GTMRx Institute™

Get the medications right

Issue Brief | March 2022

CMMI project shows how comprehensive medication management (CMM) improves care for high-risk patients

Initiative has expanded statewide

A Centers for Medicare and Medicaid Innovation (CMMI) grant to the University of Southern California School of Pharmacy funded a pilot to evaluate the impact of integration of clinical pharmacy teams into primary care clinics.

USC collaborated with AltaMed Health Services to provide CMM services for patients with poor chronic disease control. Now, thanks to the success of that project, the program has expanded across the state.

The CMMI project, in brief

Participating patients met with clinical pharmacy teams and received a comprehensive evaluation of medication-related barriers to attainment of treatment goals. Through collaborative practice agreements with the physicians and an evidence-based approach to treatment, the clinical pharmacists were able to modify drug therapy, order tests for monitoring efficacy and safety and follow-up with each patient to ensure treatment success. All activities were documented in the EHR. The outcome? It fulfilled the Quadruple Aim:

- Lower health care costs for patients at risk for readmission: Less than 5% of patients saved about a third of the total cost of the program.
- Improved health care quality and safety
- Patient satisfaction
- Physician satisfaction

The pilot demonstrated that CMM can address an urgent problem in the health system.

The problem: Medications are not optimized

More than 10,000 medications are available on the market today, which is not surprising, given that medicine is how we treat most conditions: Roughly 75%-80% of physician office and hospital outpatient clinic visits involve medication therapy.[1,2] And nearly 30% of adults take five or more medications.[3]

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[1] McInnis, T. et al., editors. *The Patient-Centered Medical Home: Integrating Comprehensive Medication Management to Optimize Patient Outcomes.* 2nd ed., Patient-Centered Primary Care Collaborative.

[2] Centers for Disease Control and Prevention. "Therapeutic drug use." https://www.cdc.gov/nchs/fastats/drug-use-therapeutic.htm

[3] Medication Errors. June 2017, http://psnet.ahrq.gov/primers/primer/23/medication-errors

Further, more than 275,000 die each year because of non-optimized medication use. The financial cost tops $528 billion annually.[4]

Steven Chen, PharmD, FNAP, FASHP, FCSHP, associate dean for clinical affairs, USC School of Pharmacy and a GTMRx Distinguished Fellow, explains how CMM works.

Understanding CMM

CMM is a collaborative process between the physicians involved with a patient and the pharmacist working with that patient.

CMM comes down to

- Choosing the right medication given the array of medications that are available.
- Getting the dose right: not so high that it causes toxicity, not so low that it is ineffective.
- Ensuring the medications are safe, given comorbidities and other medications.
- Making sure patients can use medication-delivery devices correctly.
- Ensuring the medications are affordable to patients.

"These core components of comprehensive medication management apply to all the medications a patient is taking and to *all* conditions that the patient has," he says. And to be value based, there's needs to be follow-up, including monitoring patients for safety and efficacy in addition to getting patients to their treatment goals.

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The CMMI grant gave him and his colleagues an opportunity—and the support and the funding: $12 million over 3 years—to demonstrate that CMM works.

Selecting the patients

The program targeted high-cost, high-risk patients—and not only patients who were recently or frequently hospitalized. USC developed an algorithm based on such variables as demographics, vital signs, test results, problem lists and medications; combined, they would suggest gaps in medication related quality and safety.

"We provided comprehensive medication management to these patients until they reached treatment goal, however many visits were needed," Chen explains. And even then, they stayed connected. "A key element that sustained the gains from the intervention was deploying specially trained pharmacy technicians to check in with these patients to make sure they remained at goal even after they were discharged. That helped us maintain the goals that we had reached."

Dramatic outcomes

The results were stunning: Within 45 days or so, the program got almost 90% of patients to the target blood pressure. (See Figure 1, next page.) The results were also positive for diabetes or cholesterol, he says, "with about 10% absolute difference improvement in outcomes versus usual care."

The team logged 67,000 drug related problems among the roughly 6,000 enrolled patients. (See Figure 2, next page.) The most common drug-related problem they managed was appropriateness and effectiveness of drug therapy. "And what that means is that either a better medication could have been chosen for that patient, or the dose was either too

[4] Watanabe JH, McInnis T, Hirsch JD. Cost of prescription drug-related morbidity and mortality. *Ann Pharmacother* 2018;52(9):829-37. https://doi.org/10.1177/1060028018765159

low, or too high." He points out that quite commonly there were conditions not being treated—for example, a patient should have been on a statin but was not.

"What's important is that medication appropriateness and effectiveness was a much more common problem than the things that most people assume pharmacists deal with, such as medication adherence, polypharmacy, etc. Those are also obviously very important, but the point here is that the pharmacists are looking carefully at the appropriateness of medication use and fine-tuning treatment to help patients reach goal."

