Beyond the Drug Budget: Documenting Pharmacy’s Impact On Overall Health System Costs

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Objectives

- To understand how pharmacy expenses fit into the overall expenses of the health-system
- To understand the impact pharmacy initiatives can have on total health-system expenses
- To consider strategies for positioning pharmacy as a positive impact on health-system expenditures
Economic Background - SLH

- 20% volumes decrease over 4 year period
- Major building project nearing completion
  - New depreciation expenses
- Strong economic pressure to reduce costs
Strategic Cost Reduction Teams

- Department level budget reviews undertaken
- The ‘usual suspects’
  - Manhours
  - Travel, capital, etc
- Pharmacy emphasis
  - Drug budget
  - Staffing
Review of Pharmacy Budget

- Drugs
- Everything Else
Drug Budget in Context

- Over 75% of US drug expenses occur outside of health-systems (hospitals and clinics)

- Hospitalization expenses are three times greater than all drug expenses
  - All drugs, all settings

- Drug budget typically comprise less than 10% total hospital costs

Source: CMS Office of the Actuary, National Statistics Group
Progression of the Profession

- Four ‘major themes’
  - Responsibility for drug procurement, distribution, and control
  - Assumed major role in patient safety
  - Assumed major role in promoting rational drug therapy
  - Mission to foster optimal patient outcomes from medication use

- W Zellmer, Handbook of Institutional Pharmacy Practice, Fourth Edition; pg 20
Documenting Clinical Interventions

- Value

- Typical focus
  - Drug procurement and selection
  - Safety issues
  - Rational drug therapy
Missing “Link”

- “Fostering optimal patient outcomes”
  - Under documented/reported
  - Under recognized, under valued

- “Medications are good investments that provide more value than any other biomedical technology - if used rationally.”
  - Managing Escalating Drug Costs, Novation
Case Study 1 – Pneumonia Order Sets

- Long standing pneumonia order set in place

- Late 2008 pathway updated; implemented order sets for:
  - Community Acquired Pneumonia
  - Healthcare Associated Pneumonia
  - Hospital Associated Pneumonia
  - Ventilator Associated Pneumonia

- Order set selection algorithm employed
Pneumonia Order Set - Results

- Back end analytics employed
- Use of order set resulted in
  - Slight decrease in antibiotic duration
  - 3 day decrease in LOS
- Major truth – most of the money may not be the drugs; the savings may not be either
Pneumonia Order Sets – Role of Pharmacy

- Pharmacy recognized need for separate order sets
- Pharmacists worked out details of order sets
- Pharmacists provided education during roll-out
Case Study 2 – Sedation Order Set for Mechanically Ventilated Patients

- **No standard management existed**

- **Primary end points**
  - Quantity and cost of sedation medications used
  - Days on mechanical ventilation
  - Days in the MICU
Sedation Order Set Highlights

- Guidance for appropriate selection of sedation and analgesics medications
- Daily sedation vacations
- Daily assessment of MICU delirium
Sedation Order Set - Results

- **Drug Cost Savings**
  - 59% decrease
  - $47,970/annualized

- **Decrease in Ventilator Days**
  - 1.06 days/pt
  - Impact on daily vent charges = $192,920 annualized

- **Decrease in MICU days**
  - 0.96 days/pt
  - Impact on room charges = $286,000 annualized
Value of Sedation Order Sets

- Much of drug savings lost with dexmedetomidine usage
- Non-drug value remains; order set extended to other settings
- Pharmacy initiated; true value beyond the drug budget
Case Study 3 – Stress Ulcer Prophylaxis

- Use of acid suppressants for critically ill patients commonplace
- Stress ulcer prophylaxis (SUP) is not without consequences
  - Increased risk of pneumonia
  - Increase risk of C. Difficile associate diarrhea (CDAD)
  - thrombocytopenia, risk of fractures, others
- Guidelines developed for appropriate use
  - *Am J Health Syst Pharm.* 1999;56:374
Stress Ulcer Prophylaxis, cont.

- SLH review
  - 44% SUP inappropriately initiated
  - 86% therapies continued upon transfer out of ICU
  - 45% discharged on home therapy
  - ~$10,000/year unnecessary SUP agent therapy
- Consistent with literature
Stress Ulcer Prophylaxis - Opportunities

- $10,000 burden on drug budget

- Other clinical opportunities
  - 26% developed HAP/VAP
  - 3% developed CDAD

- Who is going to fix this, and where are the savings opportunity?
SUP – Action Steps

- System initiative
- Traditional RX interventions
- Pharmacy developed automatic discontinuation based on criteria
- Piloting in eICU with physician intervention
- Value of a 1% decrease in HAP/VAP and CDAD
Case Study 4 - MTM Initiative

- SLHS is self-insured utilizing a TPA
- Total healthcare cost ~$60m (drug expenditures ~$8m)
- Additional costs absenteeism, presentee-ism
MTM Opportunity

- Hypothesis – pharmacists can impact outcomes, decrease complications, and lower overall costs
- Partner with Comp/Benefits Department, Employee Health
- Selected uncontrolled hypertension
MTM Initiative

- Identify employees with uncontrolled hypertension
- Provide opportunity for pharmacist management/intervention
- Track outcomes
MTM Initiative – Pharmacist Management

- Expansion of ambulatory outpatient pharmacy services
- Incentive provision
- Incorporate into overall wellness strategies for employees
MTM Initiative Outcomes

- Track compliance rates
- Track blood pressure
- Track complications
- Track absentee rates
Other Opportunities

- IV to PO programs
- Anticoagulation safety goal
  - Cost of misadventures
  - Impact on rate of misadventures
- Vaccination programs
- “Never events”
  - Infection related
  - DVT/PE related
  - Glycemic control issues
Action Steps

- Aim beyond the department
  - Quality/outcomes of care
  - Total cost of care

- Invest in ‘back end’ analytics to measure outcomes

- Tell your story
Conclusion

- Pharmacy must continue to manage pharmaceutical expenses.
- Through good drug-use policy, pharmacy can have a larger impact on overall health-system costs.
- Need to better document and promote pharmacy’s impact in ‘fostering optimal patient outcomes’.