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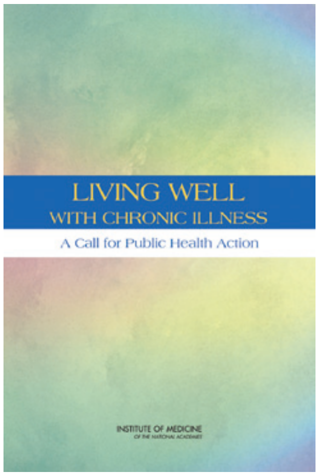
Living Well with Chronic Illness

A Call for Public Health Action



Chronic illnesses have emerged as major health concerns of Americans in recent decades. People are increasingly focused not simply on living longer, but on maintaining or even improving their capacity to live well over their entire lives.

In general, chronic illnesses are slow in progression and long in duration, and they require medical treatment. All chronic illnesses have the potential to limit the functional status, productivity, and quality of life of people who live with them. In addition, chronic illnesses are a major contributor to health care costs; the medical care costs of people with chronic illnesses represent 75 percent of the $2 trillion in U.S. annual health care spending.

All chronic illnesses have the potential to limit the functional status, productivity, and quality of life of people who live with them.

The Centers for Disease Control and Prevention (CDC) and the nonprofit Arthritis Foundation sought assistance from the Institute of Medicine (IOM) to help identify public health actions to reduce disability and improve the function and quality of life for people living with chronic illness.

Addressing Major Public Health Problem

The IOM committee appointed to study the issue presents its findings in *Living Well with Chronic Illness: A Call for Public Health Action*. Among the findings of the IOM-appointed study committee:

- All chronic illnesses hold the potential to worsen the overall health of our nation by limiting an individual's capacity to live well.
- Looking at a variety of diseases, health conditions, and physical impairments that significantly affect a person's health and quality of life, as well as

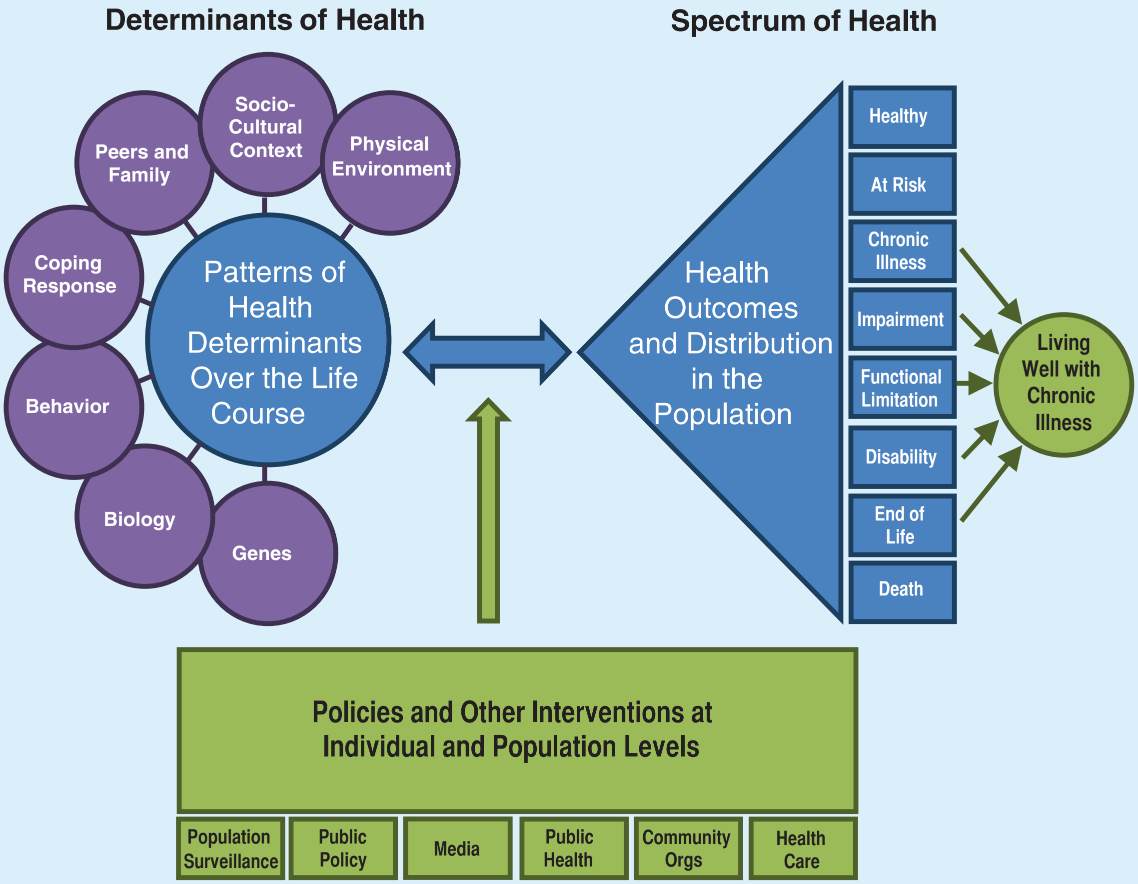
the nation's economy, would strengthen public health actions to manage chronic disease.

- Evidence-based interventions aimed at preventing chronic disease (such as ending smoking, eating nutritious food, and limiting weight gain) need to be studied in people with one or more chronic illnesses to assess their effectiveness.
- While a range of public policies have helped individuals with chronic illness, it is important to design and implement new public policies or explore promising approaches to further promote living well with chronic illnesses.
- A comprehensive surveillance system to enhance living well with chronic illness is complex and integrates a number of health and quality of life measures.
- Enhanced collaboration among the public health, health care, and community non-healthcare sectors could produce better prevention and treatment outcomes for people living with chronic disease.

Living Well with Chronic Illness

For help selecting strategies with the greatest promise for improvement, the committee constructed an integrated framework built on a single guiding principle: that the aim of addressing the physical, social, and psychological toll of chronic illness is to help each affected person, and the population as a whole, to live well, regardless of the chronic illness in question or an individual's own current state of health.

Figure: Strategies to Achieve Living Well



The epidemic of chronic illness is steadily moving toward crisis proportions, yet maintaining or enhancing quality of life for individuals living with chronic illnesses has not been given the attention it deserves.

The concept of *living well* reflects the best achievable state of health that encompasses all dimensions of physical, mental, and social well-being. Living well is shaped by the physical, social, and cultural surroundings and by the effects of chronic illness—not only on the affected individual, but also on family members, friends, and caregivers. In this way, progress toward living well can be achieved through the combined efforts of both individuals and society to reduce disability and improve functioning and quality of life, regardless of each unique individual's current health status or specific chronic illness diagnosis.

The committee also acknowledges the challenges of determining how best to ensure that all policies, strategies, and interventions in all sectors effectively promote living well, as well as determining how to set priorities.

Recommendations for Action

The committee does not recommend a specific set of illnesses on which to focus public health action. Instead, it identifies nine "exemplar" conditions that are diverse yet have various factors in common, including significant effects on the nation's health and economy. These are arthritis, cancer survivorship, chronic pain, dementia, depression, type 2 diabetes, posttraumatic disabling conditions, schizophrenia, and vision and hearing loss.

Given the great heterogeneity of chronic illnesses in different communities and populations, the committee recommends that the CDC select a variety of illnesses that merit public health action, including ailments that impair the health and physical function of people who live with that particular chronic illness. The CDC also should be careful not to duplicate existing public health efforts and should target its efforts to diseases where effective public health preventive strategies could be the most feasible or are the subject of promising research. The CDC's chronic disease program evaluation also should encompass the best approaches to prevent or alter the course of new illnesses.

The committee recommends that the U.S. Department of Health and Human Services (HHS) support the states in developing comprehensive, population-based strategic plans with specific goals, objectives, actions, time frames, and resources that focus on managing chronic illness among residents, including community-based efforts to address the health and social needs of people living with chronic illness and experiencing disparities in health outcomes.

Among other actions recommended by the committee, federal and state governments should expand surveillance and mitigation programs to the widest possible range of chronic illnesses. Having better data will inform planning, development, implementation, and evaluation of public health policies, programs, and community-based interventions for individuals living with chronic illness.

The committee also recommends surveillance techniques that are likely to capture multiple chronic conditions effectively. As one example, the CDC should conduct longitudinal evaluations—which can shed light on hidden relationships—to identify and quantify the effects of various risk factors that could predict how a given illness will progress over time and how having a single chronic disease increases the odds of suffering from additional ailments.

Given the economic burden of chronic diseases to the United States, the CDC should support expanded use of new and emerging economic methods, such as cost-effectiveness techniques, in making policy decisions that promote living well with chronic illness. In terms of policy priorities, the committee suggests that HHS and the CDC pilot test a "Health in All Policies" approach on a set of major federal legislation, regulations, and policies and evaluate the framework's ability to improve quality of life and physical function for people living with chronic illness. The "Health in All Policies" approach rests on the assumption that health is fundamental to every sector of the economy and that every policy—large and small—should take into consideration its effect on health. Also, the CDC should routinely examine and adjust its policies to ensure that community-based services for people living with chronic disease reflect the priorities embodied in health care and insurance reform legislation.

Conclusion

The epidemic of chronic illness is steadily moving toward crisis proportions, yet maintaining or enhancing quality of life for individuals living with chronic illnesses has not been given the attention it deserves by health care funders, health systems, policy makers, and public health programs and agencies. Moreover, the aging of the population will only increase coming challenges.

The committee's recommendations provide immediate and specific actions to reduce the burden of chronic illness by developing and implementing cross-cutting, coordinated strategies to help Americans with chronic illnesses to live well. Their ultimate aim is to optimize efforts to better understand the burden and needs of people living with chronic illness, promote the creation and implementation of public health policies in emerging legislation, improve dissemination of effective community-based interventions, improve preventive clinical guidelines for people with chronic illness, and promote the testing of an aligned health system to help people live well with chronic illness.

Committee on Living Well with Chronic Disease: Public Health Action To Reduce Disability and Improve Functioning and Quality of Life

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Multiple Chronic Conditions: A Strategic Framework

Optimum Health and Quality of Life for Individuals with Multiple Chronic Conditions

U.S. Department of Health & Human Services

December 2010

Contents

Citation

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.

Foreword

We are pleased to present a strategic framework for the U.S. Department of Health and Human Services (HHS) to improve the health status of individuals with multiple chronic conditions. This framework contains a vision statement, goals, objectives, and discrete strategies to guide the department in coordinating its efforts internally and collaborating with stakeholders externally. The framework is designed to address the spectrum of all population groups with multiple chronic conditions.

A cornerstone of our nation's approach to chronic diseases must be to prevent their occurrence. An enhanced focus on prevention and public health is essential to ensuring optimum health and quality of life for all people. In addition, however, prevention is an important consideration for persons who already have one or more chronic conditions. This framework's focus is on improving the health and function of people who currently have multiple chronic conditions.

The intention for this framework is to catalyze change within the context of how chronic illnesses are addressed in the United States—from an approach focused on individual chronic diseases to one that uses a multiple chronic conditions approach. It is this culture change, or paradigm shift, and the subsequent implementation of these strategies that will provide a foundation for realizing the vision of *optimum health and quality of life for individuals with multiple chronic conditions.*

Background

More than one in four Americans have multiple (two or more) concurrent chronic conditions (MCC),[1] including, for example, arthritis, asthma, chronic respiratory conditions, diabetes, heart disease, human immunodeficiency virus infection, and hypertension. Chronic illnesses are "conditions that last a year or more and require ongoing medical attention and/or limit activities of daily living."[2] In addition to comprising physical medical conditions, chronic conditions also include problems such as substance use and addiction disorders, mental illnesses, dementia and other cognitive impairment disorders, and developmental disabilities.

The prevalence of multiple chronic conditions among individuals increases with age and is substantial among older adults, even though many Americans with MCC are under the age of 65 years. As the number of chronic conditions in an individual increases, the risks of the following outcomes also increase: mortality, poor functional status, unnecessary hospitalizations, adverse drug events, duplicative tests, and conflicting medical advice.[1,2,3,4,5] This picture is even more complex as some combinations of conditions, or clusters, have synergistic interactions, but others do not.[5] For example, the poor health outcomes of individuals with serious mental illnesses and other behavioral health problems warrants special attention because of the co-occurrences of those conditions with other chronic conditions.

The resource implications for addressing multiple chronic conditions are immense: 66% of total health care spending is directed toward care for the approximately 27% of Americans with MCC.[1] Increased spending on chronic diseases among Medicare beneficiaries is a key factor driving the overall growth in spending in the traditional Medicare program.[6] Individuals with MCC have faced substantial challenges related to the out-of-pocket costs of their care, including higher costs for prescription drugs and total out-of-pocket health care.[1]

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[1] Anderson G. Chronic Care: Making the Case for Ongoing Care. Princeton, NJ: Robert Wood Johnson Foundation, 2010. Available at http://www.rwjf.org/files/research/50968chronic.care.chartbook.pdf. Last accessed December 2, 2010.

[2] Warshaw G. Introduction: advances and challenges in care of older people with chronic illness. *Generation* 2006;30(3):5–10. (see also: Hwang W, Weller W, Ireys H, Anderson G. Out-of-pocket medical spending for care of chronic conditions. *Health Affairs* 2001;20:267–278)

[3] Lee TA, Shields AE, Vogeli C, Gibson TB, Woong-Sohn M, Marder WD, Blumenthal D, Weiss KB. Mortality rate in veterans with multiple chronic conditions. *J Gen Intern Med* 2007;22(Suppl 3):403–407.

[4] 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;22(Suppl 3):391–395.

[5] Wolff JL, Starfield B, Anderson G. Prevalence, expenditures, and complications of multiple chronic conditions in the elderly. *Arch Intern Med* 2002;162(20):2269–2276.

[6] Thorpe KE, Ogden LL, Galactionova K. Chronic conditions account for rise in Medicare spending from 1987 to 2006. *Health Affairs*. 2010;29(4):1–7.

Multiple chronic conditions can contribute to frailty and disability; conversely, most older persons who are frail or disabled have MCC. The confluence of MCC and functional limitations, especially the need for assistance with activities of daily living, produces high levels of spending. Functional limitations can often complicate access to health care, interfere with self-management, and necessitate reliance on caregivers.[7]

A report by the Institute of Medicine in 2001 highlighted the complexities of and the need for care coordination for individuals with multiple conditions.[8] Noting that there is evidence that patients receiving care for one chronic condition may not receive care for other, unrelated conditions, the IOM articulated that a challenge of designing care around specific conditions is to avoid defining patients solely by their disease or condition.[8,9] The Chronic Care Model further elucidates the elements required to improve chronic illness care, including systems requirements for healthcare organization, community resources, self-management support, delivery design, decision support, and clinical information.[10] This seminal model represents a conceptual foundation for innovative approaches to addressing MCC.

Overall, the MCC population is characterized by tremendous clinical heterogeneity, and substantially varies in the number of chronic conditions, the severity of illness and functional limitations, and the clustering of conditions. Indeed, developing means for determining homogeneous subgroups among this heterogeneous population is viewed as an important step in the effort to improve the health status of the total population and only recently is beginning to be addressed by researchers.[11] Identifying such subgroups will assist in more effectively developing and targeting interventions. A related consideration is disparities in access to health care, public health, and other services, which may present implications for the population of persons with MCC.

The combined effects of increasing life expectancy and the aging of the population will dramatically increase the challenges of managing multiple chronic conditions among the burgeoning population of older persons. Although there has been tacit appreciation of the quality of care and cost implications prompted by the increasing MCC population, the delivery of community health and health care services generally continues to be centered around individual chronic diseases. In addition, insufficient attention has been

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[7] Alecxih L, Shen S, Chan I, Taylor D, Drabek J. Individuals Living in the Community with Chronic Conditions and Functional Limitations: A Closer Look. Office of the Assistant Secretary for Planning & Evaluation, U.S. Department of Health and Human Services. January 2010. Available at http://aspe.hhs.gov/daltcp/reports/2010/closerlook.htm Last accessed December 2, 2010.

[8] Committee on Quality of HealthCare in America, Institute of Medicine. Crossing the Quality Chasm: A New Health System for the 21st century. Washington D.C.: National Academies Press; 2001.

[9] Redelmeier, Donald A., Siew H.Tan, and Gillian L.Booth. The treatment of unrelated disorders in patients with chronic medical diseases. *N Engl J Med* 1998;338(21):1516–1520.

[10] Wagner E. Chronic disease management: what will it take to improve care for chronic illness? *Effective Clinical Practice* 1998; 1:2–4.

[11] Kronick RG, Bella M, Gilmer TP, Somers SA. The Faces of Medicaid II: Recognizing the Care Needs of People with Multiple Chronic Conditions. Center for Health Care Strategies, Inc., October 2007.

paid to the services and support required to meet longer-term needs of those with MCC to enable them to live as well as possible in community settings.

