Deploying Pharmacists on the Care Team to Get Towards Zero Heart Attacks and Strokes

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Pharmacist on the Care Team

• The unmet need
• What is Comprehensive Medication Management (CMM)?
• The evidence
• California Right Meds Collaborative and aligned state initiatives
MEDICATIONS MATTER

Adverse effects from medications are estimated to be the 4th leading cause of death in the U.S.\(^1\)

$528.4\text{ BILLION}$
of avoidable spending annually is due to misuse or suboptimal use of medications\(^2\).

75\% of hospital readmissions
among seniors in the U.S. are avoidable, primarily through better use of medications\(^3\).

\(\frac{1}{2}\) of the prescription medications taken every year in the US are used improperly\(^4\).

10 people in the U.S. die every hour from preventable medication harms.

WHAT can I do next to start benefitting from CMM?

Healthcare professionals:
For more information, go to:

- to include a one-stop-shop for CMM resources
  [http://calrightmeds.org/](http://calrightmeds.org/)

High-Risk Patients:
Talk to your physician and ask for CMM

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Primary Care Physician Supply and Demand

1 in 3 active physicians in the U.S. practice primary care, 288,000 out of 869,000.

A primary care physician with 2,000 patients would need to spend 17.4 hours each day to provide recommended preventative, chronic and acute care.

1 in 6 medical school graduates selected a primary care residency program in 2017.

The estimated shortage of primary care physicians could grow from 18,000 in 2018 to 49,000 in 2030.

Source: United Health Group, www.unitedhealthgroup.com
2021 Survey of AHA Site Recognition Participants

**Intensifying Care**

Focus Group Questions: How does your team decide if a patient’s care should be intensified? Who does your team think is ultimately responsible for considering new drugs or therapeutics? Does your clinical team feel comfortable in intensifying care for poorly controlled patients, especially SGLT-2 inhibitors and GLP1 agonists?

**Identified Themes**

- Communication is broken. Difficulty getting medical records from endocrinologist to Primary Care Provider (PCP) and vice versa.
- Some PCPs are not comfortable providing SGLT-2 inhibitors and GLP1 agonists.
- Some clinics do have in-house endocrinologists who make those decisions.
- Some outpatient facilities do not have in-house endocrinologists, and endocrinology wait times are long.
  - PCPs sometimes start patients on new or intensified medications, sometimes they are not comfortable doing so, especially if many patients in the clinic do not return for follow-up.
- Some PCPs are the only option for medication management because patients refuse to go to an endocrinologist due to cost, time, or trust. (Some are comfortable with their PCP and only want to see that provider.)
- Some patients have medication fears such as, “If I go on insulin, I’ll be on it forever.”
- Difficult to get providers from different facilities and disciplines to communicate.
  - I.e. mental health providers and primary care providers don’t always prioritize communication between them. Primary care providers may not value the input or understanding of the mental health providers.
2021 Survey of AHA Site Recognition Participants

Intensifying Care (cont.)

Focus Group Questions: How does your team decide if a patient’s care should be intensified? Who does your team think is ultimately responsible for considering new drugs or therapeutics? Does your clinical team feel comfortable in intensifying care for poorly controlled patients, especially SGLT-2 inhibitors and GLP1 agonists?

Identified Themes (cont.)

Providers don’t have the time to do education to learn of new therapeutics.

• Provider comfort with intensifying diabetic care and therapeutics:
  • Some dual trained staff in family practice/internal medicine are more comfortable intensifying.
  • Many nurse practitioners are not comfortable intensifying.
  • Medical directors oftentimes do the intensifying or review cases.
  • Younger physicians or residents are more comfortable intensifying. Older physicians are not interested in spending the time to learn all of the medication options.
    • One facility specifically trains residents in new drugs and therapeutics for diabetes.
  • Tension between diabetes educators recommending things to patients and physicians not wanting the patients to come asking them for those things.
  • PCPs are overwhelmed and intimidated with all of the medication options and sometimes “throw their hands up” as they don’t know what to prescribe or what is covered by insurance. They would rather an endocrinologist take over.
Pharmacist on the Care Team

- The unmet need

- What is Comprehensive Medication Management (CMM)?

- The evidence
Comprehensive Medication Management: Standard of Care for Optimizing Medication Therapy

Right choice

Comorbidities and other medications
“Aren’t pharmacists trying to practice medicine without a medical degree??”

