Development of a CDTM Practice

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KJMC Statistics
- 864 Bed Single entity Acute & LTC
- 10,559 discharges annually
- 33,000 emergency department visits annually
- 91,000 outpatient visits
- 2,400 employees
- $260 million in annual revenue

Table of Organization
Department of Pharmacy
- Chief Pharmacy Officer reports to COO and EVP
- Director of Pharmacy oversees operational staff
- Director of Pharmacotherapy oversees clinical staff
- Coordinators
  - Infectious Diseases and Geriatrics
  - Critical care, emergency medicine, IM, psychiatry, geriatrics, ambulatory care
- Pharmacy Residents
  - PGY-1 and PGY-2

Clinical Pharmacy Team
Optimal Drug Therapy for all Patients
- Re-deployed Pharmacists from transcribing and order entry to unit-based Clinical Pharmacists
- Pharm.D. Degree
- 2-years of Residency experience
  - Pharmacy Practice Residency (PGY-1)
  - Specialty Residency (PGY-2)
  - Board Certified
- Clinical Pharmacists
  - Internal Medicine
  - Surgery
  - Critical Care
  - Internal Medicine
  - Geriatrics
  - Psychiatry
  - Infectious Diseases
  - Emergency Medicine
  - Wound Care
  - Ambulatory Care

Post-Graduate Training Program
- 8 Pharmacy Residents
  - Pharmacy Practice (PGY-1)
  - Critical Care (PGY-2)
  - Geriatrics (PGY-2)
  - Internal Medicine (PGY-2)
- Evening & Weekend Clinical Pharmacist coverage
- Justifying Pharmacy Residency Training
  - Residents Salary $45,000
  - Pharmacists Salary plus fringe benefits is $140,000
  - GME funding

Annual Pharmacotherapy Interventions 2006 - 2012

Total No. of Interventions
- 15,247
- 21,023
- 29,629
- 32,016
- 29,592
- 33,656
- 29,440
- 182,523
Annual Clinical Pharmacist’s Interventions
Outcome and Raw Drug Cost Savings
2006 – 2012

Total Outcome & Drug Cost Savings
$38,452,581

182,523 Pharmacotherapy Interventions

Antibiotic Stewardship
Clinical Pharmacists are consulted/paged by the medical staff and provide approvals for all restricted antimicrobials. They recommend the best drug at the correct dosing regimen, and appropriate monitoring.

Total No. of Interventions: 37,084

Adverse Drug Event Reporting 2004 - 2012
Clinical Pharmacists detect, report, manage, and record ADEs in electronic medical record

Number of Reports

Clinical Pharmacist-Based Ambulatory Care Practice at KJMC

- Types of Clinics
  - Warfarin/Anticoagulation
  - Pharmacotherapy
  - Tobacco Cessation
  - Diabetes Self Management Education and Training

- Staffing: Ambulatory Care Clinical Pharmacist Specialist
  - Traditional Pharm.D. plus PGY-2 Ambulatory Care Residency
  - Board Certified Ambulatory Care Pharmacist (BCACP)
  - Certified Anticoagulation Care Provider (CACP)
  - Residents rotating through 5 week clerkships

Examples of Reimbursement
Audits completed periodically

<table>
<thead>
<tr>
<th>Patient/Care</th>
<th>Physician</th>
<th>Clinic</th>
<th>Insurance</th>
<th>Reimbursement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enoxaparin-</td>
<td>Oncologist</td>
<td>Warfarin</td>
<td>Medicaid</td>
<td>$95</td>
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<tr>
<td>Warfarin</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Warfarin INR</td>
<td>Primary Care</td>
<td>Warfarin</td>
<td>Elderplan</td>
<td>$85</td>
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<tr>
<td>Warfarin, ASA, Clopidogrel</td>
<td>Hematologist</td>
<td>Warfarin</td>
<td>Cigna</td>
<td>$180</td>
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<tr>
<td>DM, CHF</td>
<td>Primary Care</td>
<td>Pharmacotherapy</td>
<td>Capitation</td>
<td>Capitation</td>
</tr>
<tr>
<td>DM, HTN</td>
<td>Primary Care</td>
<td>Pharmacotherapy</td>
<td>Medicaid</td>
<td>$160</td>
</tr>
<tr>
<td>Drug Interactions</td>
<td>Primary Care</td>
<td>Pharmacotherapy</td>
<td>Medicaid</td>
<td>$77</td>
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<tr>
<td>Drug-induced ADEs</td>
<td>Pulmonary</td>
<td>Pharmacotherapy</td>
<td>Fidelis</td>
<td>$180</td>
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<tr>
<td>Asthma/Smoking</td>
<td>Pulmonary</td>
<td>Pharmacotherapy</td>
<td>Oxford</td>
<td>$140</td>
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</tbody>
</table>

