Improving Healthcare Quality and Efficiency through Systematic Longitudinal Care for the Chronically Ill

David A.Dorr[1]

[1]Oregon Health and Science University, Department of Medical Informatics & Clinical Epidemiology, Portland, OR

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Context & Background

Quality of care of the chronically ill in the United States is poor and the incidence and burden of chronic disease is increasing. **Care Management Plus (CM+)** was designed, implemented, and tested at 7 primary care clinics at Intermountain Healthcare in response to the growing need for clinical care redesign in order to meet the complex needs of a chronically ill patient population. The program has expanded to an additional 93 clinical teams to date. Most clinical practice settings are not designed to deliver comprehensive quality care, but rather provide episodic and reactive services for single diseases or conditions. Before implementation, clinics adopting the **CM+** model were assessed for readiness in various areas of care delivery. The primary need identified was the ability to create and follow complex care plans over time, the solution to which is the use of a comprehensive care management system to implement changes.

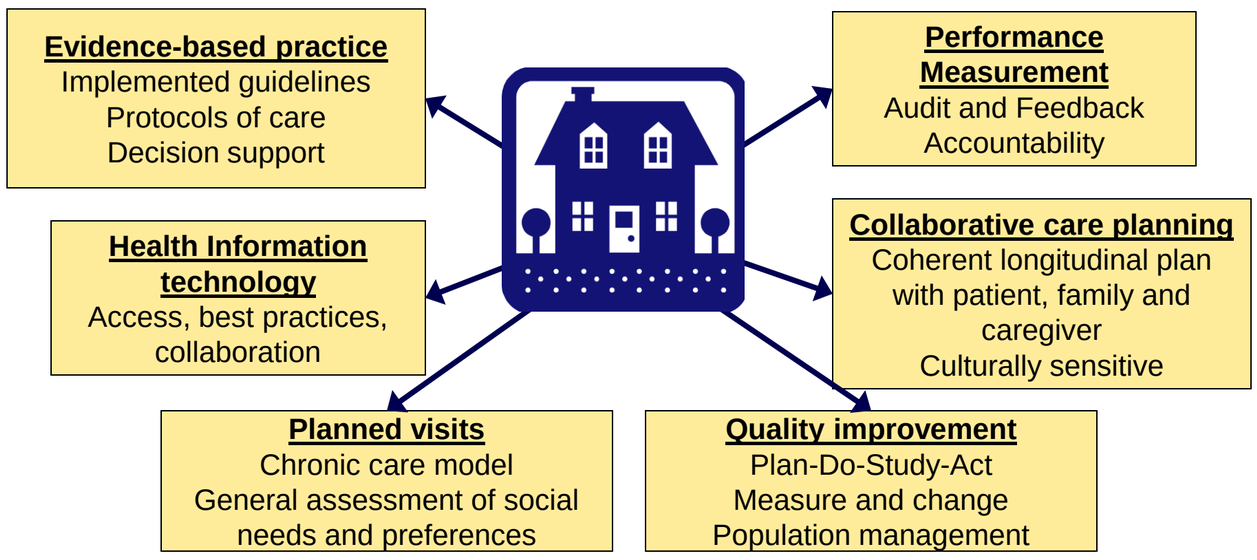
Primary need: to effectively provide consistent, patient-centered, longitudinal care for the growing population of patients with multiple chronic illnesses

Primary solution: enable a nurse care manager to provide a number of evidence-based activities that improve the quality of patient health, and use IT tools to overcome the barriers facing implementation of these techniques.