- 4 year PharmD training heavily focuses on optimizing medication therapy
- Pharmacists are targeting medication-related problems for diagnosed patients
- General and specialty residencies (up to 2-3 years), fellowship training
- Board certification: Pharmacotherapy, Cardiology, Critical Care, ID, Oncology, Psychiatry, etc.
- Some states: Advanced practice pharmacy license

Pharmacists are the only healthcare professional excited about managing...
...this
“Having pharmacists prescribe under protocol is going to fragment care!”

- By necessity, clinical pharmacy has always been highly collaborative.
- Legal requirements for clinical pharmacy services prevent fragmentation of care.
- Clear and consistent communication with healthcare team members ensures patient-centered care; appropriate referrals increase between team members and support services.
- Patient satisfaction with entire healthcare team and physician satisfaction have been shown to increase when clinical pharmacy services are integrated.

USC School of Pharmacy
History of Clinical Pharmacy & Collaborative Practice Agreements

- **1960’s**: IHS, VA
- **1970’s**: Kaiser, Other health plans, PBM’s, Med Groups
- **1980’s**: Safety Net Retail Rx
- **1990’s**: HRSA
- **2000’s**: CMS
- **2010’s**:
Using the Pharmacists' Patient Care Process to Manage High Blood Pressure: A Resource Guide for Pharmacists

A PROGRAM GUIDE FOR PUBLIC HEALTH

Partnering with Pharmacists in the Prevention and Control of Chronic Diseases

Get the medications right: a nationwide sampler of expert practice

Pharmacist on the Care Team
Patient Safety and Savings Brief

The role of the pharmacist has evolved beyond dispensing medication into active participation in disease management and prevention. By including pharmacists on the care team, published evidence and health system experience consistently demonstrate that mortality is reduced, disease outcomes improve, and healthcare costs are reduced for high-risk patients. Hospital readmission rates are reduced and patients are more satisfied with their healthcare. This evidence has been demonstrated in a broad range of conditions including cardiovascular diseases, diabetes management, asthma/COPD, anorexia, and psychosis.

A Need for Improved Medication Management

The cost of illness and death resulting from nonoptimized medication therapy reached $258.4 billion, equivalent to 16% of total U.S. health care expenditure, in 2010. A pharmacist on the care team can help to optimize medication therapy outcomes and reduce cost.

Recognition of Pharmacists on the Clinical Care Team

The California Department of Public Health, U.S. Surgeon General, CDC, and Agency for Healthcare Research and Quality (AHRQ) all support the value of pharmacists on the care team interventions for proven improved quality of care and high return on investment.

Five Recent Studies Bolster Evidence for Clinical and Economic Benefits of Adding Pharmacist on the Care Team

Pharmacists Working in Los Angeles Barbershops Improved Hypertension (HTN) Control (Long Beach, California, 2013)

In a 2018 published NIH-funded study, a much larger percentage of patients who had their medications managed by a pharmacist in their barbershop achieved HTN control compared to those for whom the

Mortality Rate Declined Dramatically for Recently Hospitalized Coronary Artery Disease Patients (Volker Permanente, Colorado, 2007)

CAD patients receiving comprehensive cardiac care from a collaborative practice of pharmacists and nurses soon after hospital discharge were 8% less likely to die or be readmitted to patients enrolled in the program.
$12 Million USC / AltaMed Center for Medicare and Medicaid Innovation
Healthcare Innovation Award: Specific Aims

10 teams
Pharmacist + Resident + Clinical Pharmacy Technician

OUTCOME MEASURES
✓ Healthcare Quality
✓ Safety
✓ Total Cost / ROI
✓ Patient & provider satisfaction
✓ Patient access

Telehealth clinical pharmacy
USC CMMI Project: Patient Targeting and Management Strategy

High cost patients

Frequent and recent acute care utilizers

48 EHR-embedded triggers to detect high risk patients

MD referrals

Clinical Pharmacy

USC School of Pharmacy

Comprehensive Medication Management

Treatment Goal Reached?

No

Unstable

Clinical pharmacy tech “check-ins” every 2 months

Yes

Clinical Pharmacy

USC School of Pharmacy

Comprehensive Medication Management

Treatment Goal Reached?