The pilot clearly improved outcomes, quality and safety. It also lowered costs for patients at risk of readmission. For these patients, Chen reports, the ROI was roughly 13:1, which is consistent with most CMM programs targeting patients with previous hospital admissions.

It met the other two aims as well.

Reducing the primary care burden

Michael Hochman, MD, MPH, CEO, Healthcare in Action, The SCAN Group, is a physician advisor with the GTMRx Institute. He was with AltaMed during the CMMI project.

"Working with a pharmacist really frees me up as the primary care doctor to do the things that are within my scope of practice—to manage the depression, and the shoulder pain, and so forth. So it really does take a lot of that chronic disease management burden off of me as the primary care doctor and gives it to the pharmacists, who are not only capable, but in many cases more effective at achieving these

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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

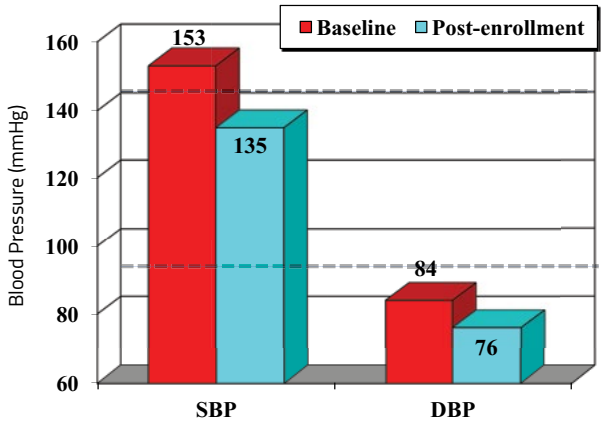

Figure 1

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

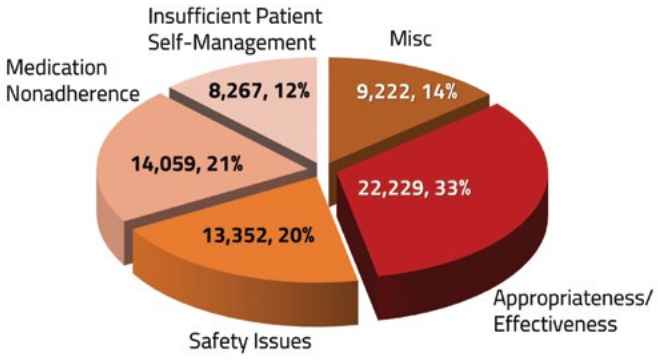

Figure 2

Engaging physicians in CMM

The physician engagement process is almost always the same, says Chen:

- **Invite everyone:** Offer the opportunity to all physicians and work with those who are interested first. "Eventually most others will be envious of the improvements in quality/safety scores, access, physician quality of life, etc. and ask to join." There will always be a few holdouts, he adds.
- **Align CMM with physician performance incentive programs:** (P4P, shared savings, etc.). "Any time you can offer something to a physician that will help them make more money while improving their report cards, it's an easy sell."
- **Initially target physician pain points:** Patient management for issues that they struggle with the most. By doing so and succeeding, more opportunities to expand will follow.

Working with community pharmacies, where pharmacists are not physically integrated into physician practices, poses an additional challenge. It's important to build credibility and trust by having the pharmacists work directly with the physicians, Chen explains. "Pharmacists need to either spend a day each week in clinics to build rapport and/or attend medical staff meetings to share patient progress and examples of successful collaborations with participating physicians."

chronic disease targets than I am as a primary care doctor."

For the CMMI project, half the clinics had the clinical pharmacist onsite, the other half didn't, and the positive outcomes generated a bit of envy. "By the end of the program, the control groups had found out about the program and started referring their patients to the intervention sites. It was clearly a huge win. And when the … ended there was really an outcry from the clinicians wanting to keep it. So clearly it was something that improved the staff and clinician experience."

Patients were satisfied, too: On a scale of one to 10, patients in the CMM program gave an average rating of 9.6. "Patients really appreciated having someone who is dedicated to that issue and could really get to the bottom of—for instance—their diabetes. I'm juggling the patient's depression and their shoulder pain and all these other things, and we just don't make that progress. And, of course, the clinical pharmacist can do a lot more of the work. They tend to do much more of their work by phone, which patients appreciate."

Making the case

A key question, says Chen, is this: How do we demonstrate to health plans that not only do they need this, but there's a way to pay for it that doesn't put them at full risk?

It comes down to total cost of care. He looked at the CMMI project data and figured out the cost to care for these high-risk patients—roughly, the 15% most challenging, expensive patients in any health system. Once he had those figures, he approached health plans. "I told them, 'this is the total cost for a patient; let's create a value-based plan together.' The plans were open to this approach because they appreciated the potential value of comprehensive medication management but didn't want to bear the full financial risk."