Role of the U.S. Department of Health and Human Services

The U.S. Department of Health and Human Services administers a large number of federal programs directed toward preventing and managing chronic conditions, including, for example, financing health care services (Centers for Medicare and Medicaid Services); delivering care and services to persons with chronic conditions (Administration on Aging, Health Resources and Services Administration, and Indian Health Service); conducting basic, interventional, and systems research (Agency for Healthcare Research and Quality, National Institutes of Health); implementing programs to prevent and manage chronic disease (Centers for Disease Control and Prevention, and Substance Abuse and Mental Health Services Administration); promoting the economic and social well being of families, children, individuals, and communities (Administration for Children and Families); and overseeing development of safe and effective drug therapies (Food and Drug Administration).

Because of the leading role HHS plays in health research, and payment for and delivery of health care services, HHS also must provide leadership in improving health outcomes among individuals with MCC. Moreover, increases in the costs of treating, poor outcomes among, and complexity of managing those with MCC necessitate that HHS develop, implement, and coordinate programs and policies that improve the care provided to individuals and their health. To achieve this goal, HHS will need to engage stakeholders in implementing effective strategies to address, improve, and better manage the health status of individuals with MCC.

The health reform law—the Patient Protection and Affordable Care Act—provides HHS with new opportunities for addressing the prevention of chronic conditions, as well as enhancing the clinical management and improving the health status of individuals with MCC. This law will facilitate these advances through developing and testing of new approaches to coordinated care and management, patient-centered benefits, and quality measures. New initiatives also will be aimed at enhancing the understanding among patients and caregivers about the appropriate use of medications. States will have the option of providing “health homes” for Medicaid enrollees with chronic conditions. Importantly, the creation of a new Center for Medicare and Medicaid Innovation within CMS presents unprecedented opportunities to examine and test the most promising approaches to care coordination and health improvement.

Two other important new initiatives mandated in the Patient Protection and Affordable Care Act also have implications for preventing and mitigating chronic conditions: (1) the *National Strategy for Quality Improvement in Health Care*, which will include priorities to improve the delivery of health care; and (2) the *National Prevention and Health Promotion Strategy*, which aims to bring prevention and wellness to the forefront of national policy by identifying and prioritizing actions across many sectors to reduce the incidence and burden of the leading causes of death and disability. All of those efforts can be connected through *Healthy People 2020*, which will establish national health objectives and serve as the basis for the development of state and community plans.

HHS Interagency Workgroup

To identify HHS options for improving the health of this heterogeneous population, the HHS Assistant Secretary for Health convened a departmental workgroup on individuals with multiple chronic conditions. Nearly all HHS operating divisions are participating. The workgroup's initial major effort was to produce a collation of HHS programs, activities, and initiatives focused on improving the health of individuals with MCC. This inventory,[12] released in March 2009 and slated for update, contains more than 50 efforts across HHS directed primarily to the health care needs of people with two or more chronic health conditions. In addition, multiple interagency workgroup meetings have been held on topics such as reducing rehospitalizations and adverse drug events in this population. The workgroup also has assisted HHS in both health reform and comparative effectiveness research efforts related to MCC. Many other efforts that focus on this population are under way across the department.

The workgroup believes that, among other beneficial effects, a strategic HHS framework that provides a roadmap for improving the health status of persons with MCC will help ensure a more coordinated and comprehensive approach to implementing the considerable work already directed toward this need. Accordingly, the workgroup developed a draft of this strategic framework that was announced in the *Federal Register* on May 19, 2010. Because HHS recognizes that stakeholder and community involvement is essential to successful implementation of the framework, the *Federal Register* notice invited interested parties to review and comment on the draft strategic framework and to provide feedback to the department. The workgroup reviewed comments from the public and stakeholder organizations and then used them in developing this final version of the strategic framework.

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[12] Available at http://www.hhs.gov/ophs/initiatives/mcc/mcc_inventory.pdf.

HHS Vision and Strategic Framework on Multiple Chronic Conditions

The vision that drives the department's efforts is *Optimum Health and Quality of Life for Individuals with Multiple Chronic Conditions*. Within the vision's focus on the individual with MCC, development of the framework elucidated four interdependent domains that benefit the individual: strengthening the health care and public health systems; empowering the individual to use self-care management; equipping care providers with tools, information, and other interventions; and supporting targeted research about individuals with MCC and effective interventions. Accordingly, to achieve its vision, this framework comprises these four overarching goals:

1. Foster health care and public health system changes to improve the health of individuals with multiple chronic conditions
2. Maximize the use of proven self-care management and other services by individuals with multiple chronic conditions
3. Provide better tools and information to health care, public health, and social services workers who deliver care to individuals with multiple chronic conditions
4. Facilitate research to fill knowledge gaps about, and interventions and systems to benefit, individuals with multiple chronic conditions

Each of these goals includes several key objectives and strategies that the department—in conjunction with stakeholders and those who have or care for those with multiple chronic conditions—should use to guide its efforts. These efforts should build on and potentiate HHS programs and resources focused on the MCC population. Although this framework addresses those individuals with MCC, many of the strategies, including the prevention of additional chronic conditions, also apply to persons with only one or those with no chronic condition.

The public and private sectors share responsibility for implementing these activities. HHS is particularly grateful to the numerous stakeholders—including organizations and individuals—that provided input to HHS through the public comments process regarding the framework's goals, objectives, and strategies. HHS looks to build and strengthen partnerships with all interested stakeholders to achieve these important goals for individuals with MCC.

Goal 1: Foster health care and public health system changes to improve the health of individuals with multiple chronic conditions.

Improving the health status of persons with MCC requires heightened coordination of complex medical and longitudinal psychosocial care. Moreover, persons with MCC should have access to community and other public health services, as well as improved medical care coordination. Achieving this coordination for individuals within a system comprising numerous independent providers, and including coordination across acute- and long-term care systems, has been difficult. Unfortunately, the current model of feefor-service medical care offers few financial incentives to coordinate care. In addition, traditional disease management programs—without a strong link to primary care and that are focused on discrete conditions—have not been optimally effective.[13,14] Changes to the delivery and provider payment system, development of accompanying quality and performance metrics, and increased involvement of the public health system can complement efforts to achieve well-coordinated care for those with MCC.

Objective A: Identify evidence-supported models for persons with multiple chronic conditions to improve care coordination—To address gaps in care coordination, several models that have emerged in recent years emphasize patient-centered multidisciplinary care, provider communication and cooperation to smooth transitions across settings, and incorporation of public health and community resources. These models include patient-centered medical homes, community health teams, accountable care organizations, primary care and behavioral health integration models,[15] palliative care, and models that deliver health care services in the home and community settings. Those models may have an overarching effect of enhancing health status among individuals with MCC. Important elements for successful care coordination include person-centered care that empowers the affected individual in care management, team-based care, and aligned payment incentives.

- Strategy 1.A.1. Define and identify populations with MCC broadly, and MCC subgroups with specific clusters of conditions, and explore focusing care models on the subgroups at high risk of poor health outcomes. (See also Strategy 4.B.3.)
- Strategy 1.A.2. Develop and expand pilot studies and demonstration projects for innovative, multidisciplinary, longitudinal person-centered care models that improve health outcomes and quality of life while maintaining or decreasing net costs, and implement evidence-supported models.

Objective B: Define appropriate health care outcomes for individuals with multiple chronic conditions—Improved health care outcomes for individuals with MCC comprise a broad spectrum, such as maintaining function, palliating symptoms, preventing adverse drug events, avoiding unnecessary emergency department visits, and reducing hospitalizations and rehospitalizations. These outcomes are not different in kind from relevant outcome measures for other persons, but they do differ in importance because of the increased risk of negative outcomes among persons with MCC; for example, as

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[13] Geyman JP. Disease Management: Panacea, another false hope, or something in between. *Ann Fam Med* 2007;5(3):257–260.

[14] Peikes D, Chen A, Schore J, Brown R. Effects of care coordination on hospitalization, quality of care, and health care expenditures among Medicare beneficiaries. *JAMA* 2009;301(6):603–618.

[15] For example, Screening, Brief Intervention, and Referral to Treatment (SBIRT, see also: http://sbirt.samhsa.gov/index.htm); and specialty care medical homes (see: Alakeson V, Frank RG, Katz RE. Specialty care medical homes for people with severe, persistent mental disorders. *Health Affairs* 2010; 29:867–73).

the number of chronic conditions increases in an individual, so does the risk of rehospitalization.[16]

- Strategy 1.B.1. Define desired healthcare outcomes appropriate for individuals with MCC.
- Strategy 1.B.2. Ensure that testing of care models includes evaluation of MCC-relevant outcomes.

Objective C: Develop payment reform and incentives—Health care professionals have few incentives to provide care coordination for individuals with MCC, approaches that may avoid poor outcomes such as hospitalization and rehospitalization. Moreover, limitations on reimbursement for many nonphysician providers further constrain multidisciplinary care delivery to individuals with MCC. Financial incentives would encourage use of care models that, in turn, encourage relevant categories of providers to spend the additional time needed to address the care complexities for this population.

- Strategy 1.C.1. Work with stakeholders to identify, develop, and test incentives and payment approaches (e.g., episode-based payments across care settings) that promote effective care coordination for individuals with MCC.
- Strategy 1.C.2. Disseminate information about and implement the use of incentives that promote cost-effective care coordination by providers who care for individuals with MCC.

Objective D: Implement and effectively use health information technology—By facilitating coordinated care and providing uniform information to all providers caring for an individual with MCC, interoperable health information technology has great potential to help clinicians, health care delivery systems, families, and individuals improve the quality and safety of care for those with MCC.

- Strategy 1.D.1. Encourage the meaningful use of electronic health records, personal health records, patient portals, and clinical registries to improve care for individuals with MCC.
- Strategy 1.D.2. Test and implement the use of secure messaging and additional health information exchange platforms (e.g., telemedicine and remote monitoring) to improve care for individuals with MCC.
- Strategy 1.D.3. Encourage the use of health information technology as a public health tool for monitoring the population's health and key performance measures related to mitigating the impact of MCC.

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[16] Friedman B, Jiang HJ, Elixhauser A. Costly hospital readmissions and complex chronic illness. *Inquiry*. 2008;45:408–421.

Objective E. Promote efforts to prevent the occurrence of new chronic conditions and to mitigate the consequences of existing conditions—In addition to addressing health outcomes in persons with MCC, systems should be strengthened and fully used for preventing the occurrence of additional chronic conditions.

- Strategy 1.E.1. Develop and implement preventive health and public health systems approaches that increase effectiveness in the prevention of new chronic conditions among persons with MCC, including conditions potentially arising from interactions between existing chronic conditions or therapies for those conditions, and the progression and exacerbation of existing chronic conditions.
- Strategy 1.E.2. Adopt public health policies (e.g., targeting unhealthy and risky behaviors, environments, and foods associated with increased risk of chronic disease) to prevent exacerbations or occurrence of new chronic conditions in persons with existing chronic conditions.
- Strategy 1.E.3. Explore incentives to improve individuals' participation in chronic disease risk behavior and other prevention programs.

Objective F. Perform purposeful evaluation of models of care, incentives, and other health system interventions—Monitoring and providing ongoing feedback about interventions can assist in improving both the use and impact of interventions for MCC.

- Strategy 1.F.1. Conduct ongoing surveillance—through providers and individuals with MCC—of the impact and effectiveness of interventions for MCC.
- Strategy 1.F.2. Disseminate feedback to individuals with MCC, providers, researchers, and policymakers on needs and options for making more effective use of, and improving, interventions for MCC.

Goal 2: Maximize the use of proven self-care management and other services by individuals with multiple chronic conditions.

Even the highest quality provision of care to individuals with MCC alone will not guarantee improved health outcomes for this population. Individuals must be informed, motivated, and involved as partners in their own care.[17] Self-care management can be important in managing risk factors that lead to the development of additional chronic conditions. However, some individuals with MCC (e.g., those with severe illness or substantial cognitive decline) will be limited in their ability to perform self-care. The important role that families and other caregivers provide in managing chronic conditions must be recognized and supported.

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[17] Greenhalgh T. Chronic illness: beyond the expert patient. *BMJ* 2009;338:629–631.

Objective A: Facilitate self-care management—Chronic disease self-care management programs have generated a significant evidence-base.[18,19] Translating and replicating these programs in multiple settings (e.g., health care, home, work, and assisted living) will improve the health status of the MCC population.

- Strategy 2.A.1. Continually improve and bring to scale evidence-based, self-care management activities and programs, and develop systems to promote models that address common risk factors and challenges that are associated with many chronic conditions.
- Strategy 2.A.2. Enhance sustainability of evidence-based, self-management activities and programs.
- Strategy 2.A.3. Improve the efficiency, quality, and cost-effectiveness of evidence-based, self-care management activities and programs.

Objective B: Facilitate home and community-based services—Home and community-based services (HCBS) often play a critical role in enabling individuals with MCC to live and work successfully in their communities. Evidence-based programs and services have been developed in recent years to assist the MCC population in attaining healthier and more independent lives. Examples of such programs are those that retrain Medicaid home health aides to provide appropriate home-based physical activity training to beneficiaries; deliver HCBS that prevent falls; and provide peer support to reduce the severity of depressive symptoms. Other innovations include home-based information technology and community-based organizations that provide care transition services.

- Strategy 2.B.1. Improve access to effective HCBS for the MCC population through information and referral, options counseling, and smooth care transitions.
- Strategy 2.B.2. Improve infrastructure (e.g., telemonitoring and shared information services) to support HCBS, and promote educational and technological innovations that permit individuals with MCC to remain maximally functional and independent, understand and better manage their conditions, and reside safely in their homes or other settings.
- Strategy 2.B.3. Provide training and information on evidence-based self-care management to, and improve supports for, family caregivers.

Objective C: Provide tools for medication management—As the number of chronic conditions increase, so do the number of medications prescribed and the degree of nonadherence to regimens.[20] In addition to reducing adverse drug events and medication errors, tools to improve knowledgeable use of medications may reduce chronic disease progression.

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[18] Selected publications at http://patienteducation.stanford.edu/bibliog.html.

[19] Selected publications at http://www.ahrq.gov/qual/ptmgmt/ptmgmtap1.htm

[20] Tinetti ME, Bogardus ST, Agostini JV. Potential pitfalls of disease-specific guidelines for patients with multiple conditions. *New Engl J Med* 2004;351(27):2870–2874.

- Strategy 2.C.1. Develop and disseminate shared decision-making and other tools for individuals with MCC to provide accessible information about treatment choices and improve adherence to medication regimens.
- Strategy 2.C.2. Identify or develop and then disseminate tools to help individuals with MCC and their caregivers recognize drug-drug interactions and potential adverse drug events from complex medication regimens.
- Strategy 2.C.3. Foster improved and culturally appropriate health literacy to facilitate better informed decision-making about use of medications.

Goal 3: Provide better tools and information to health care, public health, and social services workers who deliver care to individuals with multiple chronic conditions.

Health care, public health, and social services professionals and family caregivers practice in a vacuum of published data regarding care for those with multiple chronic conditions. Providing these professionals and family caregivers with the tools and information they need to care for individuals with MCC is critical to improve care provision. Moreover, because most management of chronic conditions occurs outside the medical care setting, attention must be focused across the care continuum both to sustain and improve adherence with prevention and treatment strategies for improved health outcomes.

***Objective A: Identify best practices and tools*—**The MCC population is clinically heterogeneous. Irrespective of the specific combinations of chronic conditions, there likely are general approaches that facilitate improved, optimized care. The goal of identifying individual best practices is to promote a systematic approach to the assessment and management of this complex population, including the prevention of additional co-morbidities.

- Strategy 3.A.1. Identify, develop, disseminate, and foster integration of best practices information relevant to the general care of individuals with MCC.[21]
- Strategy 3.A.2. Identify, develop, endorse, and use key quality metrics, in the form of performance measures, to promote best practices in the general care of individuals with MCC.
- Strategy 3.A.3. Identify, develop, and validate materials that assist providers in educating individuals with MCC and family caregivers in appropriate self-care and shared decision-making.

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[21] Examples of care areas may include chronic pain, mental and cognitive health, nutrition, physical activity, medication management, transitional care, and communication structures for inter-professional care coordination.

- Strategy 3.A.4. Develop and disseminate tools for use by and across different organizations, providers, and family caregivers that improve the use and management of medications, including promotion of knowledgeable use of medications, reduction of prescription of inappropriate medications, and reduction of patient risks associated with polypharmacy.

Objective B: Enhance health professionals training—Health care, public health, and social services professionals are dependent on and influenced by training programs that prepare them for the environments in which they will practice. Evidence suggests that many health care professional trainees feel uncomfortable with key chronic care competencies.[22] Addressing these gaps, as well as the need for improving providers' cultural competencies, will ensure that the current and next generations of providers are proficient in caring for individuals with MCC and in interacting with family caregivers.