Benefits of a Clinical Pharmacist Based Ambulatory Care Clinic

- Reduce LOS
- Reduce Re-admissions
- Reduce ADEs
- Increase institutional revenue
- Adds to hospital portfolio of services
- Appealing service to medical staff
- Availability of Clinical Pharmacist expert in clinic
- Provides teaching and scholarship opportunities
Clinical Pharmacist-Based Ambulatory Care Proposal

- **Preamble**: Collaborative Drug Therapy Management (CDTM)
  - Is a performance of services by a pharmacist relating to the review, evaluation, and management of drug therapy to a patient who is being treated by a physician for a specific disease or disease state. Pharmacists are empowered to implement, modify, and manage drug therapy, write prescriptions (including controlled substances), order laboratory tests, perform routine patient monitoring such as vital signs and targeted physical exams, and collect patient histories.
  - Patients will be counseled extensively regarding disease state, medication therapy, and diet therapy.
  - Medication reconciliation will be performed.
  - The Clinical Pharmacists will be available on-call for patient questions and refills when needed.

Clinical Pharmacist-Based Ambulatory Care Proposal

- **Clinical Pharmacist Qualifications**
  - Pharm.D. Degree and a PGY-1 and PGY-2 Residency
  - Ambulatory Care Residency preferred

- **Cost**
  - Salary of a Clinical pharmacist $105,000 plus fringe benefits (30%) = $136,000.
  - Supplemental staff will include an Ambulatory Care PGY-2 Pharmacy Resident (salary $45,000/annually).
  - Hence, 2 FTEs may be used at the clinics for a total salary of $150,000 annually.

Clinical Pharmacist-Based Ambulatory Care Proposal

- **Case load assumptions**
  - 20 minutes per case
  - 3 patients per hour

- **Billing method**
  - Incident to Billing

- **Net revenue for 5 day/week clinic**
  - Reimbursement minus cost of salaries

Clinical Pharmacist-Based Ambulatory Care Proposal

- **“Incident to” Billing**
  - **WHAT?**
    - Service is “…integral, although incidental, part of the physician’s personal professional services in the course of diagnosis or treatment of an injury or illness.”
  - **WHO?**
    - Physician bills for services provided by non-physicians
    - Service requires “…direct physician supervision of auxiliary personnel.”
  - **WHERE?**
    - Direct supervision requires “…the physician must be present in the office suite and immediately available to provide assistance and direction…”

Clinical Pharmacist-Based Ambulatory Care Proposal

<table>
<thead>
<tr>
<th>Type of Clinic</th>
<th>Sessions (days)</th>
<th>Total Weekly Visits</th>
<th>Revenue at present rate ($90/case)</th>
<th>Revenue with Home Model ($135/case)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>3</td>
<td>18</td>
<td>1,620</td>
<td>2,430</td>
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<tr>
<td>Hypertension</td>
<td>0.5</td>
<td>9</td>
<td>810</td>
<td>1,215</td>
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<tr>
<td>Hyperlipidemia</td>
<td>0.5</td>
<td>9</td>
<td>810</td>
<td>1,215</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>0.5</td>
<td>9</td>
<td>810</td>
<td>1,215</td>
</tr>
<tr>
<td>Warfarin (Coumadin)</td>
<td>0.5</td>
<td>9</td>
<td>810</td>
<td>1,215</td>
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<tr>
<td>Antithrombotic (Aspirin, Plavix, Pradaxa, Brilinta)</td>
<td>0.5</td>
<td>9</td>
<td>810</td>
<td>1,215</td>
</tr>
<tr>
<td>Pharmacotherapy (General Medicine)</td>
<td>0.5</td>
<td>9</td>
<td>810</td>
<td>1,215</td>
</tr>
</tbody>
</table>

- **Weekly Revenue** $8,700 $12,150
- **Annual Revenue** $425,000 $615,000
- **Salaries** $150,000 $150,000
- **Annual Net Revenue** $275,000 $461,000

Essentials to Start a Clinical Pharmacist-Based Ambulatory Clinic

- Physician Champion and Partners
- CDTM Agreements
- Physician Referrers
- Laboratory partnership
- Billing and Finance collaboration
- Marketing services to physicians
- Nursing support
- Ambulatory clerical staff for scheduling

**Conclusions**

- The benefits of a CDTM practice include reduced LOS, readmissions, and therapeutic misadventures.
- A proposal for ambulatory CDTM clinics should include a description of CDTM, costs and qualifications of clinical pharmacist providers, case load, types of clinics, and revenue per patient case, and total net revenue.
- Essentials to start a CDTM ambulatory practice include physician champions and partners, collaboration with billing and finance, and a working partnership with laboratories.