GTMRx Institute™

Get the medications right

www.gtmr.org

The $528 Billion Opportunity

April 30, 2019 • 1 p.m. Eastern

GTMRx Learning Network Webinar

Agenda

- Welcome and Introductions
- Learning Objectives
- About the Get the Medications Right™ Institute
- Presenters:
  - Terry McInnis, MD, MPH, CPE, FACOEM

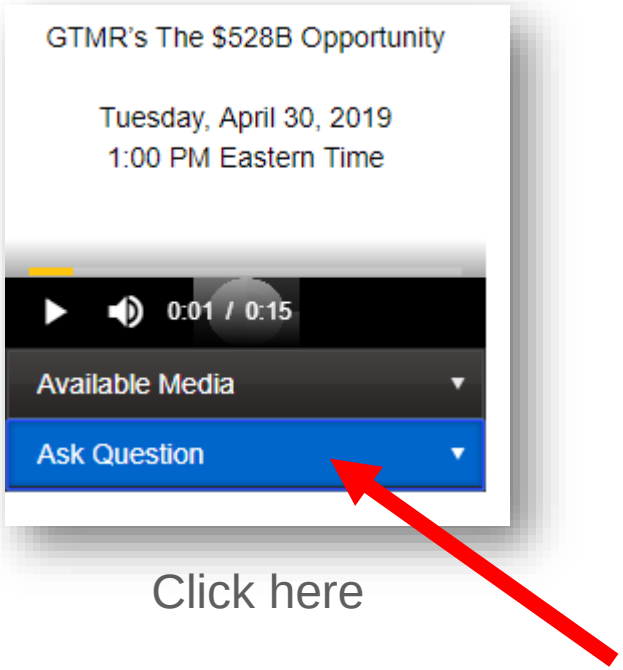
    Co-Founder and President, GTMRx Institute and Foundation; and President, Blue Thorn Inc. Healthcare Consulting
  - Jonathan H. Watanabe, PharmD, MS, PhD

    Associate Professor of Clinical Pharmacy, University of California San Diego Skaggs School of Pharmacy and Pharmaceutical Sciences, Division of Clinical Pharmacy
  - Question and Answer Session

Audience Notes

- There is no call-in number for today's event.
- Audio is by streaming only. Please use your computer speakers, or you may prefer to use headphones.
- There is a troubleshooting guide in the tab to the left of your screen.
- Please refresh your screen if slides don't appear to advance.