Core principle: *The **right** people on the team with the **right** training & tools*

Infrastructure

CM + follows a medical home model which can provide a more accurate measurement of high quality care

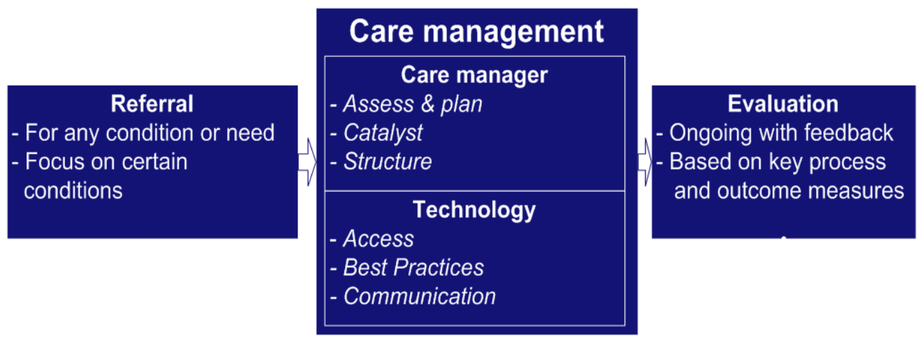


CM + attempts to fill in core gaps in many clinics through a proactive, flexible system.

Patients are taught to self-manage and have a guide through the system.
Care managers create / receive special training:

- Education, motivation/coaching
- Disease specific protocols (**all staff** included)
- Care for seniors / Caregiver support
- Connection to community resources

Other team members (physicians, MAs, pharmacists) participate in training, protocol development and implementation.



"I'm an educator. I provide support to the patients and facilitate getting them to the right resources. The goal being the patient gets to the point where they're able to self manage their disease—that's the overall goal."

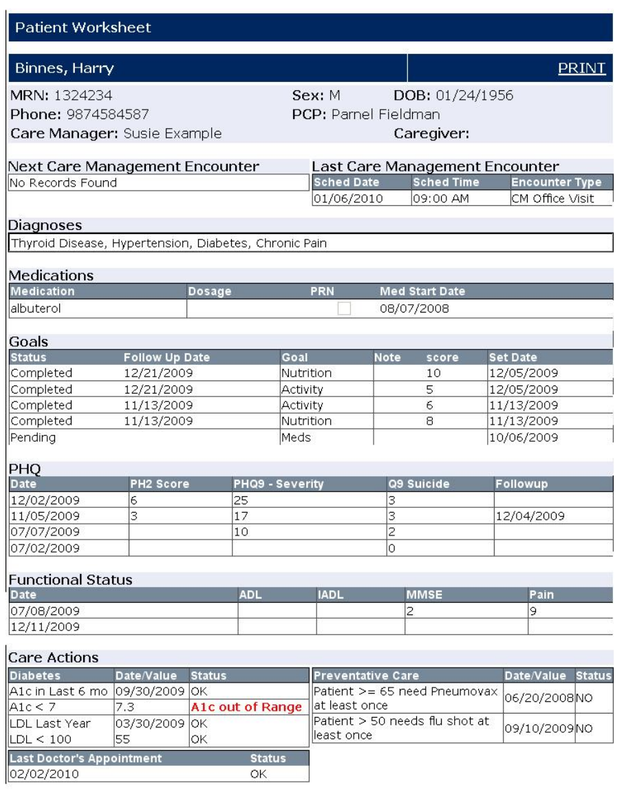
- CM+ Care Manager

Information Technology

Care Manager Tools

Patient Worksheet: Offers individualized summaries of chronic conditions, medications, goal progress reports, assessment results, test results, and recommendations for care for each patient.

ICCIS Tracking Tool: Offers EHR-integrated documentation of Care Manager work, in addition to assessment, goal setting, reporting, and scheduling tools



Patient Worksheet

Binnes, Harry — PRINT

MRN: 1324234 Sex: M DOB: 01/24/1956
Phone: 9874584587 PCP: Parnel Fieldman
Care Manager: Susie Example Caregiver:

Next Care Management Encounter: No Records Found

Last Care Management Encounter

Sched Date	Sched Time	Encounter Type
01/06/2010	09:00 AM	CM Office Visit

Diagnoses: Thyroid Disease, Hypertension, Diabetes, Chronic Pain

Medications

Medication	Dosage	PRN	Med Start Date
albuterol		☐	08/07/2008

Goals

Status	Follow Up Date	Goal	Note	score	Set Date
Completed	12/21/2009	Nutrition		10	12/05/2009
Completed	12/21/2009	Activity		5	12/05/2009
Completed	11/13/2009	Activity		6	11/13/2009
Completed	11/13/2009	Nutrition		8	11/13/2009
Pending		Meds			10/06/2009

PHQ

Date	PH2 Score	PHQ9 - Severity	Q9 Suicide	Followup
12/02/2009	6	25	3	
11/05/2009	3	17	3	12/04/2009
07/07/2009		10	2	
07/02/2009			0	

Functional Status

Date	ADL	IADL	MMSE	Pain
07/08/2009			2	9
12/11/2009				

Care Actions

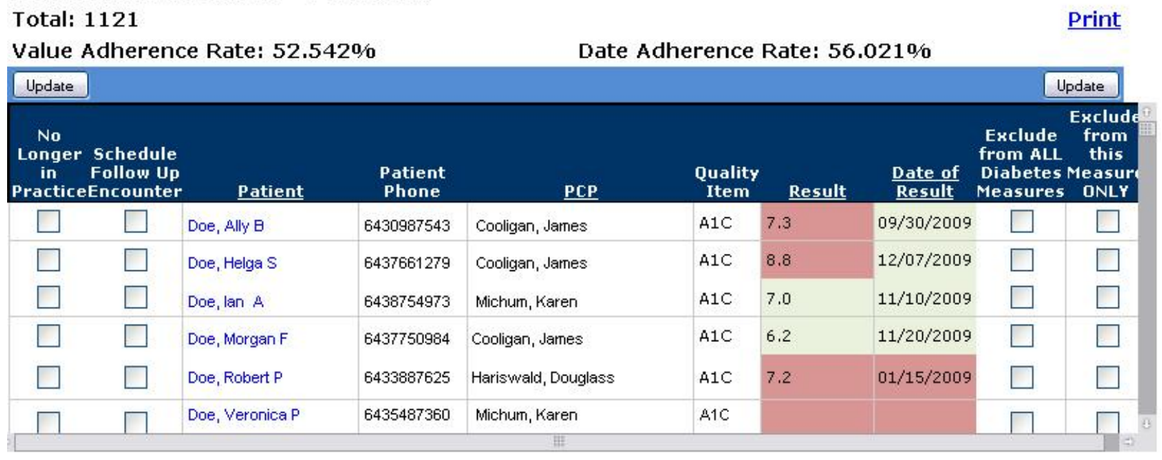
Diabetes	Date/Value	Status
A1c in Last 6 mo	09/30/2009	OK
A1c < 7	7.3	A1c out of Range
LDL Last Year	03/30/2009	OK
LDL < 100	55	OK

Preventative Care	Date/Value	Status
Patient >= 65 need Pneumovax at least once	06/20/2008	NO
Patient > 50 needs flu shot at least once	09/10/2009	NO

Last Doctor's Appointment	Status
02/02/2010	OK

Quality Improvement Tools

Quality Measure Report: Offers over a dozen age, diagnosis, and medication based quality measures to the clinical team. Team members can use the list to schedule appointments or exclude patients to increase their percent adherence. This also allows the practice to monitor quality improvement over time. Additional, custom measures can be added by **CM +** programmers.



