Pharmacy 483

Ambulatory Pharmacy Services

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“Ambulatory Pharmacy”

- What does this mean?
- Why am I talking about it in an “Institutional and Health-system Pharmacy” class?
Pharmacists on healthcare team
Pharmaceutical care services
Establishing an ambulatory/primary care practice
Harborview Medical Center example and response to IOM recommendations
“Crossing the Quality Chasm”

- 2001 Institute of Medicine Report
- Restructuring US health care system to improve the quality of care
  - Safe
  - Effective
  - Patient centered
  - Timely
  - Efficient
  - Equitable
Implications for Pharmacy

- Changes in the medication use process
- Changes in the practice of pharmacy
Pharmacists as Team Members

- Third largest health professional group
- Pharmacist as part of the healthcare team has been shown to improve clinical outcomes
- Easy access to pharmacists
Pharmacist Provided Patient Care Services

“The Vision”

- Basic prescription counseling and management
- Prescription-specific services
- Problem-oriented drug regimen review
- Patient-specific care
Basic Prescription Counseling and Management

- Assure accurate and clinically appropriate prescription services
- Single episode of care
- Service occurs with all prescriptions
- Compensation = Dispensing fee
Prescription-Specific Services

- Prescriptions needing special patient instructions or counseling
- Single episode of care
- Service occurs on all new prescriptions
- Includes education regarding disease state
- Additional compensation for service
- Possibly Medicare’s “Medication Therapy Management Service” (MTMS)
Problem-oriented Drug Regimen Review

- Patient referral for problem identification and resolution
- Single episode of care
- Includes poorly controlled conditions like asthma, diabetes, hypertension (technique and adherence)
- Additional compensation for service - MTMS
Patient-specific Care

- Collaborative Drug Therapy Management (CDTM)
- On-going care
- Includes disease state management activities
  - Anticoagulation
  - Lipid management
  - Other chronic condition management
- Additional compensation for service
- Medicare “Provider Status” needed for pharmacists
- Health-systems/physician’s practices are ideal
Barriers to “The Vision”

- Appropriate patient selection
- Reimbursement for services
- Pharmacist shortage
- Free flow of information
Appropriate Patient Selection

- Services should match patient needs
- Development of “risk profiles”
  - Multiple chronic conditions
  - More than 5 medications per day
  - More than 12 doses per day
- Development of referral mechanisms
  - Referral from physician
  - Automatic referral based on “risk profile”
  - Patient self-referral
Recognition of Pharmacists as “providers”

Medicare Reform Legislation 2003
  - “Medication Therapy Management Services”
  - Patients must meet certain criteria
  - Each Prescription Drug Plan is different/not clear
  - Implementation of MTMS sometime in 2006

Standardization of medication-related services

Qualifications of Pharmacist Providers
  - Advanced training?
  - Disease management certification?
  - Other credentials?
Pharmacist Shortage

- Pharmacy technicians
  - Improved training
  - Pharmacy Technician Certification Board (PTCB)
    - Recent BOP decision to use PTCB
- Improved technology
  - Robotics
  - Bar code technology
Free Flow of Information

- HIPPA restrictions limit information sharing
- Potentially, electronic transmission of prescription + referral
- Ideally, “portable” patient medical record
- JCAHO requires “medication reconciliation” in hospitals and at discharge
- Pharmacist co-located with physicians
  - Harborview Medical Center model of care
Establishing Ambulatory Care/Primary Care Practice

- Develop standards of practice
  - ASHP “Best Practices for Health-system Pharmacy”
- Identify treatment/practice guidelines
- Obtain clinical privileges
- Evaluate process and outcomes of patient care
- Establish a professional relationship
- Obtain State Board of Pharmacy approval
HMC Ambulatory Pharmacy
Vision Statement

Set the national standard for the provision of care. Achieve recognition as leaders in providing fully integrated, patient-centered, pharmaceutical care through innovative, safe, cost-effective, and accessible pharmacy services. Provide excellence in research and training.
HMC Ambulatory Pharmacy Service Goals

- Service and Program Excellence
- Human Resources
- Financial Viability
- Administration
HMC Pharmacist Provided Patient Care Standards of Practice

**Standard:** A progress note shall be written at each patient visit.

**Standard:** The pharmacist shall ensure that the subjective and objective information is consistent with the assessment and plan within the progress note.

**Standard:** Past medical history, medication history, and family history shall be noted by a provider at least once for each patient.

**Standard:** Social, diet, and exercise history shall be recorded when appropriate.

**Standard:** Current prescription and non-prescription medication shall be updated and documented at each visit.
HMC Pharmacist Provided Patient Care Standards of Practice

**Standard:** Adherence to the therapeutic plan shall be assessed at each visit.

**Standard:** Each patient visit shall include questioning and education concerning disease control, signs or symptoms of disease progression or new complications, and signs or symptoms of adverse reactions.

**Standard:** Each patient visit shall document appropriate objective information such as laboratory, physical assessment data, vital signs, as necessary for disease state management.

