need

• 80% of Americans are on at least 1 chronic medication\(^1\)
• 1/3 don’t fill their 1\(^{st}\) prescription\(^2\)
• Primary care provider shortage\(^3\)
  • Physician shortage of 20,400 by 2020
  • PA-Cs and NPs reduce this burden
• Costs of adverse drug reactions ($3.5 billion)\(^1\)
• Increased emphasis on quality measures

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3. Health resources and services administration. Projecting the Supply and Demand for Primary Care Practitioners Through 2020, 2013.
Figure 2. Percentage of prescription drugs used in the past month, by age: United States, 2007–2008

<table>
<thead>
<tr>
<th>Age in years</th>
<th>1 drug</th>
<th>2 drugs</th>
<th>3–4 drugs</th>
<th>5 or more drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–11</td>
<td>14.1</td>
<td>4.6</td>
<td>2.7</td>
<td>0.9</td>
</tr>
<tr>
<td>12–19</td>
<td>17.3</td>
<td>6.9</td>
<td>4.8</td>
<td>0.9</td>
</tr>
<tr>
<td>20–59</td>
<td>19.6</td>
<td>11.4</td>
<td>9.4</td>
<td>7.9</td>
</tr>
<tr>
<td>60 and over</td>
<td>12.0</td>
<td>12.4</td>
<td>27.3</td>
<td>56.7</td>
</tr>
</tbody>
</table>

\(^1\text{Estimate is unstable; the relative standard error is greater than 30\%.}

\text{SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.}
Figure 1

Percent of Population Residing in Primary Care Health Professional Shortage Areas (HPSAs), 2014

NOTES: Includes populations in Geographic Area and Population Group HPSAs, but not Facility HPSAs.
*HRSA data show no population living in Geographic or Population Group Primary Care HPSAs in NJ and VT.
1. Health resources and services administration. Projecting the Supply and Demand for Primary Care Practitioners Through 2020, 2013.
What is the Impact of MTM?
Goals of MTM

• Facilitate collaboration
• Promote safe and effective medication use
• Shift utilization of healthcare resources
• Achieve optimal patient and quality outcomes
Outcomes¹

• Return on investment
  • Health plan saves $4-12 per $1 spent

• Quality measures
  • Double the patients reached A1c <9% than control
  • Improvements in A1c, cholesterol, and blood pressure

• Satisfaction
  • Physician- 4.8 out of 5
  • Patient- 4.8-4.9 out of 5 (anticoagulation, comprehensive care, discharge)

Outcomes

• Clinical outcomes
  • 50-66% reduction in readmissions\(^1,2\)
  • 41% reduction in ED visits\(^1\)
  • 57% more hypertensive patients at goal\(^3\)
• Despite results, poor utilization (8%)\(^4\)

3. Siegel D. In uncontrolled hypertension, a pharmacist-prescribing intervention reduced blood pressure at 6 months. 2015
How Does MTM Work?
MTM Referral

• Health plan
  • Medicare Part D criteria
  • “In house” or web-based platforms

• Primary care provider
  • Integrated, team-based care
  • External, out patient pharmacy

• Pharmacist
  • Academia
MTM Process

- Interview
- Measurements
- Assessment/Plan
- Documentation
- Communicating with PCP and other providers
Interview

- Subjective and objective data
- Medication reconciliation
  - Comprehensive medication review
- Lifestyle
- Immunization history
- Allergies
- Labs (when available)
Measurements

- Physical Measurements
- Serum point-of-care testing
- On the horizon
  - Eye, ear, lung, and liver assessment
  - Pharmacogenomic testing
Assessment

- Subjective
- Risk factors
  - ASCVD
  - Metabolic syndrome
  - Bleeding
  - VTE
  - Falls (Beer’s list)
- Medication safety/efficacy
- Patient barriers
Controlling Hypertension in Adults
Systolic 140–159 or diastolic 90–99 (Stage 1 hypertension)
- Lifestyle modifications as a trial
- Consider adding diuretic

Systolic ≥160 or diastolic ≥100 (Stage 2 hypertension)
- Two drug regimen
- Lifestyle modifications and/or
- Thiazide and ACE inhibitors or ARB
- Or consider ACEi and ARB

**Recheck and review readings in 3 months**
- NO
- BP at Goal?
  - YES
  - Encourage self-monitoring and adherence to meds
  - Advise patient to alert office if blood pressure rises or side effects
  - Continue non-pharmacological interventions