Submit questions at any time

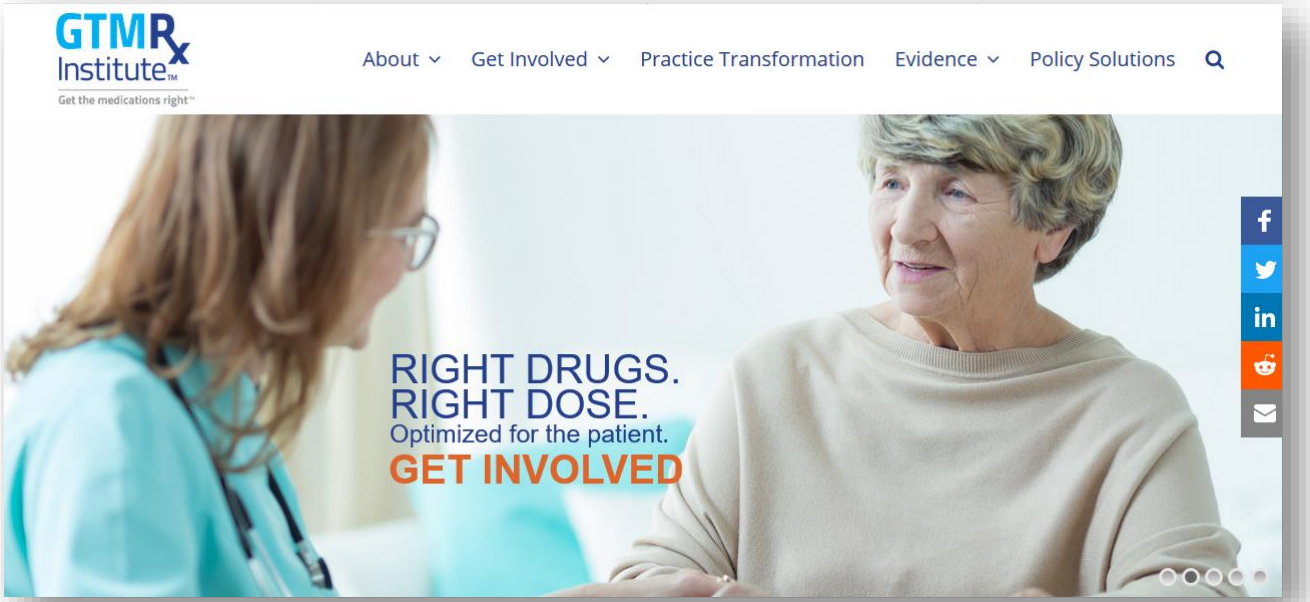


How to submit a question

To submit a question, click on Ask Question to display the Ask Question box. Type your question in the Ask Question box and submit. We will answer as many questions as time permits.

Audience Notes

- A recording of today's session will be posted within one week to our website, www.gtmr.org



Learning Objectives

After the webinar, participants will be able to:

- Define comprehensive medication management and demonstrate an understanding of the 10 steps to achieve it in practice;
- Describe the problem of non-optimized medication and the methodology used to quantify its human and economic costs in recent research;
- Discuss the real-world clinical impact of direct patient care when pharmacists collaborate with the care team to optimize medication use.

Our Presenters

Terry McInnis, MD, MPH, CPE, FACOEM
President, Co-Founder, GTMRx Institute
President, Blue Thorn Inc.

Jonathan H. Watanabe, Pharm.D., M.S., Ph.D. BCGP
Associate Professor of Clinical Pharmacy
Skaggs School of Pharmacy and Pharmaceutical Sciences
University of California, San Diego

GTMRx Institute: Vision, mission, and focus

Our VISION: To enhance life by ensuring appropriate and personalized use of medication and gene therapies.

Our MISSION: To bring critical stakeholders together, bound by the urgent need to optimize outcomes and reduce costs by *getting the medications right*.

Stakeholders

- Academia & Professional Organizations
- Public & Private Payors
- Quality Organizations & Solution Providers
- Consumer Advocacy Groups
- Providers (Primary Care, Specialists, Pharmacists, Systems)

Strategic Focus

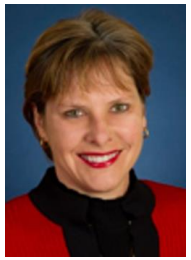
- Workforce Development & Technical Support Partners
- Applied Research, Measurement & Metrics
- Continuous Learning, Awareness Building & Networking
- Policy & Advocacy for Change

Key Initiatives

- Practice Transformation (Skills, tools & knowledge)
- Evidence & Innovation (Evidence-based best practices)
- Policy Solutions (Evidence-based, effective solutions)
- Aligned Payment Reform

Leadership: Founding and funding board members

Katherine Capps
Co-founder, Exec Director



Terry McInnis, MD, MPH, FACOEM
President & Co-founder

Paul Grundy, MD, MPH, FACOEM, FACPM

Brig. Gen. Allison Hickey (Ret.)

Deborah M. Gage
medecision
Liberating.

Ira Klein, MD, MBA, FACP

Steve Goldberg, MD, MBA
Quest Diagnostics

C. Edwin Webb, Pharm.D., MPH, FCCP
accp
American College of Clinical Pharmacy

Join a dynamic team of health care leaders!

Executive Members

VA | U.S. Department of Veterans Affairs

LabCorp

California Chronic Care Coalition in San Diego County

A sample of GTMRx Institute member organizations

(inclusion does not constitute an endorsement of any program, product or organization)

American Association of Colleges of Pharmacy AACP
Discover • Learn • Care: Improve Health

MBGH
Midwest Business Group on Health
The Source for Leading Health Benefits Professionals

envision genomics

Washington State University

AIMM Alliance for Integrated Medication Management

Brigham Health
BWH Brigham and Women's Hospital

Mid-America Coalition on Health Care

tria HEALTH

AAFP American Academy of Family Physicians

The $528B Opportunity

$528.4 billion dollars a year are wasted on non-optimized medication therapy.[1,2]

=

16% of the total U.S. health care.[1,2]

Fixing this problem could save 275,689 lives every year.[3]

Study calls for broad adoption of CMM-level services

1. Cutler DM, Everett W. Thinking outside the pillbox: medication adherence as a priority for health care reform. N Engl J Med. 2010;362(17):1553-1555PubMedGoogle ScholarCrossref
2. Watanabe J, et al. Cost of Prescription Drug–Related Morbidity and Mortality. Annals of Pharmacotherapy, March 26, 2018. Accessed 3 April 2018. http://journals.sagepub.com/eprint/ic2iH2maTdI5zfN5iUay/full
3. Watanabe J, et al. Cost of Prescription Drug–Related Morbidity and Mortality. Annals of Pharmacotherapy, March 26, 2018. Accessed 3 April 2018. http://journals.sagepub.com/eprint/ic2iH2maTdI5zfN5iUay/full.