- Strategy 3.B.1. Identify or develop information relevant to the general care of individuals with MCC for use in health and social service professional training programs.
- Strategy 3.B.2. Disseminate information relevant to the general care of individuals with MCC to all HHS-funded or supported health and social service professional training programs for inclusion in required curricula, as appropriate.
- Strategy 3.B.3. Ensure that health care, public health, and social services professionals receive training on monitoring the health and wellbeing of family caregivers for individuals with MCC.
- Strategy 3.B.4. Develop and foster training within both traditional and nontraditional professional settings (e.g., medicine, nursing, social work, psychology/counseling, clinical pharmacy, chaplaincy, vocational rehabilitation, community health workers) that emphasizes increased competency in palliative and patient-centered approaches.

Objective C: Address multiple chronic conditions in guidelines—Evidence-based, person-centered clinical guidelines assist health care providers in providing high quality care to individuals. More often than not, guidelines on specific chronic conditions do not take into account the presence of MCC and, importantly, how these co-morbidities may affect the treatment plan.[23] Moreover, guidelines for persons with mental illness and substance abuse rarely address the co-occurrence of other chronic conditions. As the evidence base grows to facilitate greater specificity in guidelines (see also Goal 4.C.),

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[22] Darer JD, Hwang W, Pham HH, Bass EB, Anderson G. More training needed in chronic care: a survey of US physicians. *Acad Med* 2004;79(6):541–548.

[23] Boyd CM, Darer J, Boult C, Fried LP, Boult L, Wu AW. Clinical practice guidelines and quality of care for older patients with multiple comorbid diseases: implications for pay for performance. *JAMA* 2005;294(6):716–724.

those who develop guidelines must focus on using such evidence. Better incorporation of relevant information, however limited, will enhance guidelines' applicability to an increasing number of individuals with MCC.

- Strategy 3.C.1. Ensure that developers of guidelines include information on the most common comorbidities clustering with the incident chronic condition and on the management of risk factors to prevent the occurrence of additional chronic conditions.
- Strategy 3.C.2. Ensure that clearinghouses or repositories of chronic disease guidelines encourage labeling and promotion of selected guidelines that incorporate information on individuals with MCC.

Goal 4: Facilitate research to fill knowledge gaps about, and interventions and systems to benefit, individuals with multiple chronic conditions.

Significant gaps exist in the approach to care for individuals with MCC. Bolstering research efforts will enable improved characterization of the MCC population, support health care and other providers in coordinating and managing care for this population, and assist in tracking progress in improving health for individuals with MCC. This goal encompasses a broad spectrum of research considerations, including, for example, basic investigation of medical therapies, epidemiologic study of the impact of comorbidities on disease trajectories, efficacy and effectiveness of promising interventions for health promotion and self-management (as described in Goal 2), and health system care management strategies (as described in Goal 1).

Objective A: Increase the external validity of trials—As the number of individuals with MCC grows, ensuring that treatment interventions (e.g., drugs, devices, lifestyle modifications, alternative medicine) for these conditions are safe and effective becomes more important. To achieve this end, efforts to improve understanding of interactions between comorbidities and to limit exclusions of this increasingly large population in clinical trials may assist in preventing adverse events and poor outcomes that otherwise might have occurred if this population were not included in the study design.

- Strategy 4.A.1. Develop methods to assess the inclusion of individuals with MCC in clinical trials. Such methods should include determining 1) optimal trial designs for including MCC patients; 2) optimal approaches for recruiting MCC patients; 3) the potential risks of exposing some MCC patients to new interventions; and 4) the appropriate analysis of outcomes data from clinical trials that include individuals with MCC.
- Strategy 4.A.2. Improve the external validity of HHS-funded community and clinical intervention trials by ensuring that individuals with MCC are not unnecessarily excluded (as determined by scientific experts and external stakeholders).
- Strategy 4.A.3. Ensure, through guidance or regulation, that individuals with MCC are not unnecessarily excluded from clinical trials for the approval of prospective drugs and devices.

- Strategy 4.A.4. Assess and strengthen postmarketing surveillance for potential intervention-related adverse events and poor outcomes among individuals with MCC.

Objective B: Understand the epidemiology of multiple chronic conditions—Limited research has yielded information about the constellations of conditions that are most prevalent and most important in terms of disability among individuals with MCC. Additional research identifying the most common patterns of MCC can help in targeting specific interventions for specific subgroups and monitoring the impact of those interventions. Such research should utilize public program (e.g., Medicare) and other existing datasets.

- Strategy 4.B.1. Stimulate epidemiological research to determine the most common dyads and triads of MCC.
- Strategy 4.B.2. Determine the distribution of MCC for Medicare and Medicaid beneficiaries, as well as clients of HRSA-funded community health centers and Indian Health Service hospitals and clinics, and use this information to plan interventions and monitor their effectiveness.
- Strategy 4.B.3. Develop tools to identify and target population subgroups of individuals with MCC who are at high risk for poor health outcomes. (See also Strategy 1.A.1.)

Objective C: Increase clinical, community, and patient-centered health research— Neither the treatment of comorbidities nor the impact of comorbidities on patients' health status over time have been well characterized in the literature. Therefore, research that elucidates the evidence base for the prevention, management, and treatment of individuals with MCC is urgently needed. Research that expands the capacity of clinicians to direct care toward outcomes of highest importance to individuals with MCC will be essential, as will be examination of the policies that create disincentives for providers to adequately address the needs of individuals with MCC. Feedback on research progress should be provided to the public and to key groups—including individuals, providers, researchers, and policy makers—on approaches for reducing barriers to and improving interventions for MCC.

- Strategy 4.C.1. Expand research on the optimal clinical, self-care, and community-based approaches for health promotion, disease prevention, and healthcare management of individuals with MCC, as well as on the systems to best support and sustain this programming.
- Strategy 4.C.2. Innovate and strengthen methods for researchers to improve measurement of patient-centered outcomes of treatments and other interventions for individuals with MCC. (Note: this strategy builds upon work called for in Strategy 1.B.)

- Strategy 4.C.3. Improve knowledge about patient trajectories temporally in relation to changes in health status, functional status, and health services use.

***Objective D: Address disparities in multiple chronic conditions populations*—**It is likely that as racial and ethnic, gender, gender identity, disability, sexual orientation, age, geographic, and socioeconomic disparities of access to care and health outcomes exist in the total population, those disparities also exist in the MCC population. Additional research directed toward understanding the roles of disparities in the MCC population would assist in focusing interventions.

- Strategy 4.D.1. Stimulate research to more clearly elucidate differences between and opportunities for prevention and intervention in MCC among various sociodemographic groups.
- Strategy 4.D.2. Use research findings on group-specific indicators for MCC risk and intervention options to leverage HHS disparities programs and initiatives to address the MCC population.

Next Steps and Future Direction

The aging of the population, the continued existence of chronic disease risk factors (e.g., tobacco use, poor nutrition, low physical activity levels), and the marvels of modern medicine will contribute to increasing numbers of Americans with multiple chronic conditions. The majority of individuals with chronic diseases in the United States also have multiple chronic conditions. Now is the time to view person-centered chronic disease prevention and care management through the prism of MCC.

The impact of multiple chronic conditions represents more than the sum of their parts. Multiple chronic conditions can overwhelm individuals, their families and others who care for them, health care professionals and other service providers, and our systems of care in the United States. HHS, in concert with numerous stakeholders, has developed the interlinked strategies in this framework to help individuals with MCC, their families, health care providers, health care and public health systems, and communities to identify and implement approaches to optimizing health and quality of life, while also reducing the burdens of multiple chronic conditions. This framework will help HHS to identify gaps in its efforts to address the health status of individuals with MCC, and in developing initiatives to support the implementation of many of the stated strategies.

The HHS Strategic Framework builds upon existing resources and efforts and provides guidance for developing future approaches. HHS will seek to continue engaging with the public and private sectors as efforts move forward to adopt, implement, and, when indicated, further modify the framework. The Interagency Workgroup on Multiple Chronic Conditions will continue assisting HHS in ensuring a coordinated and comprehensive effort for moving forward. Partnerships between the public and private sectors will be critical to achieving the vision of *Optimum Health and Quality of Life for Individuals with Multiple Chronic Conditions.*

Multiple Chronic Conditions Measurement Framework

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CONTENTS

MULTIPLE CHRONIC CONDITIONS MEASUREMENT FRAMEWORK EXECUTIVE SUMMARY

People with multiple chronic conditions (MCCs) now comprise over one-quarter of the U.S. population. As the population ages in coming decades, that percentage is expected to grow. This population is at significantly higher risk of adverse outcomes and complications. They are also more likely to see multiple clinicians, take five or more medications, and receive care that is fragmented, incomplete, inefficient, and ineffective. Yet, despite wide recognition of this problem in the healthcare community, existing quality measures largely do not address MCCs.

In response, the National Quality Forum (NQF), under contract with the Department of Health and Human Services (HHS), convened a multi-stakeholder Steering Committee to develop a measurement framework for individuals with MCCs. Following endorsement through NQF's consensus development process,[1] this framework will serve as a guide for future NQF-endorsement decisions for measures that address this population. More broadly, the framework seeks to:

- Align initiatives targeting individuals with MCCs;
- Identify measure gaps;
- Guide selection of measures for public reporting and payment;
- Suggest a roadmap for new delivery models (e.g., accountable care organizations, patient-centered medical homes); and
- Inform and stimulate research.

Informed by several important national initiatives in both the public and private sectors, this report presents the rationale, context, and core components of a person-centered measurement framework that addresses the complex circumstances of the particularly vulnerable MCCs population. Accordingly, the framework:

- Establishes a definition for MCCs in order to achieve a common understanding and a shared vision for effectively measuring the quality of care for individuals with MCCs;
- Identifies high-leverage measurement areas for the MCCs population in an effort to mitigate unintended consequences and measurement burden;
- Presents a conceptual model that serves as an organizing structure for identifying and prioritizing quality measures;
- Offers guiding principles to address methodological and practical measurement issues.

In addition, the report identifies several timely strategic opportunities for applying the framework that are relevant to current policy context. These include: a coordinated approach for filling measure gaps; building a common data platform to consistently and seamlessly collect information, including patient reported data; opportunities to apply the core tenets of the framework as new delivery models are implemented and tested; and transparency through public reporting to enable informed consumer decision-making. These opportunities cannot be acted on in isolation, but will require collective action across multiple stakeholders, including but not limited to providers of care, health professionals, purchasers, health plans, and consumers.

This framework will need to evolve over time as it is implemented in real-life settings. It will be critical to have a feedback loop to capture experiences from the field to further refine the approaches recommended within. The forward-looking considerations for applying this framework lay out a pathway toward providing patient-centered, efficient care to people with MCCs, to support achievement of the ultimate aims of the National Quality Strategy—healthy people and communities, better care, and more affordable care.

THE NEED FOR A MEASUREMENT FRAMEWORK FOR INDIVIDUALS WITH MCCs

Individuals with MCCs represent a growing segment of the population and currently comprise over one-quarter of the U.S. population.[2, 3] The presence of MCCs negatively affects quality of life, functional status, ability to get a job and work, and life expectancy. In addition to being at greater risk of adverse outcomes and complications of treatment than each of their individual conditions would confer,[4-26] individuals with MCCs receive care that often is fragmented, incomplete, inefficient, and ineffective.[19, 34-37] As a result, MCCs are associated with higher healthcare costs and utilization rates.[6-21, 23, 38] For example, individuals with MCCs are at increased risk for potentially avoidable inpatient admissions and preventable hospital complications.

Despite the growing prevalence of MCCs and associated complications, existing quality measures largely do not address individuals with MCCs. One explanation is that a dearth of evidence exists on which to build measures for complex patients. Most research on quality of care in individuals with MCCs has not considered clinical complexity in multiple areas of disease and treatment interactions. Accordingly, Clinical Practice Guidelines (CPGs), which inform performance standards and offer a structure for quality improvement efforts, rarely address multiple conditions.[42-45] CPGs typically focus on the management of a single disease, and strict adherence to disease-specific guidelines can potentially result in harm to patients with MCCs.[42, 45, 46] A formal review of adherence to disease-specific, guideline-recommended treatment in individuals with MCCs identified an impractically high level of complexity, cost, potential interactions, and burden.[42] Therefore, basing standards for performance on existing CPGs could lead to prioritizing low-value, burdensome measures. Additionally, existing measures based on CPGs can lead to overtreatment by encouraging more care; however, few measures assess inappropriate care. For example, strict glycemic or blood pressure control is not always appropriate for all individuals with MCCs based on their functional goals and preferences.[47] An in-depth consideration of these complex issues is important to address measurement for individuals with MCCs adequately.

Roadmap for Establishing a Measurement Framework for MCCs

Under the direction of the multi-stakeholder MCCs Steering Committee (see roster in Appendix A), NQF has developed a person-centric measurement framework for individuals with MCCs. Specifically, this framework provides a definition for MCCs, identifies high-leverage domains for performance measurement, and offers guiding principles as a foundation for supporting the quality of care provided to individuals with MCCs. Broadly, the primary intended uses of the framework are:

- Provide input to HHS to guide and help align programmatic initiatives targeting individuals with MCCs.
- Support standardization of measures by signaling to measure developers gaps in performance measurement for individuals with MCCs—specifically, signaling the need for cross-cutting measures that are highly important to individuals with MCCs, such as measures that assess the care provided across settings during a care transition.
- Guide the endorsement of measures that various public and private stakeholders can use to assess and improve the quality of care provided to individuals with MCCs. The

framework will be used by NQF steering committees charged with evaluating measures to shape and inform their decision-making in conjunction with the endorsement criteria.

- Encourage the alignment of incentives by guiding the selection of measures for public reporting and performance-based payment programs. This framework will inform how the Measure Applications Partnership (MAP), particularly the MAP Dual Eligible Beneficiaries and Post-Acute Care/Long-Term Care Workgroups, gives guidance to public and private payers and purchasers on selecting measures for specific uses.
- Suggest a roadmap for new delivery models (e.g., accountable care organizations, patient-centered medical homes) that aim to provide patient-centered care across multiple settings.
- Inform and stimulate future research on the quality of care provided to individuals with MCCs.

Figure 1 presents the roadmap that guided the MCCs Steering Committee's work in establishing a measurement framework for MCCs. Because an explicit goal of this project was supporting alignment across public and private initiatives targeting MCCs, a deliberate effort was made to consider various public- and private-sector inputs as the framework's components were developed to serve the end users' needs articulated above.

Alignment with Public- and Private-Sector Frameworks and Initiatives

The MCCs Steering Committee's work was informed and shaped by several important national initiatives spearheaded by HHS and others in the private sector. The committee recognized and valued that clear opportunities exist for aligning, sharing lessons learned, and maximizing resources.

First, the MCCs Committee looked to HHS's Multiple Chronic Conditions Strategic Framework[48] and was committed to ensuring that its work was supportive of HHS's four overarching goals:

1. foster healthcare and public health-system changes to improve the health of individuals with multiple chronic conditions;
2. maximize the use of proven self-care management and other services by individuals with MCCs;
3. provide better tools and information to healthcare, public health, and social services workers who deliver care to individuals with MCCs; and
4. facilitate research to fill knowledge gaps about, and interventions and systems to benefit individuals with MCCs.

Second, the MCCs Committee looked to the National Quality Strategy (NQS)[49] for concrete ways its work could advance the three NQS aims of better care, affordable care, and healthy people and communities. The six priority areas[a] of the NQS, and the associated goals, measures, and strategic opportunities within these priorities as recommended by the National Priorities Partnership[50] to HHS, served as a guidepost for the committee in identifying the MCC framework's measure concept areas, in particular those targeting care coordination and patient/family engagement. In addition, the committee examined other national initiatives, including the National Prevention Strategy (NPS)[51] and the Partnership for Patients[52] safety initiative. The goals of these programs, targeting health and wellness for disadvantaged populations and significantly reducing harm and hospital readmissions, respectively, are particularly salient to individuals with MCCs.