- NO
  - Obtain detailed history of all medications
  - Address adherence, advice on self-monitoring, and request readings from home and other settings
  - Consider non-pharmacological interventions

**Recheck and review readings in 2–4 weeks**
- NO
- BP at Goal?
  - YES
- Consider referral to HTN specialist

**Modifications**

<table>
<thead>
<tr>
<th>Modification</th>
<th>Recommendation</th>
<th>Approximate BP Reduction (Range)***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce weight</td>
<td>Maintain normal body weight, body mass index 18.5–24.9 kg/m²</td>
<td>5–20 mm Hg</td>
</tr>
<tr>
<td>Adopt DASH* eating plan</td>
<td>Consume a diet rich in fruits, vegetables, and low-fat dairy products with a reduced content of saturated and total fat</td>
<td>0–14 mm Hg</td>
</tr>
<tr>
<td>Lower sodium intake</td>
<td>a. Consume no more than 2,400 mg of sodium/day b. Further reduction of sodium intake to 1,500 mg/day is desirable, since it is associated with even greater reduction in BP; and c. Reduce sodium intake by at least 1,000 mg/day since that will lower BP even if the desired daily sodium intake is not achieved</td>
<td>2–8 mm Hg</td>
</tr>
<tr>
<td>Physical activity</td>
<td>Engage in regular aerobic physical activity such as brisk walking (at least 30 min per day most days of the week)</td>
<td>4–8 mm Hg</td>
</tr>
<tr>
<td>Moderation of alcohol consumption</td>
<td>Limit consumption to no more than 2 drinks (e.g., 24 oz. beer, 10 oz. wine, or 3 oz. 80 proof whiskey) per day in most men, and to no more than 1 drink per day in women and lighter weight persons</td>
<td>2–4 mm Hg</td>
</tr>
</tbody>
</table>

**DASH** dietary approaches to stop hypertension
- The effects of implementing these modifications are dose and time dependent, and could be greater for some individuals.
Systolic 140–159 or diastolic 90–99
(Stage 1 hypertension)
- Lifestyle modifications as a trial
- Consider adding thiazide

Recheck and review readings in 3 months*

BP at Goal?

NO

Systolic >160 or diastolic >100
(Stage 2 hypertension)
Two drugs preferred:
- Lifestyle modifications and
- Thiazide and ACEI, ARB, or CCB
- Or consider ACEI and CCB

Recheck and review readings in 2–4 weeks**

YES
Plan

- Patient education
  - Drug
  - Disease
  - Behavior (Motivational Interviewing)
  - Referral
- Provider consultation
  - Sharing of information
  - Team-based care
- Therapy adjustments
  - Recommendations made to prescriber
  - Can be done under protocol
Motivational Interviewing

• A tool for directing positive behavior
• Utilizes open-ended questions, affirmations, reflections and summaries
• Provider establishes discrepancies between goals and behavior
• Stage of change
  • Transtheoretical Model
  • Precontemplation, contemplation, determination, action, relapse, maintenance
Documentation and Communication

- Medicare standardized documents
  - Cover letter
  - Personal medication list
  - Medication action plan
- SOAP/Chart note
  - For interviewer’s record
  - Given to PCP and other prescribers
- Logistically difficult due to independent EMRs
Settings and variations

- Community pharmacy, AKA retail or outpatient
- Ambulatory care
  - Medical office
  - Patient-centered medical home
  - Hospital
- Inpatient
Community

• Advantages
  • Medication record from multiple providers
  • Pickup rate can help assess adherence
  • Out-of-pocket cost
  • Regular interaction with patient
  • Locations and hours

• Limitations
  • Access to labs and EMR
  • Access to PCP and other providers
Ambulatory

• Advantages
  • Access to labs and provider notes
  • Work closely with providers
  • Easier to establish a collaborative practice agreement
    • Comprehensive medication management

• Limitations
  • Pickup rate not evident
  • Records from outside providers
  • Formulary and out-of-pocket costs
Inpatient

• Advantages
  • Adherence while admitted is not an issue
  • Access to providers and EMR

• Limitations
  • Transition-of-care is problematic
  • Outpatient adherence
  • Dispensing records from outside providers
  • Formulary and out-of-pocket costs
Patient Case

JD, a 67 year old white female, presents to the community pharmacy for her annual comprehensive medication review and to fill a new prescription for UTI.