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Medication Overload: America's other Drug Problem- "How the Drive to Prescribe is harming older adults"

Defines "medication overload" as "use of medications for which the harm to the patient outweighs the benefit."

- Impact of Adverse Drug Events (ADEs) in Older Adults, 2018
  - 10M experiences of ADEs (more than doubled since 2008 or 1 in 5 adults)
  - 4.8M outpatient visits
  - >660,000 ER visits; 280,000 hospitalizations
  - 9000 deaths
  - Many more lead to confusion, falls, nursing home stays, and overall poor quality of life

Medication Overload: America's Other Drug Problem- Lown Institute April 2019
https://lowninstitute.org/wp-content/uploads/2019/04/medication-overload-lown-web.pdf:

Medication Overload: America's other Drug Problem- "How the Drive to Prescribe is harming older adults"

"To put this in context, older adults are hospitalized for adverse drug events at a greater rate than the general population is hospitalized for opioids."

Medication Overload: America's Other Drug Problem- Lown Institute April 2019
https://lowninstitute.org/wp-content/uploads/2019/04/medication-overload-lown-web.pdf:

Our Proposed Solution to the $528B Wasted

"We propose expansion of comprehensive medication management programs by clinical pharmacists in collaborative practice with physicians and other prescribers as an effective and scalable approach to mitigate these avoidable costs and improve patient outcomes."

(*Annals of Pharmacotherapy*, 26 March 2018)

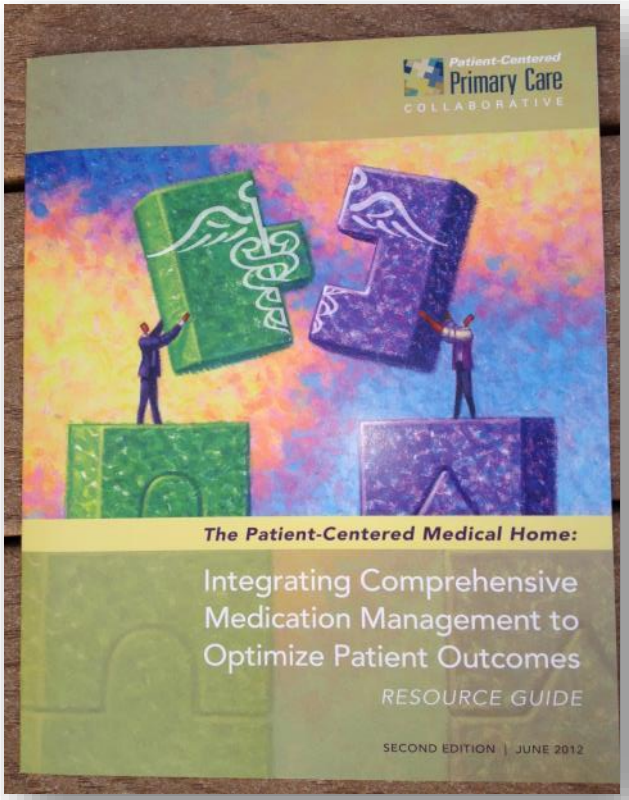
What is Comprehensive Medication Management?

*A systematic approach to medications where **physicians and pharmacists ensure** that medications (whether they are prescription, nonprescription, alternative, traditional, vitamins, or nutritional supplements) are individually assessed to determine that each **medication is appropriate for the patient, effective for the medical condition, safe** given the comorbidities and other medications being taken, and able to be taken by the patient as intended.*[1]

1. McInnis, Terry, et al., editors. The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes. 2nd ed., Patient-Centered Primary Care Collaborative. PCPCC Medication Management Task Force collaborative document.

