



# Identifying and Stratifying Individuals with Multiple Chronic Conditions for Care Management

## BACKGROUND

Chronic illness, particularly among individuals with multiple chronic conditions (MCC), accounts for the majority of health care expenditures, and is usually associated with poor quality of care—because care of these individuals is often fragmented, incomplete, inefficient, and/or ineffective.<sup>1,2</sup> Because people with MCC suffer suboptimal health care and incur rising health-care expenses, enhanced attention on this population is critical to improve health-care quality and reduce costs.

### **HHS MCC Initiative – Rationale for this Meeting**

In December 2010, the United States Department of Health and Human Services (HHS), with input from key stakeholder organizations, released an action-oriented strategic framework that outlines strategies for maximizing care of, and improving health and quality of life for, individuals with MCC.<sup>3</sup>

On March 27, 2012, an expert panel was convened at HHS to identify and prioritize strategies outlined in the MCC Strategic Framework requiring more intensive activity. The panel felt that shared learning of efforts to appropriately identify and stratify high-risk patient populations, particularly patients with MCC for more focused care interventions [Goal 1, Objective A, Strategy 1] would be a positive step towards addressing a gap of activity in the MCC Strategic Framework.

### **Identification and Management of High-Risk Individuals**

Disease and care management models have evolved as a way of managing costs while improving the care of individuals with chronic conditions. These models use a variety of means to identify and stratify patients for targeted interventions, including predictive modeling software, emergency department (ED) utilization, specific clinical conditions, clinician referrals, and risk assessments.

Claims-based predictive modeling tools are data-driven decision-support tools that attempt to estimate or predict individuals' future healthcare costs and healthcare utilization based on multiple factors, including prior health service utilization and chronic illness burden. Other, more accessible methods for

identifying individuals who are at high risk for poor outcomes or increased healthcare utilization include self-administered and clinician-administered health assessments, or disease counts.

#### **Examples of predictive models and tools include:**

- ✓ UCSD's Chronic Illness and Disability Payment System (CDPS) and Medicaid Rx (MRX)
- ✓ Johns Hopkins' Adjusted Clinical Groups (ACG)
- ✓ Charlson Comorbidity Index
- ✓ Probability of Repeated Admission (Pra™ and PraPlus™): A Health Risk Screening Tool for Seniors
- ✓ Washington State's Predicting Risk Intelligence System (PRISM)
- ✓ Vulnerable Elders Survey (VES-13)

Often programs or models combine strategies to identify cohorts of patients and to tailor interventions to patients' needs; for example, by combining information on ED use, hospitalizations, costs, and clinical conditions to identify appropriate patients. Patients may be further stratified to more or less intensive care management based on their diagnostic and utilization profile.

Questions remain however, about which data elements improve predictive accuracy and how these may vary for different subpopulations (e.g., Medicaid vs. Medicare vs. general populations, etc.). For instance, studies have shown that methods which simply rely on identifying current high utilizers (e.g., individuals with one or more ED admission in the previous year) are not good predictors of future utilization.<sup>4</sup> Others have shown that inclusion of variables such as functional status, illness severity, behavioral health status, and social determinants of health are important for accurately identifying individuals with the greatest risk. However, there are challenges with obtaining and integrating this type of information into current tools.

Other questions of interest relate to identifying patients (e.g., frail elderly, individuals with co-occurring behavioral health conditions, or physical disabilities, etc.) who could best benefit from higher vs. lower touch interventions. A number of recent care management interventions and models have attempted to prioritize the level of outreach and intensity of care based on an individual's risk level. Some models with demonstrated effectiveness target interventions on individuals who are in periods of transition (e.g., discharge from an acute care hospital) or who change their current risk level. Which approaches are

<sup>1</sup> Boyd CM, Fortin M. Future of Multimorbidity Research: How Should Understanding of Multimorbidity Inform Health System Design? *Public Health Reviews*. 2010;32:451-74

<sup>2</sup> Vogeli C, Shields AE, Lee TA, Gibson TB, Marder WD, Weiss KB, Blumenthal D. Multiple chronic conditions: prevalence, health consequences, and implications for quality, care management, and costs. *J Gen Intern Med*. 2007 Dec;22 Suppl 3:391-5.

<sup>3</sup> U.S. Department of Health and Human Services. Multiple Chronic Conditions—A Strategic Framework: Optimum Health and Quality of Life for Individuals with Multiple Chronic Conditions. Washington, DC. December 2010. [http://www.hhs.gov/ash/initiatives/mcc/mcc\\_framework.pdf](http://www.hhs.gov/ash/initiatives/mcc/mcc_framework.pdf)

<sup>4</sup> Roland M, Dusheiko M, Gravelle H, Parker S. Follow up of people aged 65 and over with a history of emergency admissions: analysis of routine admission data. *BMJ*. 2005 Feb 5;330(7486):289-92.

most effective for specific subgroups of individuals with MCC remains unclear. Additionally, how can risk identification be conducted effectively in real-time to potentially facilitate implementation of targeted interventions where and when they are needed?

