THE VISION OF PHARM-2-PHARM

Leverage underutilized pharmacist expertise across the continuum of care to achieve the three-part aim of the CMS Innovation Center:

- Better care
- Better health
- Lower total costs

“Pharm2Pharm” = “Hospital Pharmacist to Community Pharmacist” care transition and coordination model focused on medications
BEFORE THERE WAS PHARM-2-PHARM, THERE WAS THE MINNESOTA EXPERIENCE...

• “Beginning in 1999, Fairview Health Services of Minneapolis/St. Paul implemented the ‘Collaborative Practice of Pharmaceutical Care’ at 6 of 15 primary care clinics, where pharmacists now play an integral role in the delivery of care”

• RESULTS:
  • Improvements in clinical outcomes
  • Reductions in cost

http://japha.org/article.aspx?articleid=1043431#Methods*
IMPROVED PATIENT OUTCOMES

<table>
<thead>
<tr>
<th>Met HEDIS criteria for hypertension management</th>
<th>Met HEDIS criteria for cholesterol management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients receiving face-to-face medication management services provided by pharmacists</td>
<td>Comparison group NOT receiving these pharmacist services</td>
</tr>
</tbody>
</table>

REDUCED TOTAL COST OF CARE (EVEN WITH INCREASE IN DRUG COSTS)

PHARMACIST ROLE:
- Dispense medications
- Answer clinician questions
- Manage formulary

RISK/GAP: Medication discrepancies?
RISK/GAP: Adequate medication instructions?

RISK/GAP: Patient has timely access to follow up care?
RISK/GAP: Patient picks up meds?

Community Pharmacies

TRADITIONAL MODEL
THE VISION

Leveraging the underutilized community pharmacist to achieve the three-part aim of the CMS Innovation Center:

- Better care
- Better health
- Reduced costs

**PHARMACIST ROLE:**
- Dispense medications
- Answer clinician questions
- Manage formulary

**ADDED PHARMACIST ROLE:**
- Identify patients at risk
- Medication reconciliation
- Patient education
- Hand-off to community pharmacist
- Readmission reviews

**“Pharm2Pharm” MODEL for HIGH RISK PATIENTS**
Pharm2Pharm Patient Timeline

**DISCHARGE**

- Hospital Consulting Pharmacist
  - Screen/enroll
  - Medication reconciliation
  - Patient engagement
  - Formal handoff
  - Review readmissions

**END OF ONE YEAR**

- Community Consulting Pharmacist
  - 12 medication management visits
  - Identify & resolve drug therapy problems
  - Quarterly updates to prescribers

**GOAL**

- Better health
- Prevent ED visits
- Prevent re-admissions
- Lower total cost of care
PHARM-2-PHARM MEDICATION PROCESSES*

Medication Reconciliation:
- Discrepancies Identified and Resolved (see 3-step process, page 29):
  - Medication name
  - Dose
  - Frequency
  - Route
  - Prescribed but not taken
  - Taken but not in patient's record
  - Other conflicting information

Review of Medical Conditions:
- Identified for Each Condition:
  - Patient's current clinical status
  - Clinical goals—where patient should be clinically (per provider and/or clinical guidelines)
  - Patient's personal health goals

Drug Therapy Problems:
- Problems Identified and Resolved (see 4-step process, page 31):
  - Indication/Appropriateness
  - Effectiveness
  - Safety/Side Effects
  - Adherence

Medication Education:

Close gaps in medication knowledge and skill

MODEL IMPLEMENTATION TO DATE

Launched in 4 counties: Maui, Kauai, Hawaii, Honolulu

Over 1,500 patients enrolled and handed off to Community Consulting Pharmacists

Through intensive CQI efforts, implemented and revised

• Standard Operating Procedures
• “Toolkit”
• Training
HEALTH INFORMATION TECHNOLOGY PROGRESS

**Lab access:** Majority of physicians have authorized the Consulting Pharmacists to have access to their enrolled patients’ labs via HHIE

**HCS Med 360:** Consulting Pharmacists are now using this to conduct preliminary medication reconciliation and maintain accurate medication list.