**Standard:** All patient counseling concerning drug therapy, adherence, diet, exercise, and other lifestyle factors shall be documented and patient understanding assessed and documented.

**Standard:** Therapeutic goals shall be clearly stated and documented.
Standard: Appropriate recommendations and drug regimen changes shall be made and documented in the plan.

Standard: Appropriate timing of follow-up visit shall be included in every plan.

Standard: The pharmacist shall follow the Harborview Medical Center guidelines for suspending a relationship with a patient who fails to keep appointments. The referring provider shall be notified for further follow-up.

Standard: Data collection assessing outcomes will be integrated into clinical guidelines and data collection performed by pharmaceutical care pharmacists.
HMC Pharmacist Provided Patient Care Standards of Practice

**Standard:** Nationally recognized treatment guidelines and clinic-specific standards of practice shall be utilized for the chronic and acute illnesses which clinic-based pharmacists manage:
Standards of Practice and Treatment Guidelines

- Antibiotic Management in Orthopedics Clinic
- Asthma & COPD
- Congestive Heart Failure
- Coronary Artery Disease
- Depression
- Diabetes Mellitus
- Dyslipidemia
- Emergency Contraception
- HIV/AIDS
- Hypertension
- Osteoporosis and Hormone Replacement Therapy
- OTC Triage
- Pain Management
- H. pylori Treatment
- Rheumatologic Disorders
- Seizure Disorders
- Sexually Transmitted Diseases
- Smoking Cessation
- Thromboembolic Disorders
- Travel Medicine
- Urinary Tract Infections
- Women’s Healthcare Issues
- Outcomes Tracking Program

**See examples**
Diabetes Guideline

Diagnosis

Diabetes mellitus may be diagnosed three ways, and in the absence of unequivocal hyperglycemia, must be confirmed on a subsequent day. Hemoglobin A1c is not recommended for the diagnosis of diabetes at this time.

- Symptoms of diabetes plus casual plasma glucose concentration $\geq 200$ mg/dl. Casual is defined as any time of the day without regard to time since the last meal. The classic symptoms of diabetes include polyuria, polydipsia, and unexplained weight loss.
  
  OR

- Fasting plasma glucose $\geq 126$ mg/dl. Fasting is defined as no caloric intake for at least 8 hours
  
  OR

- 2 hour post load glucose $\geq 200$ mg/dl during an oral glucose tolerance test. The test should be performed as described by WHO, using a glucose load containing the equivalent of 75 grams anhydrous glucose dissolved in water.
Diabetes Guideline

Treatment Goals

- Near normalization of blood glucose appropriate to individual patient circumstances as measured by a standardized hemoglobin A1c.
  - Hemoglobin A1c measured every 3 months
  - Target standards of hemoglobin A1c should be ≤ 7%. More stringent goals (a normal A1c < 6%) can be considered in individual patients. Higher target may be chosen for patients at severe risk of hypoglycemia or with minimal benefit from tight control.
  - Preprandial glucose 80-120 mg/dl
- Blood pressure ≤ 130/80
- Lipids: LDL <100 mg/dl, triglycerides <150 mg/dl, and HDL >50 mg/dl. In people with diabetes over the age of 40 with a total cholesterol ≥ 135, recommending statin therapy to achieve an LDL reduction of approximately 30%, regardless of baseline LDL levels, may be appropriate.
- Cardiovascular risk reduction including, low dose aspirin therapy, weight reduction, and smoking cessation.
- Prevention of complications: retinopathy, nephropathy, neuropathy, heart disease
- Patient education: disease state knowledge, treatment plan, self-management
Diabetes Guideline

Monitoring & Evaluation

<table>
<thead>
<tr>
<th>Data Elements</th>
<th>Collection Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at diagnosis</td>
<td>Once</td>
</tr>
<tr>
<td>Health habits (alc, exercise, smoking)</td>
<td>Yearly</td>
</tr>
<tr>
<td>Obesity (screening)</td>
<td>Every 3 years</td>
</tr>
<tr>
<td>Glycosylated hemoglobin (HgbA1c)</td>
<td>Every 3 months</td>
</tr>
<tr>
<td>Ophthalmology visit (dilated exam)</td>
<td>Yearly, (less frequent exams in low risk patients on the advise of an eye care professional)</td>
</tr>
<tr>
<td>Urine protein, albumin screening</td>
<td>Yearly</td>
</tr>
<tr>
<td>Foot exam, PAD screening</td>
<td>Yearly</td>
</tr>
<tr>
<td>Blood pressure (screening)</td>
<td>At each routine DM visit</td>
</tr>
<tr>
<td>Fasting lipid profile</td>
<td>Yearly, or every 2 years in patients meeting goals</td>
</tr>
<tr>
<td>Influenza vaccine</td>
<td>Yearly</td>
</tr>
<tr>
<td>Pneumococcal vaccine</td>
<td>Once</td>
</tr>
<tr>
<td>CHD screening, risk assessment</td>
<td>Yearly</td>
</tr>
</tbody>
</table>
Diabetes Guideline