No

Unstable

Clinical pharmacy tech “check-ins” every 2 months

Yes
• Enrolled 6,000 patients since Oct 2012
  • Predominantly Hispanic, non-elderly women
• 3/4ths have hypertension, 36% uncontrolled
• 2/3rds have diabetes, 60% uncontrolled
• Low-moderate rates of hospitalizations
• Propensity score matched comparison with “usual care” patients
Blood Pressure Changes at 45 Days (n=356), Patients with BP > 140/90 mmHg Upon Enrollment

87% achieved BP < 140/90 mmHg within 45 days
Summary of Difference-in-Differences Results for Utilization (Treatment – Control, Probit Analysis)

At 6 month follow-up:

Readmissions per year per patient  \(-16\%\)

Readmissions per year per patient primarily attributed to medications  \(-33\%\)
Untreated (Cohort) Versus Treated Patients
Preliminary Findings, USC CMMI Program

Mortality rates

- 25.7% absolute difference

Months after enrollment
Medication-Related Problems Identified Through CMMI Program
67,169 problems among 5,775 patients (Avg 11.6 per patient)

- Medication Nonadherence
  - 14,059, 21%
- Insufficient Patient Self-Management
  - 8,267, 12%
- Safety Issues
  - 13,352, 20%
- Appropriateness / Effectiveness
  - 22,229, 33%
- Misc
  - 9,222, 14%
Physician Satisfaction

- Pharmacy team is accessible: 10.4% Strongly disagree, 89.6% Strongly agree
- Pharmacy team is respectful and courteous: 6.3% Disagree, 93.7% Strongly agree
- Pharmacists are knowledgeable: 8.3% Strongly disagree, 91.7% Strongly agree
- Agree with pharmacists' recommendations: 22.2% Strongly disagree, 24.4% Disagree, 73.3% Strongly agree
- SOAP notes are completed and forwarded in a timely manner: 4.4% Strongly disagree, 6.7% Disagree, 88.9% Strongly agree
- Encourage the utilization of CPS: 14.6% Strongly disagree, 85.4% Strongly agree
- CPS improves my patients' care: 8.3% Strongly disagree, 91.7% Strongly agree
- Support having CPS in my clinic: 6.3% Strongly disagree, 93.7% Strongly agree
Patient Satisfaction

Year 1 (n=168)
- 3.6 (0-6)
- 92.2 (9-10)
Average score = 9.6

Year 2 (n=269)
- 6.3 (0-6)
- 93.3 (9-10)
Average score = 9.7

USC School of Pharmacy
USC CMMI Comprehensive Medication Management Program: Value Proposition

- Lowers healthcare costs (for patients at risk for readmissions)
- Improves healthcare quality measures
- Resolves medication-related problems / medication safety
- Improves physician access / availability
- Improves physician satisfaction (avoid burnout)
- Improves patient satisfaction (patient retention)
- Lowers mortality
What was the Outcome of USC CMMI Healthcare Innovation Award?

A. CMS is working on policies that will support widespread availability of Comprehensive Medication Management services

B. FQHC partner for CMMI program funded Comprehensive Medication Management services upon conclusion of the grant period

C. None of the above
Pharmacist on the Care Team

• The unmet need
• What is Comprehensive Medication Management (CMM)?
• The evidence
  • California Right Meds Collaborative and aligned state initiatives
I can't seem to get Mr. Smith in here to see me.

This is what you need...

But that doesn't work for me?
• **Vision:** To provide optimal medication therapy for high-risk patients in their communities

• **Mission:** Create a network of pharmacists in the community that provide sustainable high-impact Comprehensive Medication Management (CMM) Services in alignment with health plan and health system population health priorities
Pharmacies per 10,000 People by County in the U.S., 2015

In the US:
- 67,000 pharmacies, 90%+ of US population lives within 5 miles
- 5,500 hospitals
- 5,400 emergency rooms
- 1,400 community health centers

How often do people visit pharmacies?
- Seniors: **12-14 times per year**
- Non-senior Medicaid: **24-36 times per year**
IHI Breakthrough Series Collaborative Process

**Mission:** Provide optimal medication therapy for high-risk patients in their communities

**Participants:** 10-300 teams - Vetted through surveys, plan data, location, site visits

**Prework**

**Expert Leadership Committee(s)**

**Ongoing Support:**
- Additional live trainings, including standardized patients
- **Virtual care training (phone and video telehealth)**
- Biweekly webinars (Comprehensive Medication Management, CQI, managing social determinants, culturally competent care, MI and SDM, etc.)
- Local 1:1 coaching
- Data sharing for quality improvement and aggregation of impact measures