The PCPCC Defines Comprehensive Medication Management (CMM)

- Defined how to integrate a systematic approach to medication management into the PCMH/ACO environment
- Drew on the early work in Pharmaceutical Care--Hepler/Strand and others
- 2nd Revision with Appendix A: Guidelines for Practice and Guidelines for Documentation
- Joint Commission of Pharmacy Practitioner's Patient Care Processes, May 2014



PCPCC Resource Guide- Integrating Comprehensive Medication Management to Optimize Patient Outcomes
http://www.pcpcc.org/guide/patient-health-through-medication-management and
https://innovations.ahrq.gov/qualitytools/patient-centered-medical-home-resource-guide-integrating-comprehensive-medication

10 Steps to CMM:

#1

Identify patients that have not achieved clinical goals of therapy.

#2

Understand the patient's personal medication experience, history, preferences, & beliefs.

#3

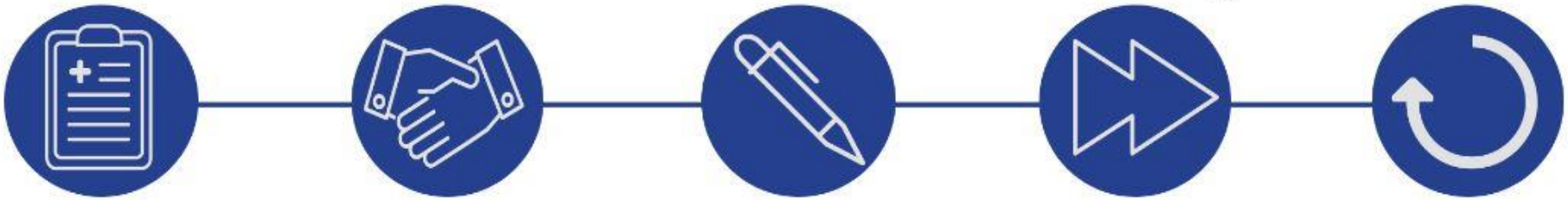
Identify actual use patterns of all medications including OTCs, bioactive supplements & prescribed medications.

#4

Assess each medication for appropriateness, effectiveness, safety (including drug interactions) & adherence, focusing on achievement of the clinical goals for each therapy.

#5

Identify all drug-therapy problems.



#6

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

#7

Ensure patient agrees with & understands care plan which is communicated to the prescriber or provider for content & support.

#8

Document all steps & current clinical status vs. goals of therapy.

#9

Follow-up evaluations are critical to determine effects of changes, reassess actual outcomes & recommend further therapeutic changes to achieve desired clinical goals & outcomes.

#10

CMM is a reiterative process! Care is coordinated with other team members & personalized goals of therapy are understood by all team members.

McInnis, Terry, et al., editors. *The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes*. 2nd ed., Patient-Centered Primary Care Collaborative, PCPCC Medication Management Task Force collaborative document.

Benefits of Comprehensive Medication Management

Clinical Pharmacist/
Pharmacotherapy Manager

Gaps in clinical goals are determined, drug therapy problems identified, and therapeutic recommendations made

Optimal therapeutic recommendations are based on the experience/needs of the patient

Patient

Physicians/
Providers

Result: Appropriate, Effective, Safe and Adherent Medication Use!

Patient understands his medications and participates in a care plan to improve health

Clinical goals of therapy are determined & medication recommendations are accepted to optimize care

Progression of Clinical Pharmacy Service Intensity and Coordinated Medication Management

Pt. Drug Education | Drug Regimen Review | Adherence Persistence | Problem Intervention | Advanced Disease state MTM | Comprehensive Medication Management

- Minimal focus
- Drug-centric
- Triage-minded
- Short term
- Instantaneous
- Episodic

- Multi-focused
- Patient-centric
- Multi-relationship
- Repetitive/reiterative
- Accountability
- Full Scope(Drug/Patient/Disease)

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Significant changes to the health care system since last cost estimate of non-optimized meds

- Last estimate of the cost of morbidity and mortality due to non-optimized medications was in 2009 in the non-peer-reviewed space ($290 billion in 2008 dollars)

- Significant changes in health care system since last estimate
  - ACA deployment in 2014
  - Further establishment of Medicare Part D since 2006 launch

Increased scrutiny of medication usage as costs escalate as well as increase in mandates for medication review

- Increasing calls for evidence-based, patient-centered prescribing as medication costs have elevated
  - Right patient, Right drug
  - Data-driven usage

- Mounting calls for improved coordination between pharmacists and other providers to assure medication selection provides highest value for patient

More current estimate is needed for policy determination as health care reform expands and US population ages.