## PURPOSE OF THE MEETING

On August 15th, HHS hosted a one-day meeting of public and private-sector stakeholders on the topic of identifying and stratifying individuals with MCC for care management. The purpose of the meeting was to discuss the goal of patient identification strategies, the key patient-level information most useful in identifying patients for various care models, and the barriers and facilitators to appropriately identifying patients. Invited panelists provided brief presentations of how their respective organizations go about risk identification and stratification, and the challenges they have faced. This was followed by in-depth discussions among meeting participants (e.g., public and private payers, health providers, health policy experts, foundations, aging and disability organizations, and others) about how to link risk stratification mechanisms with care delivery approaches for the MCC population.

### Meeting Objectives

1. Document the current methods/models for identifying/targeting individuals with MCC at various levels of risk and matching them with appropriate care delivery approaches
2. Strategize about what can be done to improve the ability of plans and providers to better identify individuals who could benefit from care management programs.

## EXPERT PANEL DISCUSSION

### A. Key Challenges to Risk Identification/Stratification and Potential Solutions

#### 1. Data Available for Predictive Modeling

There was much discussion about current limitations of the data that is available for accurate and timely risk modeling. It was noted that many programs rely heavily on claims data. Problems with claims data include:

- *The lag time associated with processing claims, and the lag time in receiving current data – although it is improving.*
- *Discrepancy and integrity issues; inconsistency in completion of claims data.*
- *Lack of needed data in claims reports (e.g., clinical and diagnostic data). Health plan carve outs often result in the exclusion of mental health, substance abuse and pharmacy claims data which would be helpful in risk stratifying and designing care interventions.*

In addition claims data does not account for claims that are paid through other mechanisms, such as community based resources or services paid for out-of-pocket. Knowledge of these services may improve the predictive ability of models.

### Potential Solutions

Participants noted that CMS, as the largest payer nationally, has the ability to mandate the inclusion of specific information in claims files, such as clinical complexity, psychosocial limitations, level of functional impairment, and behavioral impairment. These data would not only help improve patient identification that relies on administrative data, but also illuminate the care needs of specific patients (e.g. caregiver support, advanced care planning, etc.) and facilitate risk-adjusted outcomes assessment and measurement of disparities in care across patient populations.

#### Additional suggestions included:

- *Facilitate the expansion of Current Procedural Terminology codes (CPT-2; maintained by the American Medical Association) to incorporate new categories such as diagnoses.*
- *Require that claims include functional assessments and screening tool (PHQ-9, SF-12, etc.) scores.*

#### 2. Need for Other Data Variables

There was much discussion about the need to be able to integrate non-claims data, such as clinical data from patients' medical records or information collected from health assessments, behavioral information, functional and cognitive status, and prescription data in order to more accurately predict risk. Panelists further noted that this type of data is also needed to target interventions appropriately.

- *Need to consider not only physical conditions and costs, but also behavioral health co-morbidities and disease severity as well.*
- *Claims data may be useful as a starting point, but it doesn't identify variables needed to determine the intervention. Clinical assessment is needed—it takes into account other patient characteristics such as where they live, whether or not there is a caregiver present, if there is a psychiatric co-morbidity, etc. Much of this can't be identified from claims data, and is critical not only for determining risk, but also determining the intervention.*

Others commented also on the need to be able to capture measures of patient activation and willingness to change.

### Possible Next Steps

- *Need to determine what clinical decisions would be made differently if certain information was available. Determine what data is needed and how feasible is it to collect this information.*
- *Research to understand the critical inputs we are NOT currently capturing (e.g., clinical, behavioral, or functional limitations data, etc.) and then how to collect that information in a standard fashion (e.g., via health risk assessment or care management assessment), and incorporate into EMR, so that it can be leveraged.*
- *Need to start with tested, validated (2 to 3) risk stratification methods - that integrate the environmental context.*

### 3. Challenges Related to Integration of Other Data

It was noted that there are currently significant challenges with integration of data from electronic health records (EHRs) within existing models. Some of these challenges include the lack of standards and interoperability across clinical information systems (e.g., health information exchange systems), which would help provide readily available, comprehensive information about the patient to those who deliver care and/or those who manage care.

In addition to being able to integrate this information, issues related to collecting this information were noted.

- 75-80% of patient-level data comes from claims; health care providers don't currently have incentives to put additional data in EHRs. Will need to identify incentives for health care providers to enter more information into EHRs.
- Explore the data we can get from patients – ensure systems of care are accountable for and able to collect the needed data.
- Data systems need to capture measures of patient activation, self-support, etc., and engage community organizations in this process.

#### Potential Solution

Some of the suggestions cited for working to solve these problems included:

- Improving data definitions and consistency (e.g., define cancer types and pain scores, etc. in the same way; similar to what is done with lab data for which there are recognized standards).
- Standards and interoperability across EHRs to facilitate scalability.

#### Key Theme Regarding Risk Identification and Stratification

- No approach/algorithm will be perfect – start simple with available data and build on the model over time.
- Work with willing partners to exchange data and add more clinically-relevant and complete data.