Third, the MCCs Committee explored private-sector initiatives, including measure endorsement projects under way at NQF, that are aligning to fill measure gaps addressing the NQS priorities and goals. The committee also built on the *NQF-Endorsed Patient-Focused Episodes of Care Measurement Framework*,[53] which provided a starting point for considering how to better measure and assess the quality of care provided

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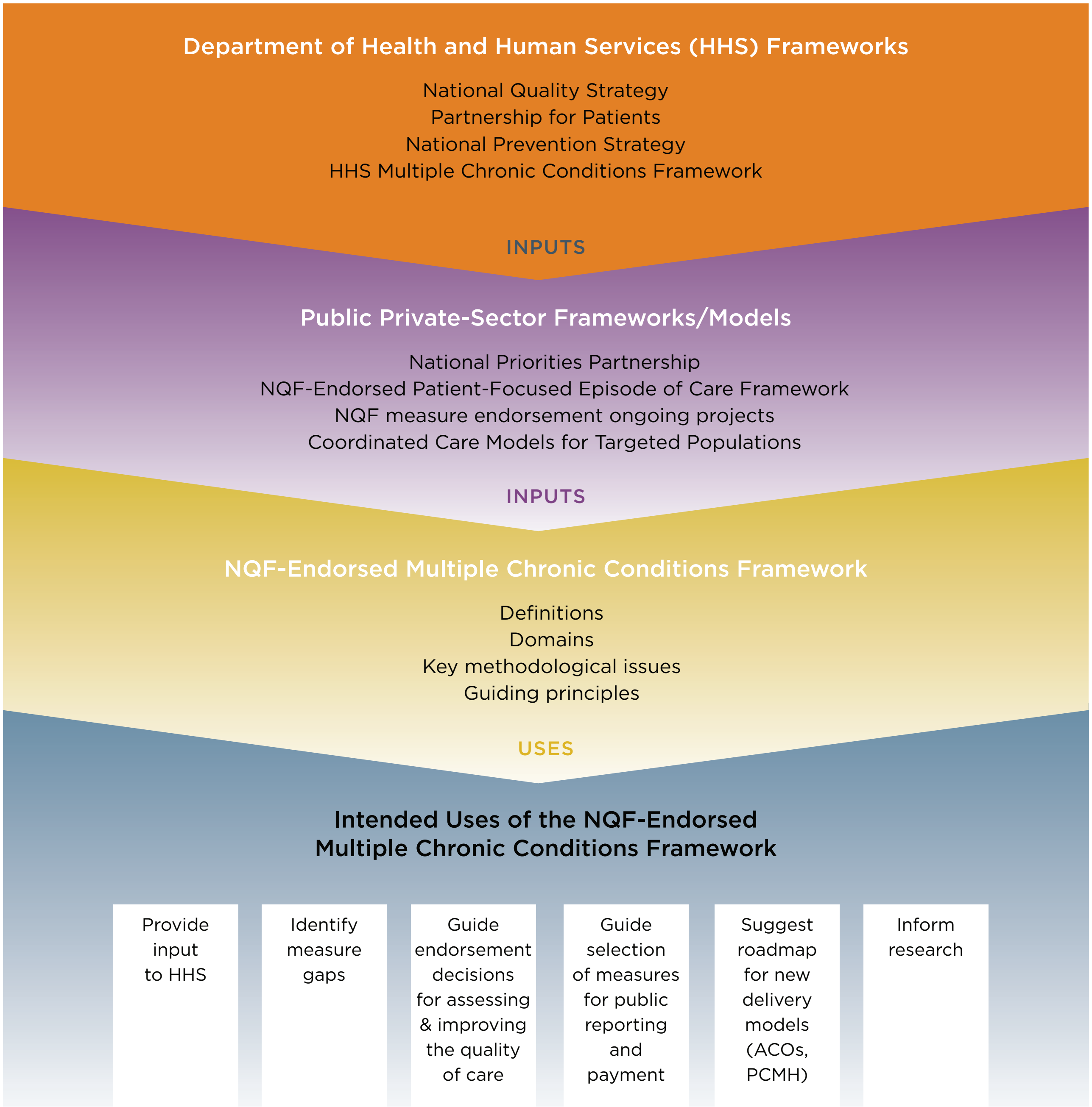
[a] Health and well-being, prevention and treatment of leading causes of mortality, person- and family-centered care, patient safety, effective communication and care coordination, and affordable care.

FIGURE 1.



to patients longitudinally over time and across settings. However, the committee acknowledged that this early prototype needed to progress from a disease-specific focus to one that is able to capture adequately the complexities of most individuals who live with MCCs. Therefore, the following sections delineate the components of the next evolution of a measurement framework that takes into account the intricacies and challenges around performance measurement for individuals with MCCs.

MEASUREMENT FRAMEWORK

The measurement framework for assessing the quality of care provided to individuals with MCCs is presented below. First, this framework establishes a definition of MCCs, capturing the various complexities and harmonizing the varying definitions in the field. Second, it determines the highest-leverage measure concept areas and demonstrates applications of those concepts in a conceptual model for measurement. Third, it establishes guiding principles, including key methodological challenges and potential solutions for applying existing performance measures to individuals with MCCs.

Definition of Multiple Chronic Conditions

MCCs are defined in a multitude of ways in literature and in practice. To establish a common understanding and a shared vision for effectively measuring the quality of care for individuals with MCCs, the committee's first priority in developing this framework was to define MCCs.

One method for defining MCCs is based on a count of concurrent conditions. For example, the HHS Multiple Chronic Conditions Strategic Framework[48] defines MCCs as the presence of two or more conditions;[54] this definition is intended to be interpreted and used inclusively. While prevalence of MCCs within a population can be determined readily under this definition, the broad definition could potentially target too large a portion of the population, as more than one-quarter of adults over age 18 have two or more chronic conditions.[55-59] Additionally, counting concurrent conditions does not consider the complexity or interaction among conditions. For example, an individual with two conditions with minimal interaction between them, such as allergic rhinitis and osteoarthritis of the knee, may be viewed differently within a MCCs measurement framework than an individual with congestive heart failure and dementia. Thus, considering complexity and interaction among MCCs is particularly important.

The Agency for Healthcare Research and Quality (AHRQ) defines a complex patient as having two or more chronic conditions that may influence the care of other conditions through limitations of life expectancy, interactions between drug therapies, or direct contraindications to therapy for one condition by other conditions.[60] This definition moves toward capturing the ongoing interaction and complexity of concurrent chronic conditions and how these interactions impact care; however, it does not capture health status considerations such as function or quality of life.

The definition of MCCs may apply differently to children because of the types of chronic conditions they experience, and it may apply differently as children with MCCs mature. For adults, the most common chronic conditions are related to the aging process in conjunction with lifestyle choices (e.g., hypertension, high cholesterol, heart disease, diabetes, and arthritis).[61] The chronic conditions of childhood usually are the result either of genetic conditions, the consequences of low birth weight and prematurity, or environmental factors[62] (e.g., asthma, cystic fibrosis, cerebral palsy, developmental disabilities, mental illness, diabetes).[63] While chronic conditions can lead to many of the same consequences for children and adults, the impact of MCCs in children is more likely to vary with developmental stages and change across the lifespan as the child matures into adolescence and adulthood.

Given these considerations, the MCCs Steering Committee—building upon the AHRQ and HHS definitions—established the definition of multiple chronic conditions to be:

> Persons with multiple chronic conditions are defined as having two or more concurrent

> chronic conditions that collectively have an adverse effect on health status, function, or quality of life and that require complex healthcare management, decision-making, or coordination.[b,c]
>
> Assessment of the quality of care[d] provided to the MCCs population should consider persons with two or more concurrent chronic conditions that require ongoing clinical, behavioral,[e] or developmental care from members of the healthcare team and act together to significantly increase the complexity of management and coordination of care—including but not limited to potential interactions between conditions and treatments.
>
> Importantly, from an individual's perspective the presence of MCCs would:
>
> - affect functional roles and health outcomes across the lifespan;
> - compromise life expectancy; or
> - hinder a person's ability to self-manage or a family or caregiver's capacity to assist in that individual's care.

Widespread adoption of this definition would help to foster standardization of quality measurement across various public and private initiatives. Moving forward, challenges in putting this definition for measure development into operation highlight limitations in our current approaches to performance measurement, particularly the need to augment claims data with other clinical and patient-reported data to obtain information to identify this population. Data source considerations are discussed later in the guiding principles.

Key Measurement Concepts

As previously noted, but worthy of further emphasis, strict adherence to disease-specific measures for patients with MCCs may lead to the unintended consequence of delivering inappropriate care that is not aligned with the patient's goals and preferences. Additionally, applying numerous measures targeting a variety of diseases could impose potential harm; lead to high measurement burden, often without attaining better outcomes; and consume resources that might otherwise be used more judiciously and effectively to provide high-quality care. Therefore, the MCC Steering Committee sought to identify the highest-leverage measurement areas for the MCC population in an effort to mitigate these two important concerns of unintended consequences and measurement burden. Building on the six national health and healthcare priorities identified in the NQS[f] as an overarching framework, the committee identified measure concepts that map to the NQS priority areas and highlight issues most relevant for individuals with MCCs. In pinpointing these measure concept areas, the committee firmly acknowledged that collecting and reporting these measures will vary over an individual's trajectory of care, as goals and preferences can evolve and must be assessed regularly. There will need to be a balance achieved between the appropriate use of disease specific measures and crosscutting measures. Box 1 presents the committee's high-leverage measure concepts. The committee's selection criteria were based on identifying cross-cutting areas that offer the greatest potential for reducing disease burden and cost and improving well-being, and are valued most by patients and their families.

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[b] In the context of this definition, chronic conditions encompass a spectrum of disease and other clinical (e.g., obesity), behavioral (e.g., problem drinking), and developmental (e.g., learning disabilities) conditions. Additionally, the social context in which a person lives (e.g., homelessness) also is considered an important influencing factor.

[c] A complication associated with a primary diagnosis also would meet the requirement of two or more concurrent conditions (e.g., cystic fibrosis in children with an associated complication such as pancreatic insufficiency).

[d] Quality of care is defined by the Institute of Medicine (IOM) six aims: safe, timely, effective, efficient, equitable, and patient-centered.

[e] Behavioral includes mental health and substance use illness.

[f] Health and well-being, prevention and treatment of leading causes of mortality, person- and family-centered care, patient safety, effective communication and care coordination, and affordable care.

High-Leverage MCC Measure Concepts

- Optimizing function, maintaining function, or preventing further decline in function
- Seamless transitions between multiple providers and sites of care
- Patient important outcomes (includes patient-reported outcomes and relevant disease-specific outcomes)
- Avoiding inappropriate, non-beneficial care, including at the end of life
- Access to a usual source of care
- Transparency of cost (total cost)
- Shared accountability across patients, families, and providers
- Shared decision-making

* Appendix B highlights additional measure concepts identified by the committee mapped to the NQS priorities.

* Appendix C provides illustrative examples of available measures that address these high-leverage measure concepts.

Conceptual Model for Measuring Care Provided to Individuals with MCCs

The MCCs Steering Committee's measurement priorities set the stage for the development of a conceptual model to guide measurement for individuals with MCCs. This model is designed to illustrate the complexity of providing care for an individual with MCCs by showing the various ways that conditions, patient and family preferences, sites and providers of care, and types of care interact (see Figure 2). Also represented in the model are the social and environmental context in which the individual lives and receives care and the public and private health policy priorities that guide the delivery of care.

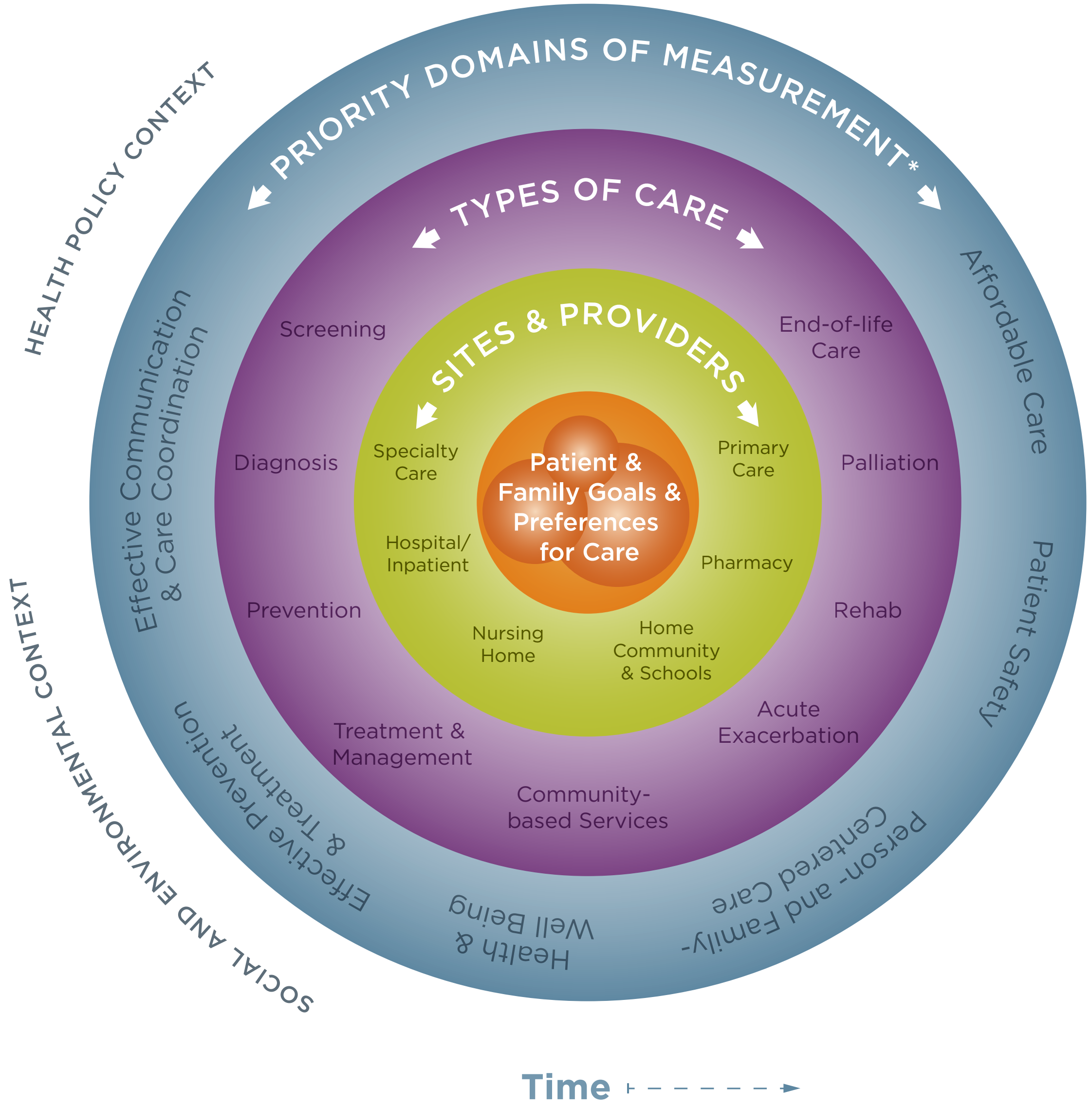
Within the center ring of the model is an individual with multiple different conditions that may have a greater or lesser effect on that individual. Also included in the inner ring are the family and friends who care for the individual, along with the individual's goals and preferences for care.

Depending on their conditions and preferences, individuals can receive care in various sites from various providers. Examples of sites most relevant for individuals with MCCs included in the second ring of the model are: primary care, specialty care, hospital/post-acute, nursing home, community (including school and workplace), home (including both formal and informal care), and pharmacy. The types of providers offering care to the individual (e.g., internists, hospitalists, nurse practitioners, social workers) also shift depending on the needs of the individual.

The types of care individuals receive, included in the third ring of the model (i.e., screening, primary and secondary prevention, diagnosis, treatment and management, community services, management of an acute exacerbation, rehabilitation, palliation, and end-of-life care), are not necessarily linear or mutually exclusive. For example, an individual with congestive heart failure may be seen in the hospital for an acute exacerbation but also may need continuing treatment and management of diabetes and lung cancer at the same time. Additionally, palliative care can occur at many points during the course of a disease or condition and is not exclusive to end-of-life care. End-of-life care can include hospice care, which can occur at multiple sites of care. These real-life examples reinforce the need for a flexible model that can capture the complexity of often-changing healthcare needs over time.

The outer ring of the model highlights the priority domains of measurement appropriate for use with individuals with MCCs. The domains intentionally align with the NQS to promote harmonization across public and private sector programs supporting this population. These domains support the key measure concepts for individuals with MCCs identified by the Steering Committee (see Box 1). Each priority domain of measurement may be addressed using several types of measures, including structure, process, outcome,

FIGURE 2.



** Each priority domain of measurement may be addressed using several types of measures, including structure, process, outcome, efficiency, cost/resource use, and composite measures.*
The use of outcomes measures, when available, and process measures that are most closely linked to outcomes is preferable.

efficiency, cost/resource use, and composite measures. The use of outcomes measures, when available, and process measures that are most closely linked to outcomes are preferable.

Performance Measurement with the MCC Conceptual Model

The conceptual model as a measurement framework can be used to evaluate and improve care for individuals with MCCs. As the model demonstrates, at any given point in time, the measurement strategy for an individual with MCCs can be focused on various conditions, sites of care, types of care, providers, and domains of measurement. The “wheels,” or measurement configurations, can turn to represent how an individual’s needs change over time. For example, disease-specific process or outcome measures may be used in concert with cross cutting measures (e.g., function, care transitions, shared decision making, patient experience). These measures may apply to various types, sites, and providers of care. Most importantly, this conceptual model highlights the need to design individualized measurement frameworks for individuals with MCCs based on their conditions and preferences.

Employing the MCC conceptual model will require a shift in how performance measures are currently utilized; moving from provider-centered measurement to patient-centered measurement. Notably, this shift will require the use of patient-reported data and re-tooling or the development of new measures to address critical measure gaps.