**LS: Learning Session**

**AP: Action Period**

- LS1: Sep '19
- LS2: Sep '20
- LS3: Jun '21
- AP1
- AP2
- AP3

**Dissemination of Results** (publication, Congress, etc.)

**Holding the Gains**

63
California Right Meds Collaborative: *What Makes it Work?*

- **Stringent pharmacy vetting process**
- **Clinical documentation platform, CQI**

**Graph: USC / Blue Cross / Schering Community Pharmacy Asthma Program (N=434)**
- ER visits
- Hospitalizations
- Inpatient Days
- ER $ Pre vs Post
- Inpatient $ Pre vs Post

**1817**

**CDC**

**Calrightmeds.org**
L.A. Care Health Plan Interim Results: LA Care Team

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8 participating pilot pharmacies

Legend
- Hawthorne Professional Pharmacy
- Manchester Professional Pharmacy
- USC Medical Plaza Pharmacy
- Vermont VO Pharmacy
- Western University Pharmacy
- Pacific Oak Compounding Pharmacy
- The Prescription Shop
- Bellwood Medical Center Pharmacy
- Regional Community Advisory Committee (RCAC)
• Enrollment Proxy: A1C > 9%

• Comprehensive Medication Management goals and shared-risk value-based payment is aligned with HEDIS and STAR measures
  – Diabetes: A1c at least < 8%
  – Hypertension: BP at least < 140/90 mmHg
  – Statin: Initiate a statin if clinically appropriate

• Results reported reflect only ~5 months of program operation; most diabetes patients need ~8 months on average to reach glycemic goals
Demographics and General Baseline

- Enrolled 214 Medi-Cal members with a focus on reducing health disparities:
  - 105 (49%) members in Antelope Valley and South LA
  - 51 (24%) members self-identified as Black/African American
  - 96 (45%) Hispanic
- Avg age = 53 yo (R 22-72 yo)
- 45% male

- 138 patients with hypertension diagnosis
  - 43 patients with BP > 140/90 at baseline
- 42% on statin therapy at baseline
- Avg Baseline A1C 11.4% +/- 1.7
A1C, Baseline vs. End of Evaluation Period

A1C (%)

Baseline: 11.4
Follow Up: 8.9
# A1C Changes Associated with Number of Visits

As of 4/30/2021

<table>
<thead>
<tr>
<th>Visits</th>
<th>Total (n=207)</th>
<th>Average Baseline A1c</th>
<th>Average Most Recent A1c</th>
<th>▲ A1c</th>
</tr>
</thead>
<tbody>
<tr>
<td>5+</td>
<td>21</td>
<td>11.3</td>
<td>8.8</td>
<td>-2.5</td>
</tr>
<tr>
<td>4</td>
<td>18</td>
<td>11.8</td>
<td>10.6</td>
<td>-1.3</td>
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<td>3</td>
<td>21</td>
<td>10.9</td>
<td>9.7</td>
<td>-1.2</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>11.6</td>
<td>10.7</td>
<td>-0.9</td>
</tr>
<tr>
<td>1</td>
<td>105</td>
<td>11.5</td>
<td>11.4</td>
<td>-0.2</td>
</tr>
</tbody>
</table>
BP Control Level at End of Evaluation Period

<table>
<thead>
<tr>
<th>Blood Pressure (mmHg)</th>
<th>Baseline</th>
<th>Follow Up</th>
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</thead>
<tbody>
<tr>
<td>&lt;130/80</td>
<td>50%</td>
<td>60%</td>
</tr>
<tr>
<td>130-139/80-89</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>&gt;=140/90</td>
<td>40%</td>
<td>30%</td>
</tr>
</tbody>
</table>
Blood Pressure Changes Patients with BP>140/90 at Baseline

- SBP Baseline: 146 mmHg
- SBP Follow Up: 130 mmHg
- DBP Baseline: 85 mmHg
- DBP Follow Up: 77 mmHg
## Blood Pressure Changes Associated with Number of Visits

As of 4/2/2021

<table>
<thead>
<tr>
<th># of Visits</th>
<th>Total (n=207)</th>
<th>Average SBP</th>
<th>Average DBP</th>
<th>BP &lt;130/80 (%)</th>
<th>BP &lt; 140/90 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5+</td>
<td>21</td>
<td>129</td>
<td>76</td>
<td>48%</td>
<td>71%</td>
</tr>
<tr>
<td>4</td>
<td>18</td>
<td>132</td>
<td>78</td>
<td>22%</td>
<td>72%</td>
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<tr>
<td>3</td>
<td>21</td>
<td>131</td>
<td>80</td>
<td>38%</td>
<td>62%</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>134</td>
<td>79</td>
<td>26%</td>
<td>48%</td>
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<tr>
<td>1</td>
<td>105</td>
<td>138</td>
<td>82</td>
<td>10%</td>
<td>27%</td>
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</table>
Overcoming Treatment Inertia Without a Collaborative Practice Agreement

