Medication Optimization Use Case

KAISER PERMANENTE, Northern California (KPNC)

Focus Area	Chronic disease model that incorporates the clinician providing medication management services into a primary care patient population. The chronic disease therapy model focuses on outcomes seen when the clinician provides medication management services for common primary care conditions such as cardiovascular disease, diabetes, etc.
At-a-Glance	■ **Organization Type:** Integrated Model Health Maintenance ■ **Launch Date:** 2007 ■ **Payment and Funding Sources:** ▪ Kaiser Permanente health insurance
Organization Details	Kaiser Permanente is an employee health plan that operates numerous ambulatory care clinics across their service area. The model described in this use case positions clinicians in an internal medicine clinic to provide medication management services to the patient population.
Brief History of Medication Management Program, Scope of Services	In 2007, the chief of internal medicine asked for a pharmacist to run a diabetes/cardiovascular disease (CV) clinic to help improve diabetes and cardiovascular outcomes. This program evolved over time to a referral based medication management specialty care clinic, primarily focused on adult patients with poorly controlled diabetes (A1C>7%). Since the publication of the study, KPNC (Mountain View) has expanded the program to four part-time pharmacists.
Results & Achievements ***Focus on the Quadruple Aim*** ▪ *Better Outcomes* ▪ *Cost Savings* ▪ *Patient Satisfaction & Engagement* ▪ *Clinician Satisfaction*	**Better Outcomes** ■ Outcomes tracked were A1C, SBP, DBP, LDL-C and UK Prospective Diabetes Study (UKPDS) risk engine score. Assessments were made at baseline, three, six, nine and 12 months. Percentage of patients meeting all three American Diabetes Association (ADA) diabetes goals was also assessed. ■ LDL-C decreases were significantly greater at all time points (difference at 12 months = 35.1mg/dL versus 18.7mg/dL); A1C decreases were significantly greater at all time points (difference at 12 months = 8.4% versus 6.9%); SBP decreases were significantly greater at all time points (difference at 12 months = 3.0 mmHg); DBP decreases were not significantly different at 12 months; Percentage achieving all 3 American Diabetes Association goals improved at all time points (difference at 12 months = 36.7% versus 9.5%). ■ Coronary heart disease (CHD) risk (difference at 12 months = 9.3 versus 14.8); CHD death risk (difference at 12 months = 5.7 versus 10.3); Stroke risk (difference at 12 months = 6.8 versus 8.3); Fatal stroke risk (difference at 12 months = 0.9 versus 1.1). **Cost Savings** ■ In the study cited, the enhanced care group had lower treatment costs ($35,740 versus $44,529), more life years (8.9 versus 8.1) and more quality adjusted life years (5.51 versus 5.02 years) over a 10-year horizon using a Markov Model analysis.

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Patient Success Story	A 58-year old Hispanic female with Type 2 diabetes, hypertension, hyperlipidemia, coronary artery disease with history of MI, reduced ejection fracture, osteoarthritis, gastroesophageal reflux disease (GERD) and restless leg syndrome (RLS) was referred to the clinic a few years back with poorly controlled diabetes (A1C >12%), elevated blood pressure and suboptimal lipid therapy. After performing a thorough medication reconciliation, the pharmacist noticed the patient was taking a dopamine agonist for her RLS and metoclopramide 3-4 times/day on a regular basis for her GERD. Looking back at her history, he noticed the patient's RLS was a relatively new diagnosis. The pharmacist suspected that the longer-term use of metoclopramide may have been the cause of her symptoms and had her switch to famotidine instead. Within a few days, the patient's RLS symptoms resolved and the team was able to stop the dopamine agonist and remove the RLS diagnosis from the patient's problem list. Over the course of the next 2-3 months, the pharmacist helped the patient lower her A1C below 7%, initiated a high-intensity statin, helped start/titrate up her heart failure meds (beta blocker, ACE-I, spironolactone) to target doses based on heart failure guidelines and helped her achieve a goal BP reading of <130/80. She was extremely grateful to have such close follow-up and care and more importantly, sleep through the night without needing an extra prescription medication and/or co-payment.
Team-Based Care Strategy	■ Internal medicine clinic with 16 physicians as well an interprofessional team comprised of nurses, pharmacists, health technicians and clerical support. ■ The clinical pharmacist in this study runs a diabetes referral program for patients with type 2 diabetes and/or CV. ■ The clinician practice is guided by a collaborative practice agreement allowing pharmaco-therapy modifications, laboratory monitoring, dietary and physical activity recommenda-tions, initiating specialist referrals, providing immunizations, performing annual foot exams and physical assessment, in addition to general diabetes education. ■ Care is delivered as an initial 45-minute face-to-face meeting, and follow-up visits are conducted either in person or by telephone.
Patient Referral Criteria	■ **Eligible Patients:** Adult patients with type 2 diabetes referred to the medication management clinician for enhanced medication management services. ■ **Study Design:** A 1:1 matched control group from a different KPNC clinic. ■ **Populations of Focus:** Type 2 diabetes patients with poor glycemic control.

Size of Medication Management Program	■ **Staffing:**
	  ▪ Pharmacists: 4 part-time
	    - Practice Sites: KPNC (Mountain View)
	    - Pharmacist FTE: 1.7
	    - 0.2 FTE pharmacist specifically works with Spanish-speaking diabetes patients
	  ▪ Support Staff: 1 program assistant (1.0 FTE)
	
	■ **Members Using Services/Unique patients served:**
	  ▪ Each 0.5 FTE pharmacist (3 total) manages approximately 500-600 diabetes or CV patients

Program Success Factors	■ **Expanded Roles and Responsibilities of the Pharmacist**
	
	  ▪ Broad collaborative practice agreements
	
	  ▪ Utilization of all staff effectively so the clinician focuses on patient care
	
	  ▪ Consistent care process and follow-up
	
	  ▪ Advanced training and credentialing
	
	■ **Convenient Patient Access and Simple Program Entry**
	
	  ▪ High-risk factors, poor diabetes control and polypharmacy trigger referral for program entry; ensuring high-risk CV patients have optimal glycemic, BP, lipid and antiplatelet management can help reduce hospitalizations/premature CV-related death as well as improve HEDIS quality measures
	
	  ▪ Multiple care delivery modalities (e.g., in-person, telemedicine)
	
	■ **Leverage Medication Management Services to Achieve the Quadruple Aim**
	
	■ **Demonstrate Efficiency and Effectiveness of Cross-Setting Team-Based Care**
	
	  ▪ Clinical pharmacists ease primary care workload
	
	  ▪ Immediate/ongoing access to real-time patient data
	
	■ **Demonstrate and Articulate the Value of Medication Management Services**
	
	  ▪ Measurement and reporting sustain long-term clinician and program viability. Value demonstrated in the studies below have led to expansion of these programs.

Next Steps, Future Goals	■ Continue expanding efforts/funding to stay on top of the ever-changing diabetes landscape. ■ Track hospitalizations and CV-related deaths.
References	Ip EJ, Shah BM, Yu J, Chan J, Nguyen Lt, Bhatt DC. Enhancing diabetes care by adding a pharmacist to the primary care team. *Am J Health Syst Pharm* 2013; 70:877-886 Yu J, Shah BM, Ip EJ, Chan J. A Markov model of the cost effectiveness of pharmacist care for diabetes in prevention of cardiovascular diseases: evidence from Kaiser Permanente Northern California. J Manag Care Pharm 2013; 19:102-114.
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