Guiding Principles for Measuring Care Provided to Individuals with MCCs

In considering implementation challenges for the conceptual model and measure concepts, the MCCs Steering Committee adopted the following guiding principles:

To evaluate the full spectrum of care for individuals with MCCs, measurement should:

1. Promote collaborative care among providers and across settings at all levels of the system,[g] while aligning across various public- and private-sector applications (e.g., public reporting, payment).
2. Assess the quality of care[h] and incorporate several types of measures including cross-cutting,[i] condition-specific, structure,[j] process, outcomes, efficiency, cost/resource use, composites, behavioral,[k] and that address appropriateness of care.[l]
3. Be prioritized based on the best available evidence of links to optimum outcomes and consider patient preferences jointly established through care planning.
4. Assess if a shared decision-making process was undertaken as part of initial and ongoing care planning and ultimately that the care provided was in concordance with patient preferences or, as appropriate, family or caregiver preferences on behalf of the patient.
5. Assess care longitudinally (i.e., provided over extended periods of time) and changes in care over time (i.e., delta measures of improvement or maintenance rather than attainment).
6. Be as inclusive as possible, as opposed to excluding individuals with MCCs from measure denominators. Where exclusions are appropriate, either existing measures should be modified or new measures developed.
7. Include methodological approaches, such as stratification, to illuminate and track disparities and other variances in care for individuals with MCCs. In addition to stratifying the MCC population in measurement (which is particularly important to understanding application of disease-specific measures to the MCC population), bases for stratification include disability, cognitive impairments, life expectancy, illness burden, dominant conditions, socioeconomic status, and race/ethnicity.
8. Use risk adjustment for comparability with caution, as risk adjustment may result in the unintended consequence of obscuring serious gaps in care for the MCC population. Risk adjustment should be applied only to outcomes measures and not process measures.
9. Capture inputs in a standardized fashion from multiple data sources,[m] particularly patient-reported data, to ensure key outcomes of care (e.g., functional status) are assessed and monitored over time.

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[g] The system includes, but is not limited to, individual patients, individual healthcare professionals, group practices, hospitals, health systems and other provider organizations, and health plans.

[h] Quality of care is defined by the IOM six aims: safe, timely, effective, efficient, equitable, and patient-centered.

[i] Cross-cutting measures apply to a variety of conditions at the same time or a single disease with multi-organ system ramifications (e.g., cystic fibrosis). Example measure concepts include: care coordination and integration, shared decision-making, medication reconciliation, functional status, health-related quality of life, and screening and assessment.

[j] Structural measures assess if essential infrastructure (e.g., team-based care, registries, EHRs) is in place to support integrated approaches to care management.

[k] Behavioral measures targeting major behavioral health risk factors such as obesity, smoking, alcohol and substance abuse, poor diet/nutrition, and physical inactivity.

[l] Appropriateness of care includes measures of overuse, underuse, and misuse, for example, measures that assess overuse of services such as imaging. Evidence-based guidelines for people with MCCs are not well developed in this area.

[m] Data sources include, but are not limited to: claims, EHRs, PHRs, HIEs, registries, and patient-reported data.

These guiding principles build on the guiding principles outlined in the *NQF-Endorsed Patient-Focused Episode of Care Measurement Framework*,[64] which served as a springboard for this work. The guiding principles address methodological considerations including assessment of care across episodes, measure prioritization, and the infrastructure needed for data collection. These methodological considerations are briefly discussed below.

Assessing the Quality of Care Provided Across Episodes

The *Patient-Focused Episode of Care Framework*[65] highlights that an episode of care is a series of health services occurring over time and is not limited to one clinical interaction. While the start or end of an episode of care may be defined differently for individuals with MCCs, assessing care over time and promoting shared accountability across patients, families and providers to achieve optimal outcomes are two essential principles of the patient-focused episode that are extremely important to individuals with MCCs.

People with MCCs receive care in multiple settings from multiple providers,[66] so measures should promote shared accountability across episodes of care. The *Patient-Focused Episode of Care Framework*[67] noted that when feasible, the smallest unit of accountability should be measured and reported. Designating a single accountable provider is difficult when multiple providers may be involved in a patient's care, so for individuals with MCCs, the smallest unit of accountability may well be a team of providers. Persons with MCCs require coordination of care and communication among providers to achieve an integrated care plan, requiring multiple providers to share accountability. While new payment models are progressing toward shared accountability, an interim approach to promote collaborative care could use harmonized measures across levels of the system to provide a comprehensive picture of care and identify targeted areas for improvement. Guiding principle #1 establishes that measures should promote collaborative care among providers and settings to promote shared accountability.

Additionally, it is imperative to recognize that, over time, the severity, prognosis, and symptom burden of any condition will change,[68] and those changes can impact other conditions; therefore, measures should assess how care is managed as conditions change over time. Assessing care across an episode requires a longitudinal approach to measurement, including delta measures that demonstrate improvement or maintenance over time rather than only attainment of an arbitrary target. Accordingly, guiding principle #5 denotes the need for measures to assess care longitudinally and monitor change over time.

Prioritizing Measures

The Patient-Focused Episode of Care Framework[69] highlights that measurement should be multi-dimensional, providing a comprehensive picture of quality across multiple domains. As established above, a comprehensive picture of the quality of care provided to individuals with MCCs would include measures that address patient- and family-level outcomes, communication, care coordination, safety, processes of care, essential structures, integration, and costs and resource use. Guiding principle #2 emphasizes that performance measurement for people with MCCs should include this mix of measure types. While each of these measurement domains contributes to a comprehensive picture of quality, measures must be prioritized to reduce measurement burden, while ensuring patient-centered care. As established in guiding principle #3, measures should be prioritized based on two key factors: evidence of links to outcomes and patient preferences.

The MCC population is heterogeneous, so some measures that are highly important for some individuals with MCCs may be less important for others. For example, while disease-specific measures may not address the complexity of individuals with MCCs, select disease-specific measures still may be appropriate based on the individual's goals of care. For many existing disease-specific measures, routine exclusion of individuals with MCCs prevents adequate assessment. Exclusions are commonly used as a method to identify populations to whom performance measures should not apply. For example, age frequently is used as a proxy for life expectancy or health status, identifying patients considered too frail for certain interventions. A more targeted approach should consider patient-specific factors (e.g., health status, severity of illness, life expectancy). In the absence of targeted exclusions, measures should aim to be more inclusive, as noted in guiding principle #6. If it is determined that the majority of people with MCCs are appropriately excluded, a measure tailored to individuals with MCCs likely is needed.

Ultimately, prioritizing measures for people with MCCs depends on the complex interaction among individual patient characteristics, such as disease severity, co-occurring conditions, treatment burden, and patient preferences. When appropriate, patient preferences extend beyond the patient to include family/caregiver preferences. A shared decision-making approach ensures patients/caregivers are provided with understandable information and engage in a dialogue with their providers about evidence-based options. Guiding principle #4 emphasizes that measures should assess if shared decision-making occurred.

Infrastructure Needed for Data Collection

This measurement framework for individuals with MCCs highlights the need for multiple types of data, particularly patient-reported data, to assess comprehensively the quality of care provided to individuals with MCCs. Claims, paper medical records, registries, and electronic medical records all provide important information; however, integration of multiple types of data is needed, as no one data source is adequate. Additionally, MCC measurement requires patient and family information, necessitating the development of tools and methods to collect patient-reported data. Guiding principle #9 establishes the need for standardized data collection to support measurement. Importantly, harmonization of measures across public and private sector programs is critical to send consistent signals around high-leverage priority areas and to avoid overburdening providers.

Another important data consideration is the availability of information for risk adjustment and stratification. These two methods, used to understand disparities, also can help illuminate the complexities of the heterogeneous MCC population. Potential adjustment factors include disability, cognitive impairment, life expectancy, illness burden, shadow or dominant conditions, socioeconomic status, and race/ethnicity. Risk adjustment should be approached with caution, as guiding principle #8 notes, to avoid over-adjustment, such that performance may appear better than it should, based on particular conditions, risk factors, and causal pathways relevant to outcomes.[70] Alternatively, stratifying measurement results by these same factors may better highlight how providers are or are not meeting the needs of a specific category of patients.[71] Guiding principle #7 outlines the advantages of stratifying measures for individuals with MCCs.

A CASE STUDY APPLYING THE MCC CONCEPTUAL MODEL

This case study illustrates use of the MCC Conceptual Model for a hypothetical patient with multiple chronic conditions.

Javier

Javier is a 59-year-old smoker who has been diagnosed with chronic obstructive pulmonary disease (COPD), diabetes, and major depression. Javier lives in a suburban community outside of a major metropolitan area with his wife Flora, a 65-year-old woman who also has MCC. Javier must take an active role in supporting Flora's care, as her activities have been limited by worsening chronic kidney disease due to diabetes. Flora has been unable to work for several years, and as a result, the couple has had to access their retirement savings earlier than anticipated. While Flora is covered by Medicare, Javier receives coverage from his employer-sponsored health plan; however, Javier has noticed that his premiums and co-pays continue to rise, and he has begun to worry that his medical expenses will have to be covered with their retirement savings. Javier seeks primary care from an internist, specialty care from a pulmonologist and an endocrinologist, and consultation from his local pharmacist on occasion. In addition, as for most people with MCCs, Javier self-manages his care at home, which at times can be overwhelming. In conversations with his primary care physician, Javier has indicated that he would like to feel better so he would miss fewer days of work and be able to go to his grandson's basketball games on weekends.

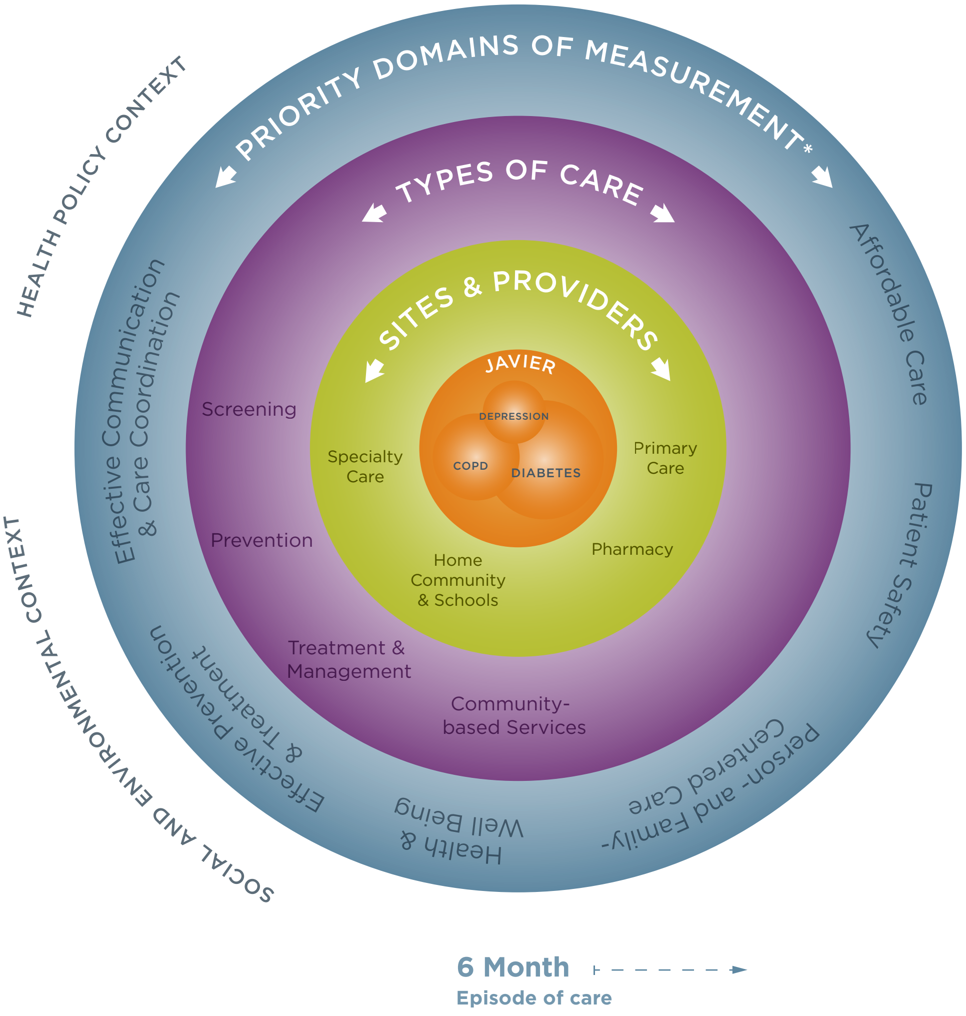
Javier's Ideal Care

Ideally, Javier would receive evidence-based health and healthcare services, from a multi-disciplinary health care team, that consider his preferences. He and his primary care physician would work together to design a plan of care that incorporates his goals. His primary care physician, pulmonologist, and endocrinologist would share information to ensure that the care plan is integrated and updated as necessary. Additionally, Javier would be assisted in obtaining access to any needed community supports. Javier's plan of care could include pharmacologic management of his COPD, diabetes, and depression along with nutrition counseling and smoking cessation counseling. The MCC Conceptual Model helps identify relevant measures to determine if Javier is receiving ideal care and the MCC Guiding Principles provide direction for how relevant measures should be used.

Application of the MCC Conceptual Model to Javier

Javier has been relatively stable during the past six months. Figure 3 represents application of the MCC Conceptual Model to Javier during this time. Javier's goals and preferences are located in the center of the model (innermost ring). His COPD, diabetes, and major depression are also represented there. His conditions overlap and vary by severity and by the way in which the conditions interact. Moving from the center of the model outward, the next ring demonstrates that Javier is receiving care from multiple providers across several sites of care, including primary care, specialty care, and pharmacy; as well as self-care at home. Progressing to the next ring, the model highlights that Javier is receiving many types of care for his conditions, including screening, prevention, treatment and management, and community-based services. The outermost ring represents the domains of measurement that are relevant to all patients with MCCs at various points in time over the courses of their illnesses. The Conceptual Model also notes that Javier's care is influenced by the social and environmental context in which Javier lives, and is framed by broader health policy context. While Javier has access to the providers he needs in his community, Javier's care is influenced by his need to take an active role in his wife's care. Additionally, the trend of employers shifting costs to their employees is having an impact on Javier's ability to afford his care.

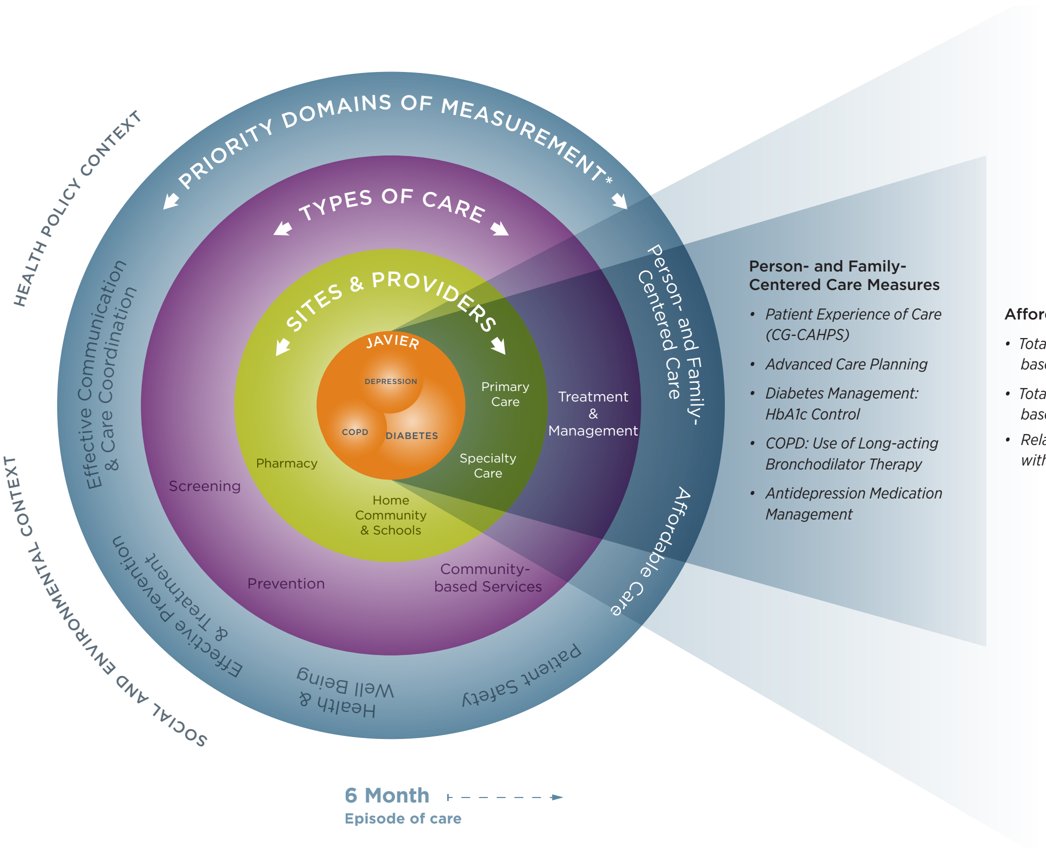
FIGURE 3.