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> *Michael Hochman, MD, MPH, CEO of SCAN's Homeless Medical Group initiative*

Even with payor buy-in, not every primary care practice can afford to have a pharmacist on staff. "We have to take advantage of these retail settings to provide comprehensive medication management in the community," Hochman says. And that's what's happening now.

Taking it to scale

Given the success of the CMMI project, Chen wanted to take it to scale. "We wanted to take lessons learned from the CMMI project and three decades of CMM practice experience and bring it to scale, bring it to the larger population, not just within a network of qualified

health centers. So we said, look, let's leverage the availability of community pharmacies."

"There are 67,000 pharmacies in the United States. 90% of the population lives within five miles of a pharmacy. To put that in context, there are four times more pharmacies than Starbucks in the nation."

How often do people visit pharmacies?

- Seniors: 12-14 times per year
- Non-senior Medicaid: 24-36 times per year[5]

"That's a lot of face time with a health care professional in their local neighborhood that they trust," Chen said.

"In addition, pharmacies are almost always staffed with someone—a tech, a clerk or a pharmacist, who is from the same ethnic community being served and is able to speak the language. This can make all the difference in building rapport and trust. Another great advantage of community pharmacies is they can connect patients to local resources to address social determinants."

So the USC School of Pharmacy launched the California Right Meds Collaborative in September 2020. It is a sustainable and scalable value-based medication management service partnering with health plans, physicians/medical groups and pharmacists. The CMM service is integrated into medical clinics or community pharmacies, but the majority is delivered through community pharmacies.

The program leverages the trust that community pharmacies have among those they serve. Again, the outcomes are impressive. "We hit A1C reductions of about 2.6 points from baseline. It's down to three at this point." Blood pressure dropped 23 points from baseline assist on blood pressure. We're now around 80%-90% control at this point." (See Figures 3 and 4 below.)

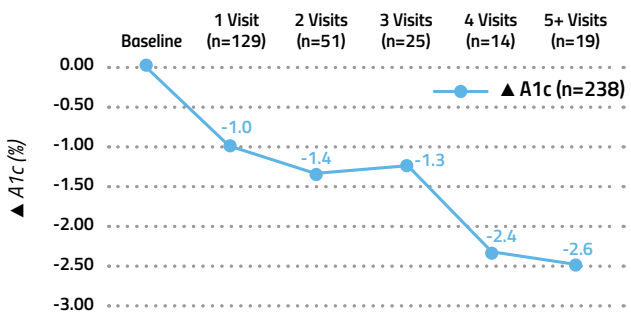
In terms of statin use, baseline was only 42% of patients that should have been on a statin; it's now approaching 95%.

Payors are happy. "The health plans, especially our first health plan partner, L.A. Care are really excited, so much so that the program has moved on from a pilot to full implementation. LA Care has doubled the number of participating pharmacies

[5] *JAMA Netw Open.* 2020;3(7): e209132. doi:10.1001/jamanetworkopen.2020.9132

Final Project: California Right Meds Collaborative (CRMC)—Outcomes Analysis

Change in A1c (%) – # of Visits

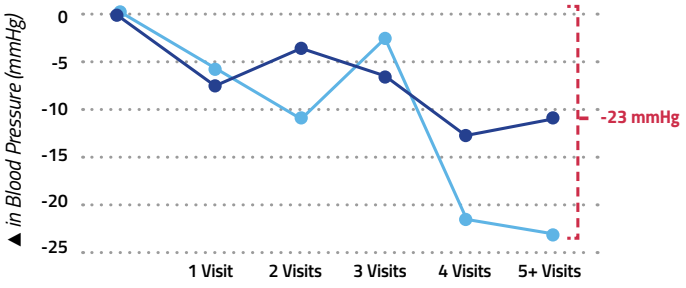


Visits	Total (n=238)	Average Baseline A1c	Average Most Recent A1c	▲ A1c
5+	19	11.4	9.0	-2.6
4	14	12.0	10.1	-2.4
3	25	10.7	9.8	-1.3
2	51	11.7	10.8	-1.4
1	129	11.6	11.3	-1.0

Figure 3

Blood Pressure Trends

Change in SBP and DBP in Members with Uncontrolled BP



# of Visits	Total (n=238)	Average SBP	Average DBP	BP <130/80 (%)	BP <140/90 (%)
5+	19	125	75	53%	84%
4	14	133	78	33%	89%
3	25	131	78	41%	73%
2	51	133	80	36%	67%
1	129	135	80	25%	58%

Figure 4

and is expanding patient eligibility for enrollment," Chen said.

The program is also expanding its offerings, including providing mental health management. More health plans are seeing the benefit of CMM. "We're increasing our health plan partnerships. We have two commercial and two Medicaid at this point. We're working with Covered California and making this a program available to their health plan participants."