Quality Measures

Select another Measure
Selected Measure: HbA1c < 7.0% (18+)
Total: 1121 Print
Value Adherence Rate: 52.542% **Date Adherence Rate:** 56.021%

Update Update

No Longer in Practice	Schedule Follow Up Encounter	Patient	Patient Phone	PCP	Quality Item	Result	Date of Result	Exclude from ALL Diabetes Measures	Exclude from this Measure ONLY
☐	☐	Doe, Ally B	6430987543	Cooligan, James	A1C	7.3	09/30/2009	☐	☐
☐	☐	Doe, Helga S	6437661279	Cooligan, James	A1C	8.8	12/07/2009	☐	☐
☐	☐	Doe, Ian A	6438754973	Michum, Karen	A1C	7.0	11/10/2009	☐	☐
☐	☐	Doe, Morgan F	6437750984	Cooligan, James	A1C	6.2	11/20/2009	☐	☐
☐	☐	Doe, Robert P	6433887625	Hariswald, Douglass	A1C	7.2	01/15/2009	☐	☐
☐	☐	Doe, Veronica P	6435487360	Michum, Karen	A1C			☐	☐

"That's the goal, right? To get that stuff improved… I mean it doesn't really help to have people call and harass [patients] to come and get their labs… unless things are improved"

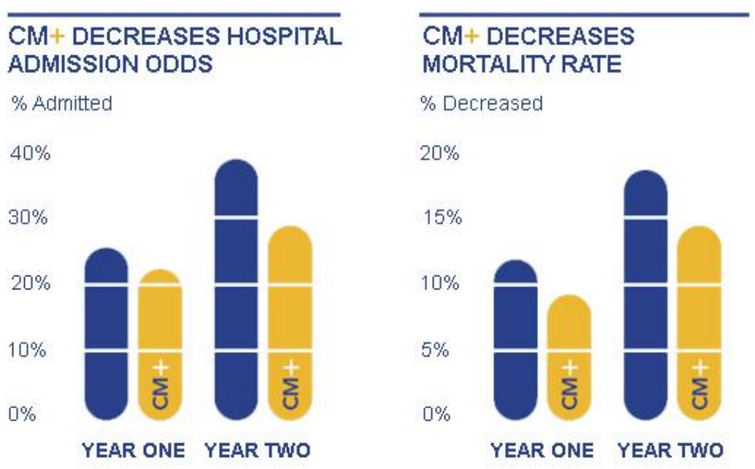
- CM+ Care Manager

Results

In the initial testing of **Care Management Plus**, we measured disease outcomes, physician productivity, death, and hospitalization rates quantitatively. For process measures, we looked at the services completed by the care managers and their relationship to the success of the patient.

Measurable Benefits for Patients and Practices

In peer-reviewed studies, the **CM +** model has demonstrated a wide range of benefits. For example, **CM +** patients, particularly those with diabetes and depression, Have shown improved adherence to disease guidelines. Most dramatically, **CM +** patients reduced their odds of hospital admission by 24-40 percent and their annual mortality rates by more than 20 percent compared to a control group.[1]



[1] Dorr DA, Wilcox AB, Brunker CP, Burdon RE, Donnely SM. The Effect of Technology Supported, Multidisease Care Management on the Mortality and Hospitalization of Seniors. J Am Geriatr Soc. 2008 Dec; 56 (12): 2195-2202.

Quality Improvement

Results of our current study focused on the use of quality improvement tools, like those mentioned above, by care managers , are still forthcoming. Data collected thus far is promising and shows increases for all measures attempted across diverse clinical settings.

Past Study Results showed the typical services provided by care managers which, when focused on patients who do not meet a quality measure, may be the impetus for positive change.

Service category	All patients	Seniors
ALL	22,899	9,434
Following evidence-based protocols	12,955 (56.6%)	4,421 (46.9%)
General education	6,808 (29.7%)	2,252 (23.9%)
Communication	6,789 (29.7%)	4,199 (44.5%)
Motivating patients	6,243 (27.3%)	2,247 (23.8%)
Social issues / barriers	8,221 (35.9%)	3,608 (38.2%)

Message for Others:

Quality measurement can be complex for patients with multiple illnesses. In providing high quality care for the growing population of chronically ill it is necessary to redefine quality measures that include all aspects of the care process affecting patient outcomes. Systematic training and information technology support can create a system of care management that can not only assess these new measures, but also quickly adapt to meet them.

For more information, see www.caremanagementplus.org