Medication Profile

Metformin 1000mg twice daily #60 (PCP)
Albuterol HFA 90mcg 1-2p q4-6h prn #1 (PCP)
Carvedilol 25mg twice daily #60 (Cardiologist)
Carvedilol 12.5mg twice daily #60 (Cardiologist; discontinued)
Lisinopril 10mg daily #30 (Cardiologist)
Gabapentin 600mg three times daily #90 (PCP)
Influenza Vaccine (High Dose) (per protocol by Pharmacy)

New Rx:
Ciprofloxacin 250mg twice daily #14
## Patient Case

### Pharmacy Dispensing Record

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metformin 1000mg</td>
<td>(15 days ago)</td>
</tr>
<tr>
<td>Albuterol HFA 90mcg</td>
<td>(7 days ago and 40 days ago)</td>
</tr>
<tr>
<td>Carvedilol 25mg</td>
<td>(15 days ago)</td>
</tr>
<tr>
<td>Carvedilol 12.5mg</td>
<td>(45 days ago)</td>
</tr>
<tr>
<td>Lisinopril 10mg</td>
<td>(15 days ago)</td>
</tr>
<tr>
<td>Gabapentin 600mg</td>
<td>(15 days ago)</td>
</tr>
<tr>
<td>Influenza Vaccine HD</td>
<td>(per protocol by Pharmacy)</td>
</tr>
</tbody>
</table>
Patient Case

Data Discrepancy

- Labs are needed to assess efficacy and safety for many medications
- Some clinical information can be obtained from the patient
- Pharmacy rarely has access to EMR
- Need to rely on communication
- May perform point-of-care measurements

Currently complains of fatigue, more frequent wheezing, urinary discomfort (went to urgent care)
Patient Case (Without Collaboration)

Per Patient:
- Diagnosed with DM (type 2), HTN, CHF, asthma, UTI
- She does not recall A1c or other labs
- Her PCP told her that her kidneys are “doing well”
- When ask if she has ever been on a “statin,” she replied “I don’t know what that is.”
- Immunizations are up to date

Per pharmacist
- Height 67 inches
- Weight 162.8 lbs
- BMI 25.5kg/m2
- BP 132/76 mmHg (note: carvedilol dose increased recently by cardiologist)
- Ciprofloxacin dose is a red flag, may indicate reduced kidney function
Patient Case (With Collaboration)

Labs from PCP (Dated 9 months ago)

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1c</td>
<td>6.7%</td>
</tr>
<tr>
<td>BP</td>
<td>132/76</td>
</tr>
<tr>
<td>HR</td>
<td>84</td>
</tr>
<tr>
<td>EF</td>
<td>38%</td>
</tr>
<tr>
<td>TC</td>
<td>230</td>
</tr>
<tr>
<td>TG</td>
<td>120</td>
</tr>
<tr>
<td>HDL</td>
<td>49</td>
</tr>
<tr>
<td>LDL</td>
<td>157</td>
</tr>
<tr>
<td>Na</td>
<td>138</td>
</tr>
<tr>
<td>K</td>
<td>4.7</td>
</tr>
<tr>
<td>Ca</td>
<td>9.1</td>
</tr>
<tr>
<td>Cl</td>
<td>101</td>
</tr>
<tr>
<td>CO2</td>
<td>28</td>
</tr>
<tr>
<td>Scr</td>
<td>1.0</td>
</tr>
<tr>
<td>BUN</td>
<td>17</td>
</tr>
<tr>
<td>eGFR</td>
<td>&gt;60</td>
</tr>
<tr>
<td>Alb</td>
<td>4.1</td>
</tr>
<tr>
<td>AST</td>
<td>21</td>
</tr>
<tr>
<td>ALT</td>
<td>20</td>
</tr>
</tbody>
</table>

Immunizations
- Childhood series completed
- Tdap, Shingles, PCV-13 all given 1 year ago
- PPSV-23 given 6 years ago
Patient Case (With Collaboration)

Labs from Urgent Care (1 day old)

- SCr 1.6mg/dL
- Crcl 33.2mL/min
Patient Case (With Collaboration)