That first CMMI grant set all this in motion. And CMMI can do it again.

CMM and CMMI

What happened with USC and Alta-Med can happen around the country. GTMRx believes CMMI should play a central role in developing payment models that support—and sustain—team-based care and services that optimize medication use through advanced primary care and specialty models. GTMRx's supports CMMI's new strategic focus and is available to offer expertise and support to advance the organizations goals. Now is the time to invest in team-based, patient-centered care models that recognize appropriately skilled clinical pharmacists as medication experts who work in collaborative practice with physicians and other providers. GTMR

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Health Care Value Week

About the Experts

Steven W. Chen, PharmD, FASHP FCSHP, FNAP
Associate Dean for Clinical Affairs, USC School of Pharmacy and a GTMRx Distinguished Fellow

Dr. Steven Chen is an associate professor and associate dean for clinical affairs at the USC School of Pharmacy and the William A. Heeres and Josephine A. Heeres Chair in Community Pharmacy. Dr. Chen was a quality assurance pharmacist and clinical pharmacy coordinator at the Department of Veterans Affairs before joining the faculty at USC in 1998.

Dr. Chen was recognized by the Center for Medicare and Medicaid Services in 2016 for his collaboration with the Partnership for Public Service that contributed to 87,000 lives saved, 2.1 million fewer patients harmed and $19.8 billion in costs saved. In 2017 he received a 3rd Pinnacle Award through his partnership with the Center for Medicare and Medicaid Innovation, and in 2018 he received the Pharmacist of the Year Award from the California Society of Health System Pharmacists. In 2019 he received the Leadership Award from the California Right Care Initiative.

Dr. Chen is part of a team of USC faculty that has directed over $15 million in grant-funded research focusing on the integration of comprehensive clinical pharmacy services into medical homes and the impact on healthcare quality, safety and cost. He is co-investigator and the clinical manager of a $12 million CMMI grant that partners USC with the largest private Medicaid provider in the nation, evaluating the impact of 10 clinical pharmacy teams on Quadruple Aim measures compared to usual medical care. He is co-chair emeritus of the HRSA Patient Safety and Clinical Pharmacy Services Collaborative (PSPC), which promoted the spread of clinical pharmacy service integration in medical homes across the nation from 2007 to 2012. He is founder of the California Right Meds Collaborative (CRMC), which extends the

About the Experts *continued*

work of the HRSA PSPC by engaging health plans, pharmacists, health systems and pharmacy schools in California in the initiation and spread of sustainable comprehensive medication management services. He is USC PI for a $3 million CDC 1817 wellness grant under the Los Angeles County Department of Public Health, which funds the CRMC work in partnership with the LA Care Health Plan for Los Angeles County.

Dr. Chen is a distinguished fellow of the GTMRx.

Michael Hochman, MD, MPH
CEO of SCAN's Homeless Medical Group initiative

Michael Hochman, is the CEO of SCAN's Homeless Medical Group initiative. Under his leadership, the group uses a "street medicine" model to focus on the care of patients experiencing homelessness in California. Dr. Hochman, a board certified general internist, is an active physician providing care within the medical group.

Dr. Hochman previously served as the inaugural director of the USC Gehr Family Center for Health Systems Science and Innovation; the medical director for innovation at AltaMed Health Services and the senior health deputy for LA County Board of Supervisor Member Mark Ridley-Thomas.

Dr. Hochman attended Harvard Medical School. He completed his residency in internal medicine at the Cambridge Health Alliance and was a Robert Wood Johnson Foundation Clinical Scholars Fellow at UCLA. As an instructor, Dr. Hochman has won several clinical teaching awards from Harvard Medical School and LAC+USC Medical Center.

Dr. Hochman has written on health topics for the Boston Globe and other publications and is the founding editor of the 50 Studies Every Doctor Should Know book series published by Oxford University Press.

Dr. Hochman is a physician advisor for the GTMRx Institute.

Our **VISION** is to enhance life by ensuring appropriate and personalized use of medication and gene therapies.

Our **MISSION** is to bring critical stakeholders together, bound by the urgent need to optimize outcomes and reduce costs by *getting the medications right.*

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Get the medications right

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About the GTMRx Institute
The GTMRx Institute is a catalyst for change that brings critical stakeholders together, bound by the urgent need to get the medications right. We are physicians, pharmacists, caregivers, health IT innovators, drug and diagnostics companies, consumer groups, employers, payers and health systems—aligned to save lives and save money through comprehensive medication management, or CMM. By showcasing evidence and innovation, we motivate practice transformation and push payment and policy reform. Together, we ACT to champion appropriate, effective, safe and precise use of medication and gene therapies. Learn more at gtmr.org.

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