Referring to the MCC Conceptual Model, cross-cutting and condition-specific measures are identified within each domain; Figure 4 highlights the measurement opportunities within two domains—Patient- and Family-Centered Care and Affordable Care. Existing measurement opportunities within Patient- and Family-Centered Care related to treatment and management might include cross-cutting measures such as *Patient Experience of Care* and disease-specific measures such as *Diabetes Management: HbA1c Control* and *COPD: Use of Long-Acting Bronchodilator Therapy.* Ideally, measures within this domain would also address patient-reported outcomes such as quality of life and functional status. Measurement opportunities for assessing Affordable Care include *Relative Resource Use for People with COPD, Total*

Resource Use Population-based PMPM Index and *Total Cost of Care Population-based PMPM Index*. Ideally, measures within this domain would also address total cost of care for the patient.

FIGURE 4.



Person- and Family-Centered Care Measures

- *Patient Experience of Care (CG-CAHPS)*
- *Advanced Care Planning*
- *Diabetes Management: HbA1c Control*
- *COPD: Use of Long-acting Bronchodilator Therapy*
- *Antidepression Medication Management*

Affordable Care Measures

- *Total Resource Use Population-based PMPM Index*
- *Total Cost of Care Population-based PMPM Index*
- *Relative Resource Use for People with COPD*

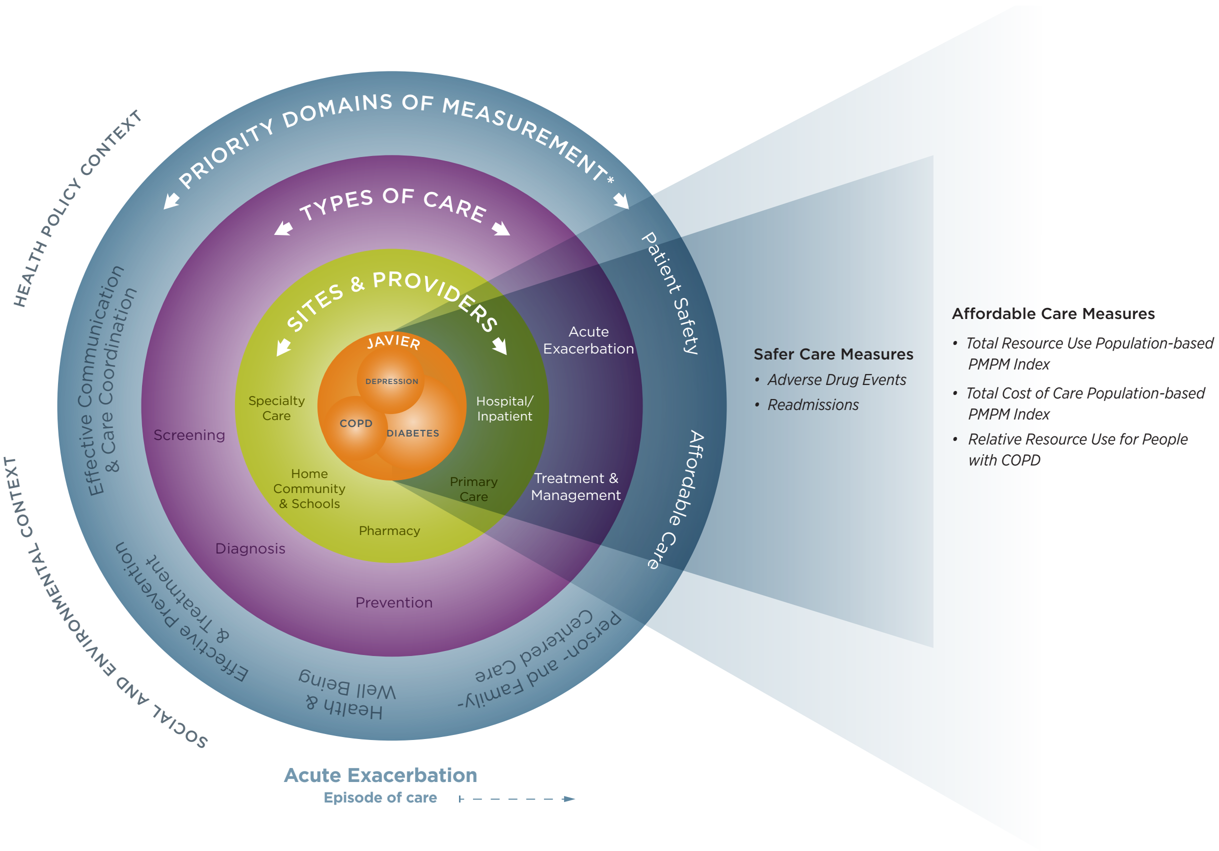
There are opportunities to measure aspects of Javier's care across each of the remaining domains of measurement: Patient Safety; Health and Well-Being; Effective Prevention and Treatment; and Effective Communication and Care Coordination. This results in a multitude of applicable measures. The MCC Guiding Principles provide further direction for identifying the most relevant measures. As stated in Guiding Principle #3, to avoid a large measurement burden, and most importantly to avoid potential harm to Javier and other individuals with MCCs, the measures should be prioritized based on the best available medical evidence and Javier's own preferences and treatment goals. The plethora of measures identified using the Conceptual Model may not be of equal importance or appropriate at any given point in time. For example, the *Diabetes Management: HbA1c Control* measure, which assesses if diabetic patients have an A1c less than 9%, is not appropriate for Javier as his current treatment goal is to lower his A1c from 14% to 12% and then progressively work toward decreasing A1c along with other diet and lifestyle changes. Additionally, Guiding Principles #1, 4, and 5 signal the need for measures that assess care over time, care coordination, and shared-decision making. In lieu the *Diabetes Management: HbA1c Control* measure, measure priorities for Javier may include assessing whether Javier's providers shared information regarding his care plan in a timely manner, whether a shared-decision making process was used to determine that stricter A1c management is not appropriate for Javier at this time, and whether Javier's A1c decreases from 14% to 12% over time.

Application of the MCC Conceptual Model to Javier's Hospitalization

Following a stable six-month period, Javier is suddenly hospitalized with an acute exacerbation of COPD. Accordingly, Figure 5 represents application of the MCC Conceptual Model to changes in Javier's condition. Javier's COPD and depression have now become more dominant (inner ring), hospital/inpatient is now added to the sites and providers of care, and diagnosis and acute exacerbation are now added to the types of care. Most importantly, Javier's goals and preferences remain at the center of the model, while the entire model sits within the broader social, environmental, and health policy contexts.

With the hospitalization event and a change in application of the Conceptual Model to Javier, there are different opportunities to measure aspects of Javier's care across each of the domains of measurement. For example, existing measurement opportunities within the Safer Care domain, related to treatment and management and to acute exacerbation, might include adverse drug events and readmission rates. Within the Affordable Care domain, the measurement opportunities identified prior to Javier's hospitalization persist.

FIGURE 5.



Again, it is important to prioritize measures based on the best available medical evidence and Javier's own preferences for treatment as there are many opportunities to measure aspects of Javier's care across each of the domains. Additionally, Guiding Principles #6, 7, and 8 provide direction for measurement methodological considerations. For example, the readmissions measure may be stratified by race to highlight racial and ethnic disparities in care.

PATH FORWARD

The vision for the measurement framework proposed here is that it will be a living document that will evolve as it is implemented and tested in the field under various applications. The MCCs Steering Committee has identified three strategic opportunities for moving forward and has highlighted how these opportunities align with the work of the National Priorities Partnership (NPP) and MAP.

Identifying and Filling Measure Gaps

This framework identifies key measure concepts for people with MCCs. Many of these concepts align with the measurement priorities and measure concepts identified in the MAP Post-Acute Care and Long-Term Care (PAC/LTC) Coordination Strategy[72] and the MAP *Dual Eligible Beneficiaries Interim Report*[73] (Appendix D highlights alignment of the measure priorities identified by all of these efforts). Notably, each of these reports has signaled a need for cross-cutting measures that incorporate patient-reported data and assess care across the entire system. Given the dearth of existing cross-cutting, longitudinal measures, there is a need for coordinated measure development. Additionally, measures for children with MCCs are virtually non-existent and represent a prominent gap.

A coordinated strategy for filling critical measure gaps, especially for developing cross-cutting measures, requires research to be conducted that includes individuals with MCCs. From this evidence base, clinical practice guidelines can be developed that are applicable to this population and can serve as the basis for measure development. It is essential that the core elements of this framework be carefully considered upstream by both guideline and measure developers to guide and inform their processes. In addition, a mechanism should be created to systematically capture implementation experiences in clinical practice and monitor for potential unintended consequences. Through this iterative process, the knowledge base will emerge to inform the most effective approaches to care for this population and to measure and assess effectively if high-quality care is being obtained.

Standardizing Data Collection, Measurement, and Reporting

This framework highlights the need for a common data platform to capture the multiple data sources necessary to assess care comprehensively, particularly patient-reported outcomes such as functional status. The data platform should enable gathering patient-reported information and information about the social determinants of health for measuring the outcomes most important to patients and communities. A common data platform using standardized data elements could increase the utility of electronic data sources and decrease provider data collection burden. Building an HIT infrastructure that promotes the meaningful use of electronic health records and uptake of personal health records to enable providers and patients to easily transfer vital information across settings is paramount. As the groundwork is further laid for HIT the complex needs of people with MCCs should be taken into consideration.

Payment and Delivery System Reform

Applying this framework will require a cultural shift for organizations still embedded to provider-centric models of care. The emergence of new payment and delivery models provides a unique opportunity to address the needs of individuals with MCCs. Quality measurement programs for these evolving delivery models should use this framework to incorporate patient-centric measurement. For example, approaches to measurement may include stratification of individuals who meet the definition of MCCs from the general population in disease-specific measures in conjunction with using available high-leverage, cross-cutting measures, as opposed to applying a one-size-fits-all approach, such as using composites that may not be appropriate for all patients.

Public reporting of performance measurement information should be used to ensure transparency and help inform the choices of patients, their caregivers, and those who purchase care for individuals with MCCs. Therefore, measures stemming from this framework should be implemented for purposes of transparency to support consumer and purchaser decision-making and accountability. Payment incentives should address the underlying cost drivers for the MCC population. Data collection and monitoring will be necessary, however, to ensure that public reporting and payment incentives do not result in adverse consequences for this vulnerable population. Accountable care organizations and medical homes should be explored as promising delivery systems for providing coordinated, integrated care to individuals with MCCs. Additionally, rewarding evidence-based benefit design to ensure coverage of essential services for this population is a strategic opportunity that could be leveraged.

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71 Casalino LP, Elster A, Eisenberg A, et al., Will pay-for-performance and quality reporting affect health care disparities? *Health Aff (Millwood)*, 2007;26(6):w405-w414.

72 NQF, *Measure Applications Partnership Strategic Approach to Performance Measurement for Dual Eligible Beneficiaries Interim Report to HHS*, Washington, DC: NQF; 2011. Available at www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=68542. Last accessed November 2011.

73 NQF, *Measure Applications Partnership Performance Measurement Coordination Strategy for Post-Acute Care and Long-Term Care*, Washington, DC: NQF; 2011. Available at www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=69297. Last accessed November 2011.

APPENDIX A:

Multiple Chronic Conditions Measurement Framework Steering Committee Roster

CO-CHAIRS	ORGANIZATION
Caroline S. Blaum	University of Michigan Health System – Institute of Gerontology
Barbara McCann	Interim HealthCare

COMMITTEE MEMBERS	
Mary Barton	National Committee for Quality Assurance
Cynthia Boyd (Liaison)	Johns Hopkins University School of Medicine – Johns Hopkins Health System
Margaret L. Campbell	Detroit Medical Center
Amina Chaudhry	Substance Abuse and Mental Health Services Administration
Leona Cuttler	Rainbow Babies and Children's Hospital – Case Medical Center
Michael C. Farber	University of Vermont College of Medicine/Department of Vermont Health Access
Christina Farup	DePuy, Inc./Johnson & Johnson
Daniel Forman	Brigham and Women's Hospital, Partners Healthcare
Andrew Guccione	George Mason University
Seena Haines	Palm Beach Atlantic University
Emma Hoo	Pacific Business Group on Health
Gail Hunt	National Alliance for Caregiving
Thomas E. Kottke	HealthPartners
Joseph Laver	St. Jude Children's Research Hospital
Kyu Rhee	IBM Corporation
Robert J. Rosati	Visiting Nurse Service of New York
Dennis Saver	Primary Care of the Treasure Coast
Jeffrey Thompson	DSHS Washington State Medicaid
Barbara J. Turner	University of Texas Health Science Center

NATIONAL QUALITY FORUM STAFF	
Tom Valuck	Senior Vice President, Strategic Partnerships
Karen Adams	Vice President, National Priorities
Aisha Pittman	Senior Program Director, Strategic Partnerships
Nadine Allen	Project Analyst, Strategic Partnerships

JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE STAFF
Cynthia M. Boyd, MD, MPH
Sydney Dy, MD
Erin R. Giovannetti, PhD
Bruce Leff, MD
Christine Weston, PhD

APPENDIX B:

Multiple Chronic Conditions Key Measure Concepts Mapped to the National Quality Strategy Priorities

This table highlights additional measure concepts identified by the steering committee and mapped to one NQS priority; however, concepts may address multiple NQS priorities. Measure concepts followed by an asterisk are highly prioritized measure concepts displayed in Box 1 of the report.

National Quality Strategy Priorities	Measure Concepts
Enable healthy living; optimize function	• **Optimize function, maintain function, or prevent decline in function*** • Patient/family perceived challenge in managing illness or pain • Social support/connectedness • Productivity, absenteeism/presenteeism • Community/social factors • Healthy lifestyle behaviors • Depression/substance abuse/mental health • Primary prevention
Effective communication and coordination of care	• **Seamless transitions between multiple providers and sites of care*** • **Access to usual source of care*** • **Shared accountability that includes patients, families, and providers*** • Care plans in use • Advance care planning • Clear instructions/simplification of regimen • Integration between community and healthcare system • Health literacy
Prevention and treatment of leading causes of mortality	• **Patient important outcomes (includes patient-reported outcomes and relevant disease-specific outcomes)*** • Missed prevention opportunities – secondary and tertiary
Make care safer	• **Avoiding inappropriate, non-beneficial care, including at the end of life*** • Reduce harm from unnecessary services • Preventable admissions and readmissions • Inappropriate medications, proper medication protocol, and adherence
Making quality care more affordable	• **Transparency of cost (total cost)*** • Reasonable patient out of pocket medical costs and premiums • Healthcare system costs as a result of inefficiently delivered services (e.g. ER visits, polypharmacy, hospital admissions • Efficiency of care
Person- and family-centered care	• **Shared decision-making*** • Patient experience of care • Family/caregiver experience of care • Self-management of chronic conditions, especially multiple conditions

APPENDIX C:

High Priority MCC Measure Concepts and Illustrative Measures

This table provides illustrative examples of available measures that address the high priority MCC measure concepts displayed in Box 1 of the report.

High Priority MCC Measure Concepts	Corresponding High Priority Illustrative Measures
Optimize function, maintain function, or prevent decline in function	• Long-stay nursing home residents with moderate-severe pain[1]* • Long-stay nursing home residents with depressive symptoms[2]* • Change in basic mobility or function for post-acute care[3,4]* • Functional capacity and HRQL in COPD patients before and after pulmonary rehab[5]* • Lower back pain: pain and functional status assessment[6,7]† • SF-36 and SF-12 surveys[8,9]
Seamless transitions between multiple providers and sites of care	• Care Transition Measure—CTM-3[10]* • Transition record with specified elements received by discharged patients[11]*
Access to usual source of care	• People unable to get or delayed getting needed medical care, dental care or prescription medications[12] • Access problems due to cost[13] • Children with special healthcare needs with access to medical home[14]
Shared accountability that includes patients, families, and providers	• Children with effective care coordination and with a medical home[15]
Patient important outcomes (includes patient-reported outcomes and relevant disease-specific outcomes)*	• Health outcomes—mortality and morbidity[16]
Avoiding inappropriate, non-beneficial care, particularly at the end of life	• Hospice patients who didn't receive care consistent with end-of-life wishes[17]† • CARE mortality follow back survey of bereaved family members[18]† • Inappropriate non-palliative services at end of life[19,20] • Preventable ED visits[21]
Transparency of cost (total cost)	• Average annual expenditures per consumer unit for healthcare[22] • Consumer price indexes of medical care prices[23] • Personal health care expenditures, by source of funds [24]
Shared decision-making	• Persons whose healthcare providers always involve them in decisions about their healthcare as much as they wanted[25]

* NQF-endorsed measure

† Measure currently undergoing NQF review

1 Measure: Percent of long-stay nursing home residents who have moderate to severe pain. HHS, Nursing Home Compare, Washington, DC: HHS; 2010. Available at www.medicare.gov/NHCompare/Include/DataSection/Questions/SearchCriteriaNEW.asp?version=default&browser=IE%7C9%7CWindows+7&language=English&defaultstatus=0&pagelist=Home&CookiesEnabledStatus=True. Last accessed December 2011. NQF, *endorsed standard 0677*, Washington, DC: NQF; 2011. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: HHS, *Minimum Data Set (MDS)*, Washington, DC: HHS; 2010. Available at www.cms.gov/NursingHomeQualityInits/25_NHQIMDS30.asp. Last accessed December 2011.