Subjective/objective
• JD, 67F with DM2, HTN, CHF, asthma, UTI
• Chief complaint- increased rescue inhaler use, recent fatigue and urinary discomfort
• Crcl recently decreased from >60mL/min to 33.2mL/min
• Compliant with medication regimen (per dispensing record)
• Beta blocker dose increased 1.5 months ago
• Social, diet and exercise appropriate per ADA guidelines
Patient Case (With Collaboration)

Assessment

• Increase in carvedilol (non-selective beta blocker) associated with increased need of rescue inhaler
• Metoprolol succinate is preferred beta-blocker (EF <40%, comorbid asthma). Target dose is 200mg daily (ACCF/AHA)
• Metformin is contraindicated for SCr ≥1.4mg/dL in women
• Gabapentin may be contributing to fatigue and should be reduced for due to kidney function
• Patient indicated for high-intensity statin therapy (ACC/AHA; diabetes and 10-year ASCVD risk 19.8%)
• Lisinopril not at target dose of 20-40mg daily (ACCF/AHA)
• PPSV-23 due (ADA; ACIP)
Patient Case (With Collaboration)

Recommendation

• PCP
  • Discontinue metformin, consider starting alternative therapy
  • Reduce gabapentin frequency to twice daily
  • Initiate atorvastatin 40mg daily

• Cardiologist
  • Change carvedilol to metoprolol succinate (target 200mg daily)
  • Increase lisinopril to target dose of 20-40mg daily

• PCP or Pharmacist
  • Administer PPSV-23
Patient Case (Without Collaboration)

Recommendation

• Change carvedilol to cardio-selective beta blocker. For ejection fraction <40%, metoprolol succinate 200mg is preferred (ACCF/AHA)
• Increase lisinopril to target dose of 20-40mg daily (ACCF/AHA)
• Initiate statin therapy (ACC/AHA)
  • Atorvastatin 10-20mg or simvastatin 20-40mg for 10-year ASCVD risk <7.5%
  • Atorvastatin 40-80mg or Crestor 20-40mg for 10-year ASCVD risk ≥7.5%
How Can Providers Get Involved?
Getting Involved

• Facilitate the process
  • Share relevant information
  • Consider recommendations
  • Urge patients to participate (it’s free)
• Screen for and inform eligible patients
  • How many diagnoses?
  • How many medications?
  • What is the annual drug cost?
Getting Involved

- Refer to participating providers
  - CMS did not include “any willing pharmacy”
  - Part D plan sponsor- usually telephonic
  - Community pharmacy utilizing 3rd party MTM referral platforms
  - Community pharmacy that accepts cash-paying patients
  - Face-to-face perform better than telephonic in studies but no direct comparisons exist
- Start pharmacy services
Getting Involved

Pharmacy Familiarity

- Some patients will benefit from paying cash
- Not all pharmacies accept cash patients
- Best practice: form relationships with a pharmacist near you
- Ask the pharmacy:
  - Do you perform MTM?
  - Can you bill for it?
  - What is your cash price?
- Provide contact info
Beyond Medicare

• Health plan determines eligibility\(^1\)
  • Annual cost of medications ($3507)
  • Number of chronic conditions (3 or more)
  • Number of medications (8 or more)
• These criteria overlook many variables
• Provider offices with pharmacy services
  • More ways to bill
  • Control over eligibility criteria

1. CMS 2015 Medicare Part D Medication Therapy Management (MTM) Programs. 2015.
Beyond Medicare

Examples of other inclusion criteria

• Undergoing transition of care
• Receiving care from multiple providers
• High risk medication use (5 or more)
• Chronic conditions
• Lab values are out of normal range, which may be caused by or alleviated by medication therapy
• History of nonadherence
• Limited health literacy
• Recently experienced a medication related adverse event
• Medications with narrow therapeutic index
Beyond Medicare

Collaborative practice agreement

- “licensed provider...refers patients to a pharmacist under a protocol that allows the pharmacist to perform specific patient care functions.” -CDC

- Can be performed in any setting in California

- Lead to healthcare savings, improved patient health, and increased preventative care when used effectively
Beyond Medicare

Opportunities for MTM outcomes research

• Lifestyle management for the general population
• Preventing pre-diabetes progression
• Smoking cessation
• Vitamin, herbal, and nutritional supplement
In Summary

MTM providers:

• Work with PCPs and patients
• Assess patient concerns about medications
• Utilize evidence based practice for recommendations
• Prescribers make the final decision on medications


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