**Prescribers**

- **EVIDENCE-BASED AND EASY**: Combine recommendations with evidence and a clear follow-up plan
  - Provide relevant measures / labs / clinical findings with guidelines and (better yet) evidence specific to patient
  - Highlight use of appropriate technique and equipment (e.g., validated BP cuff, ACC / AHA standards for BP measurement)
  - Offer to manage patient follow-up with clear plan including frequency

- **FACE-TO-FACE**: Consult directly with PCP during weekly on-site clinic days or monthly inservices with clinic partner (if relevant)

- **LEVERAGE A RESPECTED AUTHORITY**: Endorsement by recognized authority (Keck Medical Center of USC, Cedars-Sinai Heart Institute, Right Care Initiative), PCP colleague, mentor, CMO, etc.

- **CQI / P4P**: Request assistance from QI director

**Patients, Family, Caregivers**

- **SELF-ADVOCACY**: Educate patient and/or family and caregivers on treatment goals, and provide summary of relevant measures / labs / symptoms to share with PCP and request action

- **APPOINTMENT ACCOMPANIMENT**: Offer virtual or in-person accompaniment to PCP appointment (inform PCP office in advance)
## Statin Utilization Associated with Number of Visits

As of 4/27/2021

<table>
<thead>
<tr>
<th># of Visits</th>
<th>Total (n=207)</th>
<th>Post-enrollment statin (Count)</th>
<th>Post-enrollment statin (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5+</td>
<td>21</td>
<td>16</td>
<td>84%</td>
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<td>4</td>
<td>18</td>
<td>12</td>
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<td>21</td>
<td>15</td>
<td>71%</td>
</tr>
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<td>2</td>
<td>42</td>
<td>25</td>
<td>60%</td>
</tr>
<tr>
<td>1</td>
<td>105</td>
<td>44</td>
<td>42%</td>
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California Right Meds Collaborative Patient Testimonial
### Progress and Next Steps

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Completed</th>
<th>Ongoing</th>
<th>Pending</th>
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</thead>
<tbody>
<tr>
<td>Selection process for Calif Right Meds Collaborative pharmacies</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intensive training for pilot Calif Right Meds Collaborative sites (live, patient actors, webinar)</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>Patient and medical provider targeting and enrollment strategies</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>Value-based payment models</td>
<td>✓</td>
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<tr>
<td>QI dashboard &amp; tools for teams</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>Learning Sessions, 1:1 Coaching, special / focused trainings</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Pilot program- PDSA, adaptive modeling, toolkit and resources</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Webinars / case reviews every 1-2 weeks</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Launch full rollout</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Spread awareness of and engagement in Calif Right Meds (health plans, government, public)</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaborate with state health goals aligned with CMM (e.g., Post-stroke Comprehensive Medication Management with CDPH)</td>
<td>✓</td>
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</tbody>
</table>

**Coming Fall 2021:** Psychiatry for Population Health Pharmacists (PPHP) Collaborative
California Initiatives Aligned with Comprehensive Medication Management and Adding Pharmacists to the Care Team

• CA DHCS Medication Management Benefit Proposal
  +
  CA Drug Utilization Review Board letter to DHCS requesting Comprehensive Medication Management benefit

• Covered California
In Closing…

• Calif Right Meds Collaborative: A sustainable value-based medication management service partnering health plans, physicians / medical groups, and community pharmacies that are
  • Trusted
  • Highly accessible
  • Extensively trained / coached
  • Culturally sensitive
• Multiple efforts in Calif to increase availability of Comprehensive Medication Management and pharmacists as care team partners / members
• Our Ask: Opportunities to promote Calif Right Meds Collaborative to more payers (health plans, government healthcare, self-insured employers, etc.)
MARTY, WHATEVER HAPPENS
DON'T EVER GO TO 2020!

USE TELEMEDICINE...
BECAUSE ONLY ACTORS SMILE IN WAITING ROOMS
YOU NEVER REALIZE HOW ANTI-SOCIAL YOU ARE UNTIL THERE'S A PANDEMIC AND YOUR LIFE DOESN'T REALLY CHANGE THAT MUCH