2 Measure: Percent of long-stay nursing home residents with depressive symptoms. HHS, Nursing Home Compare, Washington, DC: HHS; 2010. Available at www.medicare.gov/NHCompare/Include/DataSection/Questions/SearchCriteriaNEW.asp?version=default&browser=IE%7C9%7CWindows+7&language=English&defaultstatus=0&pagelist=Home&CookiesEnabledStatus=True. Last accessed December 2011.NQF, *endorsed standard 0690*, Washington, DC: NQF; 2011. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: HHS, *MDS*, Washington, DC: HHS; 2010. Available at www.cms.gov/NursingHomeQualityInits/25_NHQIMDS30.asp. Last accessed December 2011.

3 Measure: Change in basic mobility as measured by the AM-PAC. NQF, *endorsed standard 0429*, Washington, DC: NQF; 2008. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: CREcare, *AM-PAC Outcome Instrument*, Boston, MA; 2009. Available at http://crecare.com/am-pac/ampac.html. Last accessed December 2011.

4 Measure: Change in daily activity function as measured by the AM-PAC. NQF, *endorsed standard 0430*, Washington, DC: NQF; 2008. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: CREcare, AM-PAC Outcome Instrument, Boston, MA; 2009. Available at http://crecare.com/am-pac/ampac.html. Last accessed December 2011.

5 Measure: Functional capacity in COPD patients before and after pulmonary rehabilitation. NQF, *endorsed standard 0701*, Washington, DC: NQF; 2011. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: American Association of Cardiovascular Pulmonary Rehabilitation, Chicago, IL; 2011. Available at http://www.aacvpr.org/Resources/OutpatientCardiacRehabilitationRegistry/tabid/422/Default.aspx.

6 Measure: LBP initial assessment. NQF, *endorsed standard 0322*, Washington, DC: NQF; 2008. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: National Committee for Quality Assurance, *Back Pain Recognition Program*, Washington, DC; 2011. Available at http://www.ncqa.org/tabid/137/Default.aspx. Last accessed December 2011.

7 Measure: LBP patient reassessment. NQF, *endorsed standard 0306*, Washington, DC: NQF; 2008. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: National Committee for Quality Assurance, *Back Pain Recognition Program*, Washington, DC; 2011. Available at http://www.ncqa.org/tabid/137/Default.aspx. Last accessed December 2011.

8 Measure: 36-Item Short Form Survey. RAND Health, *Medical Outcomes Study*, Santa Monica, CA: RAND; 2011. Available at http://www.rand.org/health/surveys_tools/mos/mos_core_36item.html. Last accessed December 2011.

9 Measure: 12-Item Short Form Survey. RAND Health, *Medical Outcomes Study*, Santa Monica, CA: RAND; 2011. Available at http://www.rand.org/health/surveys_tools/mos/mos_core_12item.html. Last accessed December 2011.

10 Measure: 3-item care transition measure (CTM-3). NQF, *endorsed standard 0228*, Washington, DC: NQF; 2010. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: University of Colorado—Health Sciences Center, Denver, CO; 2011. Available at www.cu.edu/techtransfer/contact/healthscience.html. Last accessed December 2011.

11 Measure: Transition record with specified elements received by discharged patients for inpatient discharges to home/self-care or any other site of care. NQF, *endorsed standard 0647*, Washington, DC: NQF; 2010. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: American Medical Association (AMA), *Physician Consortium for Performance Improvement*, Chicago, IL: AMA; 2011. Available at www.ama-assn.org/ama/pub/physician-resources/clinical-practice-improvement/clinical-quality/physician-consortium-performance-improvement.page. Last accessed December 2011.

12 Measure: People who were unable to get or delayed in getting needed medical care, dental care, or prescription medicines in the last 12 months, by race, ethnicity, income, education, and language spoken at home. AHRQ, *National Healthcare Disparities and Quality Reports*, Rockville, MD: AHRQ; 2010. Available at www.ahrq.gov/qual/qrdr10.htm. Last accessed December 2011. Data source: AHRQ, MEPS, Rockville, MD: AHRQ; 2010. Available at www.meps.ahrq.gov/mepsweb/communication/whats_new.jsp?timeframe=150&sublastup=Go. Last accessed December 2011.

13 Measure: Cost-related access problems, by race/ethnicity, income and insurance status. The Commonwealth Fund Commission on a High Performance Health System, Why Not the Best? *Results from the National Scorecard on U.S. Health System Performance*, New York, NY: The Commonwealth Fund Commission on a High Performance Health System; 2008. Available at www.commonwealthfund.org/Content/Publications/Fund-Reports/2008/Jul/Why-Not-the-Best--Results-from-the-National-Scorecard-on-U-S--Health-System-Performance--2008.aspx. Last accessed December 2011. Data source: The Commonwealth Fund, *2007 Commonwealth Fund Health Insurance Survey*, New York, NY: The Commonwealth Fund; 2008. Available at www.commonwealthfund.org/Surveys/2007/2007-Commonwealth-Fund-Biennial-Health-Insurance-Survey.aspx. Last accessed December 2011.

14 Measure: Proportion of children who have access to a medical home. HHS, *HP2020, indicator MICH-30.1, MICH-30.2*; Washington, DC: HHS; 2010. Available at www.healthypeople.gov/2020/default.aspx. Last accessed December 2011.Data source: CDC, NSCH, Atlanta, GA: CDC; 2010. Available at www.cdc.gov/nchs/slaits/nsch.htm. Last accessed December 2011.

15 Measure: Children with effective care coordination and with a medical home by age, residence location, and insurance. AHRQ, *National Healthcare Disparities and Quality Reports*, Rockville, MD: AHRQ; 2010. Available at www.ahrq.gov/qual/qrdr10.htm. Last accessed December 2011. Data source: CDC, *National Survey of Children's Health (NSCH)*, Atlanta, GA: CDC; 2010. Available at www.cdc.gov/nchs/slaits/nsch.htm. Last accessed December 2011.

16 Measure: Years per life lost on all deaths occurring before the age of 75; Percent of adults reporting fair or poor health; and the average number of physically and mentally unhealthy days reported per month. University of Wisconsin Population Health Institute, *Mobilizing Action Toward County Health: The County Health Rankings (MATCH)*, Madison, WI: MATCH; 2009. Available at uwphi.pophealth.wisc.edu/pha/match/matchRankings.pdf. Last accessed December 2011.Data source: CDC, *National Hospital Ambulatory Medical Care Survey (NHAMCS)*, Atlanta, GA: CDC; 2010. Available at www.cdc.gov/nchs/ahcd.htm. Last accessed December 2011.CDC, BRFSS, Atlanta, GA: CDC; 2005-2009. Available at www.cdc.gov/BRFSS/. Last accessed December 2011.

17 Measure: Family evaluation of hospice care. AHRQ, *National Healthcare Disparities and Quality Reports*, Rockville, MD: AHRQ; 2010. Available at www.ahrq.gov/qual/qrdr10.htm. Last accessed December 2011. NQF, *endorsed standard 0208*, Washington, DC: NQF; 2009. Available at www.qualityforum.org/Measures_List.aspx. Last accessed December 2011. Data source: National Hospice and Palliative Care Organization (NHPCO), *Family Evaluation of Hospice Care*, Alexandria, VA: NHPCO; 2010. Available at www.nhpco.org/i4a/pages/index.cfm?pageid=3264. Last accessed December 2011.

18 Measure: Consumer Assessments and Reports of End-of-Life (CARE). Teno JM, Clarridge BR, Casey V, et al., Family perspectives on end-of-life care at the last place of care, *JAMA* 2004;291(1):88-93. Data source: Brown University Center for Gerontology and Healthcare Research, Providence, RI; 2011. Available at www.chcr.brown.edu/dying/MEASURES_JAMA_PAPER_LAST_PLACE_OF_CARE.PDF. Last accessed December 2011.

19 Measure: Percent of patients seeing ten or more physicians during the last six months of life. The Dartmouth Atlas of Health Care, *Trends and Variation in End-of-Life Care for Medicare Beneficiaries with Severe Chronic Illness*, The Dartmouth Institute for Health Policy and Clinical Practice; 2011. Available at http://tdi.dartmouth.edu/documents/EOL_Trend_Report_0411%20(3).pdf. Last accessed December 2011. Data source: The Dartmouth Institute for Health Policy and Clinical Practice; 2011. Available at http://tdi.dartmouth.edu/documents/EOL_Trend_Report_0411%20(3).pdf. Last accessed December 2011.

20 Measure: Number of hospice days per chronically ill patient in the last six months of life. The Dartmouth Atlas of Health Care, *Trends and Variation in End-of-Life Care for Medicare Beneficiaries with Severe Chronic Illness*, The Dartmouth Institute for Health Policy and Clinical Practice; 2011. Available at http://tdi.dartmouth.edu/documents/EOL_Trend_Report_0411%20(3).pdf. Last accessed December 2011. Data source: The Dartmouth Institute for Health Policy and Clinical Practice; 2011. Available at http://tdi.dartmouth.edu/documents/EOL_Trend_Report_0411%20(3).pdf. Last accessed December 2011.

21 Measure: Went to emergency room for condition that could have been treated by regular doctor, by race/ethnicity, income and insurance status. The Commonwealth Fund Commission on a High Performance Health System, *Why Not the Best? Results from the National Scorecard on U.S. Health System Performance*, New York, NY: The Commonwealth Fund Commission on a High Performance Health System; 2008. Available at www.commonwealthfund.org/Content/Publications/Fund-Reports/2008/Jul/Why-Not-the-Best--Results-from-the-National-Scorecard-on-U-S--Health-System-Performance--2008.aspx. Last accessed December 2011.Data source: The Commonwealth Fund, *2007 Commonwealth Fund Health Insurance Survey*, New York, NY: The Commonwealth Fund; 2008. Available at www.commonwealthfund.org/Surveys/2007/2007-Commonwealth-Fund-Biennial-Health-Insurance-Survey.aspx. Last accessed December 2011.

22 Measure: Average annual expenditures per consumer unit for health care. *The 2012 Statistical Abstract: Health and Nutrition*, Washington, DC; 2007-2009. Available at http://www.census.gov/compendia/statab/2012edition.html. Last accessed December 2011. Data source: Consumer Expenditure Survey. Bureau of Labor Statistics (BLS), *CPI Detailed Report, Data for January 2011*, Washington, DC. http://www.bls.gov/cpi/cpi_dr.htm. Last accessed December 2011.

23 Measure: Consumer price indexes of medical care prices. U.S. Census Bureau, *The 2012 Statistical Abstract: Health and Nutrition*, Washington, DC; 1980-2010. Available at http://www.census.gov/compendia/statab/2012edition.html. Last accessed December 2011. Data source: Consumer Expenditure Survey. Bureau of Labor Statistics (BLS), *Consumer Expenditure Survey*, Washington, DC. Available at www.bls.gov/cex. Last accessed December 2011.

24 Measure: Personal health care expenditures, by source of funds. Centers for Disease Control and Prevention, *Health Expenditures*, Atlanta, GA; 1998-2008. Data Source: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group, National Health Expenditure Accounts. *National health expenditures, 2008*. Available from: http://www.cms.hhs.gov/NationalHealthExpendData/ and unpublished data. Last accessed December 2011.

25 Measure: Proportion of persons who report that their healthcare providers always involved them in decisions about their healthcare as much as they wanted. HHS, *HP2020*, indicator HC-HIT-3, Washington, DC: HHS; 2010. Available at www.healthypeople.gov/2020/default.aspx. Last accessed December 2011. Data source: National Institutes of Health (NIH), *Health Information National Trends Survey (NHINTS)*, Bethesda, MD: NIH; 2003-2007. Available at hints.cancer.gov. Last accessed December 2011.

APPENDIX D:

Priority Measure Concept Alignment – Multiple Chronic Conditions (MCC), Measure Application Partnership (MAP) Post-Acute Care/ Long Term Care and Dual Eligible Beneficiaries.*

National Priority: Work with communities to promote wide use of best practices to enable healthy living and well-being.

NQS Measure Concepts	MCC Measure Concepts	MAP Post-Acute Care/Long-Term Care Measure Concepts	MAP Dual Eligible Beneficiaries High-Leverage Opportunities
• Adequate social support • Emergency department visits for injuries • Healthy behavior index • Binge drinking • Obesity • Mental health • Dental caries and untreated dental decay • Use of the oral health system • Immunizations	• Optimize function, maintaining function, prevention of decline in function • Patient family perceived challenge in managing illness or pain • Social support/ connectedness • Productivity, absenteeism/ presenteeism • Community/social factors • Healthy lifestyle behaviors • Depression/ substance abuse/mental health • Primary prevention	• Functional and cognitive status assessment.	• Quality of life • Mental health and substance use

National Priority: Promote the most effective prevention, treatment, and intervention practices for the leading causes of mortality, starting with cardiovascular disease.

NQS Measure Concepts	MCC Measure Concepts	MAP Post-Acute Care/Long-Term Care Measure Concepts	MAP Dual Eligible Beneficiaries High-Leverage Opportunities
• Access to healthy foods • Access to recreational facilities • Use of tobacco products by adults and adolescents • Consumption of calories from fats and sugars • Control of high blood pressure • Control of high cholesterol	• Patient important outcomes (includes patient-reported outcomes and relevant disease-specific outcomes)* • Patient reported outcomes (e.g. quality of life, functional status) • Missed prevention opportunities—secondary and tertiary		• Quality of life • Mental health and substance use

National Priority: Ensure person- and family-centered care.							
NQS Measure Concepts	• Patient and family involvement in decisions about healthcare • Joint development of treatment goals and longitudinal plans of care • Confidence in managing chronic conditions • Easy-to-understand instructions to manage conditions	**MCC Measure Concepts**	• Shared decision-making • Patient, experience of care • Family, caregiver experience of care • Self-management of chronic conditions, especially multiple conditions	**MAP Post-Acute Care/Long-Term Care Measure Concepts**	• Establishment and attainment of patient/ family/ caregiver goals • Advanced care planning and treatment • Experience of care • Shared decision-making	**MAP Dual Eligible Beneficiaries High-Leverage Opportunities**	• Structural measures
National Priority: Make care safer.							
NQS Measure Concepts	• Hospital admissions for ambulatory-sensitive conditions • All-cause hospital readmission index • All-cause healthcare-associated conditions • Individual healthcare-associated conditions • Inappropriate medication use and polypharmacy • Inappropriate maternity care • Unnecessary imaging	**MCC Measure Concepts**	• Avoiding inappropriate, non-beneficial care, particularly at the end of life • Reduce harm from unnecessary services • Preventable admissions and readmissions • Inappropriate medications, proper medication protocol and adherence	**MAP Post-Acute Care/Long-Term Care Measure Concepts**	• Falls • Pressure ulcers • Adverse drug events • Inappropriate medication use	**MAP Dual Eligible Beneficiaries High-Leverage Opportunities**	

National Priority: Promote effective communication and care coordination.

NQS Measure Concepts	MCC Measure Concepts	MAP Post-Acute Care/Long-Term Care Measure Concepts	MAP Dual Eligible Beneficiaries High-Leverage Opportunities
• Experience of care transitions • Complete transition records • Chronic disease control • Care consistent with end-of-life wishes • Experience of bereaved family members • Care for vulnerable populations • Community health outcomes • Shared information and accountability for effective care coordination	• Seamless transitions between multiple providers and sites of care • Access to usual source of care • Shared accountability that includes patients, families, and providers • Care plans in use • Advance care planning • Clear instructions/ simplification of regimen • Integration between community and healthcare system • Health literacy	• Transition planning	• Care coordination

National Priority: Make quality care affordable for people, families, employers, and governments.

NQS Measure Concepts	MCC Measure Concepts	MAP Post-Acute Care/Long-Term Care Measure Concepts	MAP Dual Eligible Beneficiaries High-Leverage Opportunities
• Consumer affordability index • Consistent insurance coverage • Inability to obtain needed care • National/state/local per capita healthcare expenditures • Average annual percentage growth in healthcare expenditures • Menu of measures of unwanted variation of overuse, including: – Unwarranted diagnostic/medical/ surgical procedures – Inappropriate/unwanted nonpalliative services at end of life – Cesarean section among low-risk women – Preventable emergency department visits and hospitalizations	• Transparency of cost (total cost) • Reasonable patient out of pocket medical costs and premiums • Healthcare system costs as a result of inefficiently delivered services, e.g. ER visits, polypharmacy, hospital admissions • Efficiency of care	• Infection rates • Avoidable admissions	• Infection rates • Avoidable admissions

*Concepts are mapped to one NQS priority; however, concepts may address multiple NQS priorities.