**Virtual translation service:** Now available to Community Consulting Pharmacists, allowing non-English speaking patients to be enrolled

**Secure messaging:** All care transition documents are now being sent by the Hospital Consulting Pharmacist to the Community Consulting Pharmacist via HHIE’s secure messaging system
HCS MED 360

14+ Robust data sources including but not limited to:

PBM’s
- MedCo, Caremark, Catamaran, ExpressScripts, Argus

Pharmacies
- CVS, Walgreens, Safeway

Insurance
- HMSA, Wellpoint, Aetna, Humana, Humana

Surescripts
Longitudinal fill history screen shot: shows gaps in med use
Pill Identifier

Side 1 Markings: [ ]
Side 2 Markings: [ ]
Shape: capsule
Color: beige/lavender

Search

Dilacor XR - 180 mg
HCS MED 360 VIA HHIE

Completed Med Rec Screen Shot: shows “inactivated med’s” (previous doses and regimens), clinician-added OTC’s and herbals
GENERALLY AVOID: Beta-blockers may antagonize the effects of beta-2 adrenergic bronchodilators and precipitate acute, life-threatening bronchospasm in patients with asthma or other obstructive airway diseases. The mechanism involves increased airway resistance and reduced bronchodilation due to blockade of beta-2 adrenergic receptors. The interaction may also occur with ophthalmically applied beta-blockers, which are systemically absorbed and can produce clinically significant systemic effects even at low or undetectable plasma levels. Due to opposing effects on beta-2 adrenergic receptors, propranolol has been used in the treatment of salbutamol overdose. MANAGEMENT: The use of beta-2 adrenergic bronchodilators in combination with beta-blockers, including ophthalmic formulations, should generally be avoided. If concomitant use is required, a cardioselective beta-blocker (e.g., acebutolol, atenolol, betaxolol, bisoprolol, metoprolol, nebivolol) is usually preferred. Nevertheless, caution is advised and respiratory status should be closely monitored, as cardioselectivity is not absolute and larger doses of beta-1 selective agents may pose some of the same risks as nonselective agents. In general, nonselective beta-blockers are considered contraindicated in patients with obstructive airways disease.
Longitudinal charting of clinical info screen shot: to correlate with med use.

Alternatively, select "Reports" tab and observations to create/print all summary charts with values listed.

**Systolic Blood Pressure**
- 3/17/14 8:39 150 mmHg
- 3/20/14 8:40 175 mmHg
- 3/24/14 8:40 210 mmHg

**Diastolic Blood Pressure**
- 3/17/14 8:39 80 mmHg

Pagoria, Natalie
**Patient HOME Meds**

**Attending MD:** WILLIS, SAM  
**Allergies:** penicillin (anaphylaxis), shellfish (rash), sulfa drug (rash)  

<table>
<thead>
<tr>
<th>Confirmed by</th>
<th>Pagoria, Natalie</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Medication - Brand Name</th>
<th>Dose</th>
<th>Prescriber</th>
<th>Last Fill</th>
</tr>
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<td><strong>ANTINEOPLASTICS</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>O'Spinol 1 mg/ml SOLN - Platino-MQL</td>
<td>Unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ANTINEOPLASTICS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CARDIOVASCULAR AGENTS</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LUPRIN-one mg PO capsules</td>
<td>1 cap</td>
<td>KADCOKA, CRAIG</td>
<td>12/26/13 12:00 am</td>
</tr>
<tr>
<td>ELOZINE INXS - Acetaminophen</td>
<td>30 mg</td>
<td>KRIEGER, ELIZABETH</td>
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</tr>
<tr>
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<td>10/29/13 12:00 am</td>
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<tr>
<td><strong>CENTRAL NERVOUS SYSTEM AGENTS</strong></td>
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<td></td>
</tr>
<tr>
<td>acetaminophen/aspirin/caffeine 250 mg-250 mg-65 mg TAB - Excedrin</td>
<td>Unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CENTRAL NERVOUS SYSTEM AGENTS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>COAGULATION MODIFIERS</strong></td>
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<tr>
<td>clopidogrel 75 mg TAB - Plaquin</td>
<td>75 mg</td>
<td>KADCOKA, CRAIG</td>
<td>12/26/13 12:00 am</td>
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<tr>
<td><strong>COAGULATION MODIFIERS</strong></td>
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<td></td>
</tr>
<tr>
<td>warfarin 1 mg TAB - Jantoven</td>
<td>1 mg</td>
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<td></td>
</tr>
</tbody>
</table>
Printable Patient Education Materials

clopidogrel

What is the most important information I should know about clopidogrel?