### B. Key Issues Related to Targeting Appropriate Care Interventions

#### 4. More Research on the Targeted Interventions that Work for Specific Subgroups

Additional discussion centered on appropriate models of care delivery—delivering the right care, to the right individuals, at the right time. Emphasized in the discussion was the need to not only target the right individuals but also to target interventions on appropriate conditions or where there is an opportunity to have a positive impact on outcomes. For instance, the ActiveHealth Management Care Engine®, discussed by one of the panelists, is designed to identify clinically modifiable components that can be targeted in the care interventions delivered.

Among the various types of care interventions identified during the presentations and discussion were the following:

- Prevention and self-management interventions
- Behavioral health interventions
- Care management using telephone services or in-home care services
- Interdisciplinary care planning
- Care transitions
- End-of-life/home-based palliative care

A key point echoed during the discussion was the need to routinely reassess the risk-level of patients enrolled in particular care programs, and to modify management approaches accordingly (e.g., step-up or down).

There was discussion about how to scale the delivery of effective care interventions for high-risk individuals. Some suggestions included:

#### Possible Next Steps

- Could identify several actions that should be taken for high risk populations (e.g., medication reconciliation, advance care planning, etc.) and link these activities to payment.
- Could identify what health plans already have available (e.g., what is already paid for/covered) and make sure that these things are being done.
- Support research to understand the key actions that should be provided to various risk groups that will give the most value.

#### Dual-Eligibles

Consideration was also given to the specific care management needs of dual-eligible patients. Specific considerations for this population, included:

- Clinicians need to be able to provide an immediate response to clinical need.
- Different payment streams may create conflicting case management approaches – payment streams must be coordinated to have coordinated care.
- Stratification and understanding that not all dually eligible patients are alike (e.g., young individuals with mental health issues vs. elderly individuals in nursing homes). Resources around the care manager need to change - the care manager skill set will be different for different types of dual-eligibles
- Designing flexible programs (with incentives) for patients and caregivers.

#### 5. How to Lower the Costs of Interventions

Meeting participants also considered issues related to managing the costs of care interventions that are provided. Some of the strategies discussed included working with community-based organizations in the delivery of services, as well as the use of nurses and other types of care providers. It was noted that some groups are highly effective at using lower-cost personal care attendants. It was also noted that patients should also be consulted about who they believe can best serve their needs. Other comments included:

- There needs to be a clinical reengineering to support clinical transformation – identify best practices; we need to define the care manager role and then identify the person best

suited to provide that service; the 'how' also needs to be defined (e.g., through delegation to make less expensive and far more reliable).

- *Should pilot test existing models using less resource-intensive approaches (e.g., health navigators which are being used in commercial business).*
- *We need models that engage community service organizations and providers.*
- *Community knowledge could be tapped to facilitate risk stratification and the provision of care interventions.*

## 6. Training Needs and Tools

Several of the meeting participants discussed issues related to the training of health care professionals in the provision of appropriate care to individuals identified as high risk. One panelist questioned “*even if we can perfectly identify patients who need specialized care, do we have the clinicians who can provide the care and services that are needed?*” There was broad agreement among the participants that attention to training is important. One panelist noted that one of the biggest barriers to advancing efforts in identification and risk stratification is the lack of a prepared workforce.

### Potential Solution

- *Change the competency requirement for undergraduate and graduate health professionals programs; there could be courses online and other distance learning to improve the training of the workforce in these issues.*
- *Include competencies in training – and develop strategies for demonstrating competencies.*
- *Need to make it easy to give people new skills (e.g., Web-based training modules).*

A comprehensive collection of tools and training resources for care managers, care team roles, and training are available in the Complex Care Management Toolkit at:

[http://www.calquality.org/documents/CQC\\_ComplexCareManagement\\_Toolkit\\_Final.pdf](http://www.calquality.org/documents/CQC_ComplexCareManagement_Toolkit_Final.pdf).

### Key Themes Regarding Targeted Care Management

- *Focus targeted interventions on modifiable characteristics in persons with MCC to improve health outcomes and reduce medical costs.*
- *Continually reassess the risk-level of patients enrolled in particular care programs, and modify management approaches as circumstances change (e.g., step-up or down).*
- *Segment, sub-segment, and micro-segment to improve risk stratification and risk-matched interventions.*
- *Provide training to support the delivery of care management for complex patients.*

For more information about the Department of Health and Human Services (HHS) Initiative on Multiple Chronic Conditions (MCC) visit: <http://www.hhs.gov/ash/initiatives/mcc/index.html>

To view the HHS MCC Strategic Framework visit: [http://www.hhs.gov/ash/initiatives/mcc/mcc\\_framework.pdf](http://www.hhs.gov/ash/initiatives/mcc/mcc_framework.pdf)

To receive periodic updates about activities related to the HHS Initiative on MCC, subscribe to the MCC Newsletter by sending your request to [mcc@hhs.gov](mailto:mcc@hhs.gov).

To provide comments regarding the HHS Initiative on MCC, please send an e-mail to [mcc@hhs.gov](mailto:mcc@hhs.gov).



Department of Health and Human Services