Our goal was to update the prior published cost and decision model (Johnson and Bootman[1]) with most current inputs (costs, events, event rates)

For patients requiring medication therapy:

1. optimal outcome
2. treatment failure (resolvable medical problem is not adequately treated with original prescribed regimen)
3. new medical problem (newly prescribed medicine causes or contributes to an incident clinical symptom or syndrome)
4. treatment failure + new medical problem

1.Johnson JA, Bootman JL. Drug-related morbidity and mortality: a cost-of-illness model. *Arch Intern Med*. 1995;155:1949-1956.

Cost estimates were for non-optimized medication regimens, NOT simply cost of …

- Nonadherence contributes to treatment failure, but does not solely translate to poor outcomes

- Adherence to a non-optimized regimen may contribute to a treatment failure or cause a new medical problem

Downstream events measured attributable to non-optimized treatment

- provider visits
- hospital stays
- emergency department visits
- long-term care facility stays
- additional prescriptions
- deaths*

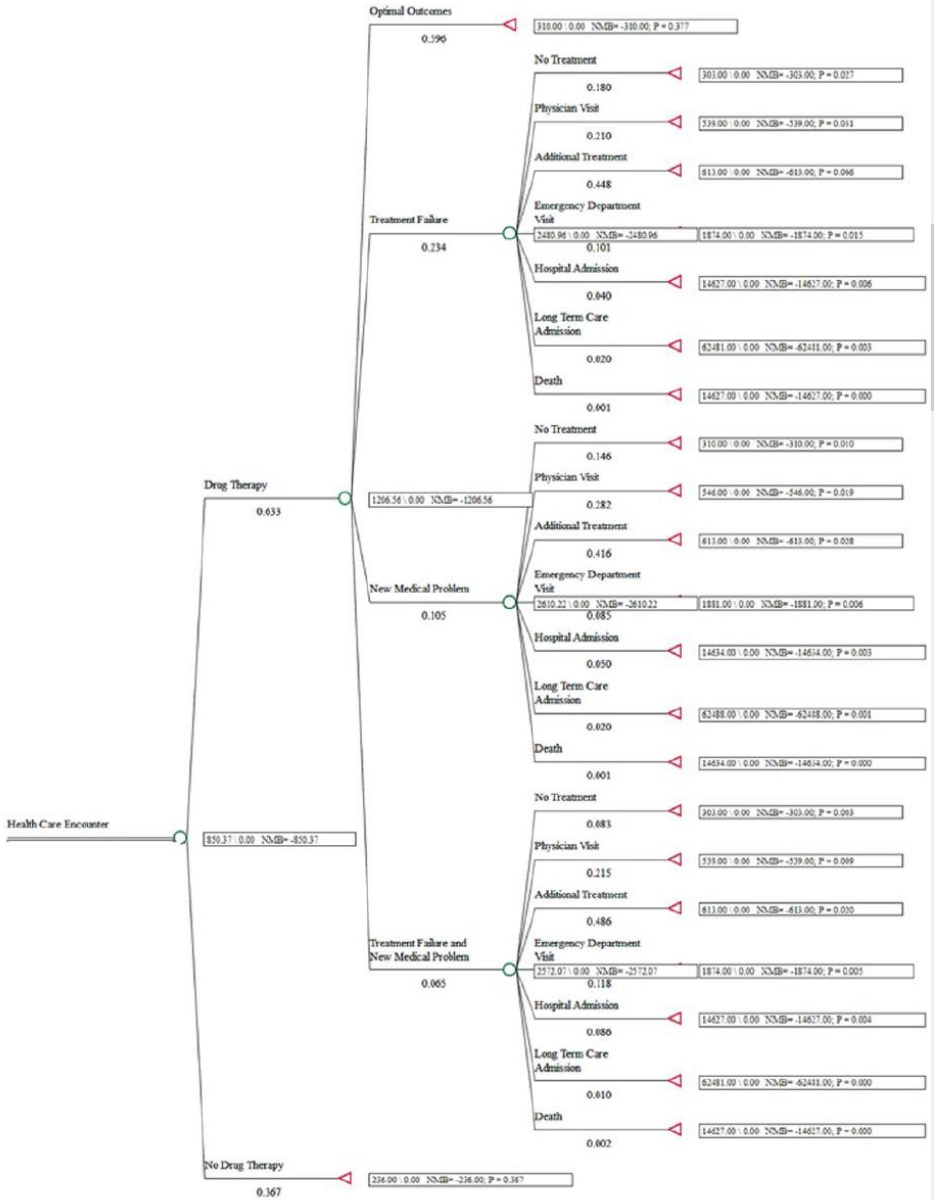
Methods

- Commenced with a 2+ year effort to update the model
- In situations, where a more valid/current source input was available we inputted that parameter (e.g., CDC National Nursing Home Survey length of stay estimates, AHRQ Medicare Expenditure Panel Survey)

Analytic Model

- Cost and decision analytic models were created in Microsoft Excel (Redmond, WA) and TreeAge Pro (Williamstown, MA)
- Sensitivity analyses were conducted by varying the resource costs if multiple potentially valid national estimates existed and to account for variation in the parameter estimates

(*Annals of Pharmacotherapy*, 26 March 2018)

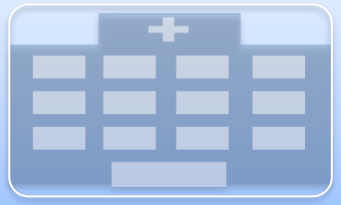


Key Findings

- Total cost of non-optimized care (TF + NMP + TF & NMP) = $528.4 billion

- Varying the inputs based on other resources range was $495.3 to $672.7 billion

Key Findings



$174 billion

- Hospitalization costs

$37.2 billion

- Emergency department visits

$37.8 billion

- Additional provider visits

276,000 deaths

- Human cost

Key Findings

Treatment Failure Average Cost	New Medical Problem Average Cost	Treatment Failure & New Medical Problem Average Cost
$2,481	$2,610	$2,572

The $528 billion opportunity

- $528.4 billion approximates to 16% of health care costs in 2016
- Potentially avoidable costs
- Estimated direct medical costs (2016 USD):