- Your doctor will perform blood tests to make sure you do not have certain genetic conditions that could prevent you from safely using clopidogrel.
- You should not use this medicine if you have any active bleeding such as a stomach ulcer or bleeding in the brain (such as from a head injury).
- Some medicines can interact with clopidogrel and should not be used at the same time. Your doctor may need to change your treatment plan if you also take other medicines, especially certain stomach acid reducers (esomeprazole, omeprazole, Nexium, Prilosec).

What is clopidogrel?

- Clopidogrel keeps the platelets in your blood from coagulating (clumping) to prevent unwanted blood clots that can occur with heart or blood vessel conditions.
- Clopidogrel is used to prevent blood clots after a recent heart attack or stroke, and in people with certain disorders of the heart or blood vessels.
- Clopidogrel may also be used for other purposes not listed in this medication guide.

What should I discuss with my healthcare provider before taking clopidogrel?

- You should not take this medicine if you are allergic to clopidogrel, or if you have any active bleeding such as a stomach ulcer or bleeding in the brain (such as from a head injury).
- Some medicines can interact with clopidogrel and should not be used at the same time. Your doctor may need to change your treatment plan if you also take other medicines, especially certain stomach acid reducers (esomeprazole, omeprazole, Nexium, Prilosec).
- To make sure clopidogrel is safe for you, tell your doctor if you have:
  - a bleeding or blood clotting disorder, such as TTP (thrombotic thrombocytopenic purpura) or hemophilia;
  - a history of stroke, including TIA ("mini-stroke");
  - a stomach ulcer or other digestive tract bleeding;
  - kidney disease;
  - if you are allergic to any of these medicines like clopidogrel, such as aspirin, ticagrelor, or thienopyridine;
  - FDA pregnancy category B. This medication is not expected to be harmful to an unborn baby. Tell your doctor if you are pregnant or plan to become pregnant during treatment.

- It is unknown whether clopidogrel passes into breast milk or if it could harm a nursing baby. You should not breastfeed while using this medicine.

How should I take clopidogrel?

- Follow all directions on your prescription label. Do not take this medicine in larger or smaller amounts or for longer than recommended.
- Clopidogrel can be taken with or without food.
- Because clopidogrel keeps your blood from clotting, it can also make it easier for you to bleed, even from a minor injury. Contact your doctor or seek emergency medical attention if you have bleeding that will not stop.
- If you need surgery or dental work, tell the surgeon or dentist about the medicine you are taking. You may need to stop using the medicine for at least 5 days before having surgery to prevent excessive bleeding. Follow your doctor's instructions and start taking clopidogrel again as soon as possible.
- You should not stop using this medicine suddenly. Use clopidogrel regularly even if you feel fine or have no symptoms. Get your prescription refilled before you run out of medicine completely.

08/12/2014
Page 1 of 2
HHIE PATIENT REGISTRY

- Simplified workflow walks pharmacists through the patient management process
- Attempts to reduce pharmacist workflow redundancy to improve efficiency.
HHIE PATIENT REGISTRY

- Maintains patient demographics, program status, provider associations and more
- Records patient program activity for reporting and potential analytics
HHIE PATIENT REGISTRY

Pharmacists are provided a personalized list view of patients of interest

- Pharmacists can filter, sort and search for patients based on multiple criteria

<table>
<thead>
<tr>
<th>State</th>
<th>Name</th>
<th>Age</th>
<th>Gender</th>
<th>Hospital Pharmacist</th>
<th>Discharge Date</th>
<th>Handoff Date</th>
<th>Community Pharmacy</th>
<th>Community Pharmacist</th>
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</thead>
<tbody>
<tr>
<td>Enrolled</td>
<td>Doe, Jane</td>
<td>0F</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Handed Off</td>
<td>Freece, Gom</td>
<td>24M</td>
<td>N/A</td>
<td>Colonel Mustard</td>
<td>06-15-2014</td>
<td>06-20-2014</td>
<td>Responsible Drug Company</td>
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<tr>
<td>Handed Off</td>
<td>Ghij, Abode</td>
<td>28F</td>
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<td>N/A</td>
<td>N/A</td>
<td>Hilo Medical Center</td>
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<td>Jacob, HeimerSchmidt, John</td>
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<tr>
<td>Assigned</td>
<td>Jan, Mary</td>
<td>0M</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>Angels Dose-n-Go</td>
<td>Albert Pujo</td>
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<tr>
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<td>0F</td>
<td>N/A</td>
<td>Colonel Mustard</td>
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<tr>
<td>Handed Off</td>
<td>Kraker, Polly</td>
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</tbody>
</table>
HHIE COMMUNITY HEALTH RECORD