Clinical Pharmacy Goals

- Identify patients with HgbA1c > 8.0%
- Identify patients not meeting pharmacologic treatment goals (BP, lipids, etc.) and optimize treatment using cost-effective therapy to achieve goals
- Identify appropriate patients not on daily aspirin and start therapy
- Facilitate education of self-care, self-blood sugar monitoring, understanding disease states
- All patients must demonstrate proper glucometer technique
- Identify and follow up patients with high emergency department or urgent care visits for diabetes related complications
Diabetes Guideline

Outcomes Measurement

- Achieve pharmacologic treatment goals of blood pressure <130/80, LDL < 100 mg/dl, and HgbA1c ≤ 7%
- Reduction in hospitalizations for diabetes related complications
- Reduction in cardiovascular events

Bibliography


Patient Education

- www.diabetes.org
Asthma Guideline

Goals of Therapy

Provide optimal pharmacotherapy and meet patients’ and families' expectation of asthma care.

- Prevent chronic and troublesome symptoms
- Maintain (near) “normal” pulmonary function
- Maintain activity levels including work attendance and exercise and other physical activity
- Prevent recurrent exacerbations and minimize the need for emergency room visits or hospitalizations
- Minimize adverse effects from medications
Asthma Guideline

Goals of Therapy

Control of Factors Contributing to Asthma

- Identify and control environmental triggers such as:
  - Allergens
  - Occupational exposures
  - Environmental tobacco smoke
- Reduce effects of other medical conditions
  - Rhinitis
  - Sinusitis
  - Gerd
- Medications
- Viral respiratory infections
Asthma Guideline

Stepwise approach to pharmacological therapy

- Usual doses for long-term control medications to achieve and maintain control of persistent asthma as recommended by UWP guidelines and NHLBI asthma severity classification
- Quick relief medications to treat symptoms and exacerbations
- See references as listed
- Management of Asthma Exacerbations
- Facilitate asthma self-care skills for all patients
- Peak flow meter provided to patients especially at severity level step 3 and step 4 or patients in need of self-monitoring after exacerbation.
- All patients should have a written action plan
Asthma Guideline

Patient Education

- Teach and reinforce at every opportunity
- Basic facts of asthma
- Role of medications
- Correct inhaler technique
- Environmental control
- Recognizing symptom patterns, indicating inadequate asthma control and course of action
- When and how to take rescue action
Asthma Guideline

Clinical Pharmacy Goals

- Identify patients with high emergency department or urgent care visits for asthma exacerbations
- Identify patients with high albuterol use and inadequate inhaled corticosteroid doses
- All patients must demonstrate correct inhaler technique.
- Facilitate written action plan for all patients
- Identify and monitor adverse effects of drug therapy
- Facilitate smoking cessation as necessary
- Facilitate yearly influenza vaccination
- Reduce nebulizer use in clinics or outpatient pharmacy
- ID patients who would be appropriate for peak flow monitors
  - Moderate or severe persistent asthma
  - Patient with an exacerbation of asthma
Asthma Guideline

Outcome Measurements

- Follow up with patients with emergency room or urgent care visits or hospitalizations within last 6 months.
- Follow up with patients with a hospitalization within last year for asthma exacerbation to meet goals of therapy and reduce hospitalizations.
- Patients medication refill history reflects ratio of albuterol or serevent inhaler to maintenance medication $\leq 0.8$.
- Patients demonstrate correct inhaler technique and receive aerochamber or other spacer.
- Peak flow readings are $>80\%$ of personal best.
Asthma Guideline

Bibliography

- NHLBI Expert Panel 2: “Guidelines for the Diagnosis and Management of Asthma”
- (http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.htm)
Pharmacist-based Primary Care Clinics at HMC

- Adult Medicine Clinic
- Senior Care Clinic
- Family Medicine Clinic
- International Medicine Clinic
- Women’s Clinic
- Children’s and Teen’s Clinic
- Pioneer Square Clinic
Pharmacist-based Specialty Care Clinics at HMC

- Community Mental Health Center
- Madison Clinic
- ACTU/AVEU
- Endocrine Clinic
- Orthopedics Clinic
- Cardiology Clinic
- Neurosciences Clinic
- Asthma/Pulmonary Clinic
- Hepatitis Clinic
Clinic-based Pharmacist Services/Activities at HMC

- Medication management
- Patient education and counseling
- Interdisciplinary care coordination
- Consultation/education with providers
- Measuring/reporting patient outcomes
- Development of standards of practice
- Evidence-based literature evaluation
- Publications in peer-reviewed journals
- Clerkship experience and education
HMC Response to IOM Report

- Developed pharmacist standards of practice
- Expanded pharmacist scope of practice
- Engaged in CDTM to enhance quality of care
- Accessed information systems
- Developed referral system based on “risk profile”

Established Pharmacists as part of the health care team
Questions??

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