- Heart disease and stroke ($230 billion)[1], diagnosed diabetes ($197 billion)[2], cancer ($187 billion)[3], obesity ($147 billion)[4], and arthritis and related conditions ($126 billion)[5]

1. Go AS, Mozaffarian D, Roger VL, et al; American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2014 update: a report from the American Heart Association. *Circulation*. 2014;129:e28-e292.
2. American Diabetes Association. The cost of diabetes. http:// www.diabetes.org/advocacy/news-events/cost-of-diabetes. html. Accessed May 21, 2017.
3. National Cancer Institute. Cancer prevalence and cost of care projections. http://costprojections.cancer.gov/. Accessed May 21, 2017.
4. Finkelstein EA, Trogdon JG, Cohen JW, Dietz W. Annual med- ical spending attributable to obesity: payer- and service-spe- cific estimates. *Health Aff (Millwood)*. 2009;28:w822-w831. doi:10.1377/hlthaff.28.5.w822
5. Centers for Disease Control and Prevention. The cost of arthritis in US adults. http://www.cdc.gov/arthritis/data_sta- tistics/cost.htm. Accessed May 21, 2017.

Opportunity: Reduce drug therapy problems

Hepler and Strand[1] proposed eight categories of **drug therapy problems** that can translate to TFs and NMPs:

1. untreated indication
2. improper drug selection
3. subtherapeutic dosage
4. failure to receive drugs
5. overdosage
6. ADRs
7. drug interactions
8. drug use without indication

1. Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. *Am J Hosp Pharm*. 1990;47:533-543.

Opportunity: Expand use of CMM

- Expansion of a systematic approach of medication management that optimizes medication regimens is demanded to reduce massive avoidable costs

- “Clinical pharmacists, in collaborative practice with physicians and other prescribers such as nurse practitioners and physician assistants, will increasingly be relied on to assume responsibility for real-time drug therapy decisions in an expanding diversity of care settings by delivering comprehensive medication management (CMM) services.”

Additional thoughts

- Systems that are employing direct pharmacist care with success
- Growth in collaborative practice agreement prevalence
- Practice changes (interdisciplinary care, team-based care training)

Question & Answer Session

Terry McInnis, MD, MPH, CPE, FACOEM
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Thank you!

- Please fill out the survey after today's session
- A recording of today's webinar and slides will be available in one week at www.gtmr.org
- Follow and like us! **gtmrxinstitute**

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