Access to Clinical Reports

Real-time Laboratory Results
HHIE DIRECT SECURE MESSAGING

**Important Patient Information**

natalie.pagoria@hawaiihie.medicity.net

**Natalie Pagoria, M.D.**

Business Analyst II, Clinical Workflow
Hawai'i Health Information Exchange
Grantee for the State HIE Plan and the Hawai‘i Pacific Regional Extension Center

Direct Phone: 808-441-1383 | Fax: 808-441-1472
Email: npagoria@hawaiihie.org
Website: www.hawaiihie.org

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<table>
<thead>
<tr>
<th>HIT</th>
<th>CURRENT</th>
<th>POTENTIAL</th>
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<tbody>
<tr>
<td>Secure messaging</td>
<td>Pharmacist to pharmacist</td>
<td>Pharmacist to physician</td>
</tr>
<tr>
<td>HCS med rec, med list</td>
<td>Pharmacist: access/update at enrollment, readmission, each visit</td>
<td>Nurse/physician: access/update at ER, admission, office visit</td>
</tr>
<tr>
<td>Patient registry</td>
<td>Pharmacist: enrollment list, active patient list</td>
<td>Physician: high risk patient list</td>
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<tr>
<td>LAN translation</td>
<td>Pharmacist: across the continuum</td>
<td>Physician: office/follow-up visits</td>
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<td>Community health record</td>
<td>PLANNED: Pharmacist access to support medication monitoring</td>
<td>Nurse/physician: access info updated by pharmacist</td>
</tr>
<tr>
<td>Description</td>
<td>Value</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>---------------</td>
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</tr>
<tr>
<td>Total patients enrolled and handed off through March 2014</td>
<td>1,157</td>
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<tr>
<td>Average per patient acute care utilization 365 days prior to their</td>
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<tr>
<td>Pharm2Pharm enrollment/hand-off</td>
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<tr>
<td>Total cost of acute care for these patients 365 days prior to their</td>
<td>$30.6M</td>
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<tr>
<td>Pharm2Pharm enrollment/hand-off</td>
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<tr>
<td>Average per patient acute care cost 365 days prior to their Pharm2Pharm</td>
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<td>enrollment/hand-off</td>
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<tr>
<td>% of patients by race/ethnicity</td>
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</tr>
<tr>
<td>38% White/Caucasian</td>
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</tr>
<tr>
<td>26% Hawaiian</td>
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</tr>
<tr>
<td>14% Filipino</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13% Japanese</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3% Other Pacific Islander</td>
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<tr>
<td>2% Hispanic/Latino</td>
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<tr>
<td>0.7% Black</td>
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<tr>
<td>0.7% Chinese</td>
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<td>0.4% American Indian</td>
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<tr>
<td>2% Other/unknown</td>
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<tr>
<td>% of patients by age</td>
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</tr>
<tr>
<td>5% 18-44</td>
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</tr>
<tr>
<td>11% 45-54</td>
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</tr>
<tr>
<td>20% 55-64</td>
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<td>32% 65-74</td>
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<td>23% 75-84</td>
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<tr>
<td>10% 85+</td>
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</tbody>
</table>
PER PATIENT acute care cost decrease pre/post Pharm2Pharm enrollment/handoff

330-day pre/post (pts enrolled through April 2013, n=60) $2,870
300-day pre/post (pts enrolled through May 2013, n=108) $5,796
270-day pre/post (pts enrolled through June 2013, n=157) $6,148
240-day pre/post (pts enrolled through July 2013, n=228) $9,341
210-day pre/post (pts enrolled through August 2013, n=339) $8,552
180-day pre/post (pts enrolled through September 2013, n=423) $9,408
150-day pre/post (pts enrolled through October 2013, n=538) $10,182
120-day pre/post (pts enrolled through November 2013, n=689) $10,839
90-day pre/post (pts enrolled through December 2013, n=799) $11,137
60-day pre/post (pts enrolled through January 2014, n=950) $10,467
30-day pre/post (pts enrolled through February 2014, n=1,049) $11,300
THREE-YEAR FOCUS

LAUNCH

Year 1
- Staff
- Contracts
- SOPs & tools
- Training
- Evaluation Plan
- Enrollment

IMPROVE

Year 2
- CQI
- HIT
- Provider collaborations

SUSTAIN

Year 3
- Payment models
- Partnerships
ACKNOWLEDGEMENT OF FEDERAL FUNDING

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