APPENDIX E:
Public Comments

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
	Submitted by Lauren Agoratus	Definition of Multiple Chronic Conditions	We strongly agree that while HHS Multiple Chronic Conditions Strategic Framework includes two or more conditions, that this is too broad due to "complexity or interaction among conditions." We agree with the expanded AHRQ (Agency for Healthcare Research and Quality) definition to include "limitations of life expectancy, interactions between drug therapies, or contraindications." We strongly agree that "MCCs may apply differently to children." Therefore we support NQF's definition of "two or more…chronic conditions…have an adverse effect on health status, function, or quality of life…require complex…coordination."	The committee appreciates your support of the key components of this definition.
American Occupational Therapy Association	Submitted by Jennifer Hitchon	Definition of Multiple Chronic Conditions	NQF notes that presence of multiple chronic conditions (MCCs), among other things, "compromises life expectancy." AOTA asks that NQF replace insert "and/or quality of life" here. Patients really want a better quality of life, not just decreasing mortality. We might also suggesting adding language about how MCCs increase a patient's risk for other conditions and problems, e.g., "Create risk for additional conditions, diseases, or functional limitations."	The committee's definition includes language to this regard in the opening sentence "have an adverse effect on health status, function or quality of life". The committee agrees and supports the emphasis on quality of life and other patient outcomes (e.g. experience, function) beyond mortality. The introduction to the report (p1) calls out "the presence of MCCs negatively affects quality of life, functional status… and being at greater risk of adverse outcomes".

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
American Optometric Association	Rodney Peele; Submitted by Kara Webb	Definition of Multiple Chronic Conditions	NQF states, "The types of care individuals receive, included in the third ring of the model (i.e., screening, primary and secondary prevention, diagnosis, treatment and management, community services, management of an acute exacerbation, rehabilitation, palliation, and end-of-life care), are not necessarily linear or mutually exclusive." However, "screening" and "prevention" are not "types of care." According to the United States Preventive Services Task Force, screening is a type of "secondary prevention." USPSTF states, "In a clinical setting, primary preventive measures are those provided to individuals to prevent the onset of a targeted condition (e.g., routine immunization of healthy children), whereas secondary preventive measures identify and treat asymptomatic persons who have already developed risk factors or preclinical disease but in whom the condition has not become clinically apparent…Preventive measures that are part of the treatment and management of persons with clinical illnesses, such as cholesterol reduction in patients with coronary heart disease or insulin therapy to prevent the complications of diabetes mellitus, are usually considered tertiary prevention." Revise to reflect that primary and secondary prevention are not "care" because they are only appropriate when a treatable clinical condition has not been diagnosed."	The committee defines care more broadly than the treatment of a clinical condition; hence care encompasses primary, secondary and tertiary prevention.
America's Health Insurance Plans	Submitted by Carmella Bocchino	Definition of Multiple Chronic Conditions	AHIP supports the development of a measurement framework for individuals with multiple chronic conditions and applauds the NQF for its leadership in this area. The following are our specific comments on the draft framework organized by sections in the report. Definition: While we support the definition proposed in the report the following suggestions would help operationalize and enhance the definition: The definition should clearly identify or reference a finite list of chronic conditions that should be priorities for measurement based on high prevalence, high cost, and practice variation. Absence of such a list could lead to individual interpretation of the definition and lack of alignment and focus during implementation. While the definition describes "concurrent conditions that collectively have an adverse impact…" NQF should also clarify if the definition only applies when two or more conditions collectively adversely impacts health status, function or quality of life. The definition should be inclusive of situations where each condition on its own results in adverse effects which may then be magnified when multiple conditions are present concurrently in an individual.	Although beyond the scope of this project, under a HHS funded study -- "Measure Development and Endorsement Agenda" -- NQF convened a multi-stakeholder committee that prioritized a list of 20 high-impact Medicare conditions, as well as areas related to child health and population health. A link to the study may be found here: www.qualityforum.org/MeasureDevelopmentandEndorsementAgenda.aspx#t=1&s=&p=

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Amerigroup Corporation	Angel Oddo; Submitted by Stuart Yael Gordon	Definition of Multiple Chronic Conditions	Amerigroup believes that the steering committee's draft report constitutes a strong first step in developing a framework for advancing measures that will ensure individuals with multiple chronic conditions are able to achieve positive health outcomes through quality treatment. We are supportive of the definition of "multiple chronic conditions" proposed by the steering committee in the draft report and of many elements of the proposed framework.	The committee appreciates your support of the key components of this definition.
Group Health Cooperative	Elizabeth Lin; Submitted by Terry Aoki	Definition of Multiple Chronic Conditions	Would recommend use of the AHRQ definition rather than HSS definition (numerical count two or more chronic conditions • In addition to AHRQ definition- "two or more chronic conditions that may influence the care of other conditions through limitations of life expectancy, interactions between drug therapies…." • Recommend taking into account the interplay of concurrent conditions on functional outcomes and health status • Thus capturing the ongoing interaction and complexity of concurrent conditions, and focus on those most at risk for decline in functional outcomes and poor health status.'	The committee carefully considered existing definitions in the field to inform their work. The definition presented in this report built upon AHRQ's definition of a complex patient and HHS' definition drawn from their Multiple Chronic Conditions Strategic Framework. Language has been added to further clarify this approach.
HealthCare 21 Business Coalition	Submitted by Gaye Fortner	Definition of Multiple Chronic Conditions	HealthCare 21 Business Coalition supports the definition of multiple chronic conditions to include the need for patient-reported data, in conjunction with clinical and claims data, and also to acknowledge the role of family caregivers to obtain comprehensive information on the needs and care of and for patients with MCC.	The committee appreciates your support of the key components of this definition.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
National Council on Aging	Submitted by Kelly Horton	Definition of Multiple Chronic Conditions	We urge the Committee to strengthen the Measurement Framework by reflecting the range of care people require whether within or external to the healthcare system. we recommend the following important changes to the definition underlined and highlighted in bold font below: "Persons with multiple chronic conditions are defined as having two or more concurrent chronic conditions that collectively have an adverse effect on health status, function, or quality of life and that require *pro-active self-care management* and complex healthcare management, decision-making, or coordination. Assessment of the quality of care provided to the MCCs population should consider persons with two or more concurrent chronic conditions that require ongoing clinical, behavioral, or developmental care from members of the care team *(including healthcare providers, care-givers, and community service providers)*, and act together to significantly increase the complexity of management and coordination of care; including but not limited to potential interactions between conditions and treatments. Importantly, from an individual's perspective the presence of MCCs would: affect functional roles and health outcomes across the lifespan; compromise life expectancy; or hinder a patient *person's* ability to self-manage or a family or caregiver's capacity to assist in that individual's care."	The committee appreciates these thoughtful comments. Although they agree and support the need for pro-active self care management for people with MCCs, in the context of this definition they did not want individuals who may not be able to perform self-care to be excluded. The definition does call out the ability to self manage in the third bullet of the definition. Also because of fear of exclusion the committee did not feel it was necessary to list various members of the care team. We have changed "patient" to "person".
National Partnership for Women & Families	Submitted by Debra Ness	Definition of Multiple Chronic Conditions	NPWF is supported of the MCC definition as written on page 6 of the draft report, but would like to call out the need for the definition of MCC in this framework to acknowledge the role of family caregivers, in the hopes that data on their experience will be included in measures of quality of care for patients with MCC. To this end, we believe that measures such as whether family caregivers felt like they were provided with adequate support through the care process are critical to providing meaningful information to all stakeholders. We also want to highlight, and applaud, the references in the definition to the need for patient-reported data, in conjunction with clinical and claims data, in order to obtain comprehensive information on the needs and care of and for this population.	The committee acknowledges and supports the essential role family and caregivers play. The definition explicitly calls out family and caregivers " .....Importantly from an individual's perspective the presence of MCC's would hinder a patients ability to self manage or a family or caregiver's capacity to assist in that individuals care".

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Pacific Business Group on Health	Submitted by Dena Mendelsohn	Definition of Multiple Chronic Conditions	The Consumer-Purchaser Disclosure Project (CPDP) supports the definition of multiple chronic conditions as written on page 6 of the draft report, and in particular want to highlight our support for the language in the last bullet on how MCCs would affect an individual's life that calls attention to the effect on the family and/or caregiver's capacity to assist in care management. In order to be a meaningful guide for MCC measure development, the definition of MCC in this framework must acknowledge the role of family caregivers, in the hopes that data on their experience will be included in measures of quality of care for patients with MCC. We are also very pleased that the definition section references the need for patient-reported data, in conjunction with clinical and claims data, to obtain comprehensive information on the needs and care of and for this population.	The committee appreciates your support of the key components of this definition and also acknowledges the critical role of family caregivers.
Renal Physicians Association	Robert Blaser; Submitted by Amy Beckrich	Definition of Multiple Chronic Conditions	The vast majority of patients with chronic kidney disease (CKD) fall in to the category of multiple chronic conditions -either because of predisposing conditions that underlie their CKD such as diabetes and hypertension, or as the result of co-morbidities resulting from CKD, including hypertension, accelerated vascular disease, heart failure, etc. That said, there is no mention of "kidney" or "renal" anywhere in the document nor are any renal measures included in the examples. Given the impact of CKD on the broader spectrum of multiple chronic conditions, Renal Physicians Association (RPA) urges NQF to consider specifically noting CKD's relationship to multiple chronic conditions.	The Committee concurs that chronic kidney disease (CKD) falls within the rubric of multiple chronic conditions (MCCs) as defined by this framework. Additionally, we have developed a case study to further operationalize the conceptual model for MCCs and have included CKD the context of the case study.
St. Louis Area Business Health Coalition	Submitted by Louise Probst	Definition of Multiple Chronic Conditions	The St. Louis Area Business Health Coalition agrees with the definition of multiple chronic conditions as stated in the draft report on page 6. We also support the language that focuses on the effect of the role of the family caregivers in care management in developing the MCC measures. We also agree that patient-reported data needs to be included along with clinical and claims data for this population.	The committee appreciates your support of the key components of this definition.
The Joint Commission	Submitted by Sharon Sprenger	Definition of Multiple Chronic Conditions	The definition of MCC developed by the steering committee is well written and easily understood. The process taken by the steering committee demonstrates much research and thought over differencing definitions used to describe MCC. The definition allows for the differentiating of concurrent conditions that are dependent on each other, rather than the concurrent conditions that exist together. Standardization of this definition would assist not only in development of performance measures, but widespread adoption of a standardized definition.	The committee appreciates your support of this definition and the process undertaken to develop it. We are hopeful having a shared definition will facilities the upstream development of measures and promote a shared understanding amongst stakeholder groups.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
	Submitted by Lauren Agoratus	Key Measurement Priorities and Concepts	We strongly agree with NQF's high priorities of "optimizing…maintaining…or preventing…decline; seamless transitions; usual source of care; shared accountability; outcomes; transparency of cost… and shared decision making." We looked to Appendix C for examples but would like more information on "avoiding inappropriate, non-beneficial end-of-life care" particularly due to the misperception of "death panels" used as scare tactics under healthcare reform.	The committee believes it is important to frame this concept through the lens of patients receiving appropriate care at end of life aligned with their preferences. Fisher et. al describes regional variation and resource use during last 6 months of life (Fisher, E. et. Al Ann Intern Med. 2003:138:273-287 and 138:288-298).
American Academy of Hospice and Palliative Medicine	Submitted by Dale Lupu	Key Measurement Priorities and Concepts	AAHPM recommends moving "shared decision making" to the top of the list of high priority MCC measure concepts. Placing it as the FIRST concept conveys the pre-eminent importance of patient-centered care. Once patient and family goals have been established, the other domains flow from it. We also recommend expanding the title to "shared decision-making based on patient and family goals" to emphasize the pre-eminent role that patient and family values and goals need to play in guiding care. AAHPM also recommends adding Quality of Life as an additional domain. While we recognize that quality of life can be addressed in part within some of the other domains, we suggest that it is important to highlight it with its own domain, as has been done in the MAP frameworks. Particularly for patients with serious illness nearing the end of life, maintaining function may not be possible. The framework needs to clearly provide a "home" for measures of perceived quality of life and reduction of symptom burden. We are concerned that these concepts may get lost within the current framework. Finally, AAHPM recommends changing "Avoiding inappropriate, non- beneficial end of life care" to simply avoiding inappropriate, non-beneficial care. While this is a big concern ESPECIALLY in the end-of-life period, it is actually appropriate to consider avoidance of non-beneficial care at all times, not just at end of life.	The committee attempted to prioritize a finite list of measure concepts to signal strongly the areas of greatest need for gap filling, either by adapting existing measures or through de novo measure development. This was not a ranking exercise per se, but an attempt to focus heightened attention on areas most salient for people w MCCs. The committee agrees inappropriate, non-beneficial care should be avoided across the lifespan; however they shined a light on end of life care, as this is particularly relevant use case for people with multiple chronic conditions.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
American Nurses Association	Submitted by Maureen Dailey	Key Measurement Priorities and Concepts	Patient-centered care (goal setting should be rank ordered as first). Patient engagement and patient experience of care should also be priority concepts. Complexity of care required by patients with MCCs involves increased risk and symptom management over time required difficult patient/caregiver decision making and successful engagement. Patients have a choice in their goals and which areas of risk are most important to mitigated related to safety, loss of function, quality of life etc. Successful engagement with complex care, often with difficult symptom managed requires skill and expertise for successful patient engagement. High priority measure concepts do include patient clinical outcomes of morbidity and mortality. However, no mention is made elsewhere in the body of the document related to specific safety outcomes (e.g., healthcare acquired conditions). This is important given the broad scope of this document. In Appendix D, there is specific mention of safety measures. However, safety measures should be discussed in the body of the document given their importance.	The committee fully supports the primacy of patient-centered care. They attempted to prioritize a finite list of measure concepts to signal strongly the areas of greatest need for gap filling, either by adapting existing measures or through de novo measure development. This was not a ranking exercise per se, but an attempt to focus heightened attention on areas most salient for people w MCCs.
American Nurses Association	Submitted by Maureen Dailey	Key Measurement Priorities and Concepts	More specificity is needed related to public and private harmonization to facilitate performance improvement. The guiding principles section does not mention or discuss the importance of working with both public and private measures of the framework, and the importance of harmonizing the reporting of these measures. Also, harmonization is not mentioned on page 12 under infrastructure needed for data collection. Nor is it mentioned on page 13 under standardized data collection, measurement, and reporting.	The committee agrees measure harmonization across public and private sector programs and reducing burden for providers are critical -- and will highlight accordingly under standardized data collection.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
American Occupational Therapy Association	Submitted by Jennifer Hitchon	Key Measurement Priorities and Concepts	The MCCs Steering Committee has identified a number of key measurement priorities and measure concepts for individuals with MCCs: communication, care coordination and integration, process of care, important structures, patient- and family-level outcomes, safety, and cost and resource use. (Box 1). AOTA recommends that a patient's "safe functioning in their environment" (e.g., home and community) be added to this list to ensure that that "safety" is considered beyond medication safety and hospital stays. In addition, the measurement concept to "optimize function, maintain function, or prevent decline in function" describes issues with community reintegration and resumption of life roles; however, the illustrative measures do not highlight these areas sufficiently and need expansion. The measures discuss pain, mobility, functional capacity, etc., which highlight changes in the person but not in desired or required activities and participation. The "patient clinical outcomes" measurement concept mentions patient-reported outcomes such as quality of life and functional status, which we support. The illustrative measures are focused on mortality and morbidity only, and AOTA would like to see this expanded to include functional and quality of life measures.	The committee agrees and supports that safety must be addressed across the continuum of care and is beyond the walls of the hospital. Measure concept areas under the safe care domain, such as preventing admissions readmissions, illustrate this point. We have revised "patient clinical outcomes" this category to "patient important outcomes" including patient reported outcomes such as functional status.
America's Health Insurance Plans	Submitted by Carmella Bocchino	Key Measurement Priorities and Concepts	We support the list of high priority measure concepts identified for multiple chronic conditions and recommend the following additions: Patient experience of care; Appropriateness of care - In addition to avoiding inappropriate, non-beneficial end-of-life care, appropriateness of care that is provided to individuals with chronic conditions and not at end-of-life stage needs to be included; and Coordination of care - While the framework discusses care transitions among multiple providers, an important dimension of care coordination is how well treatment across the concurrent conditions is coordinated. For example, an individual with asthma and diabetes who receives steroids for asthma may experience an exacerbation of his/her diabetes. This aspect of care coordination needs to be measured.	The committee supports patient experience of care and has included it as a subcomponent under the broader measure concept area of person and family center care. The committee agrees inappropriate, non-beneficial care should be avoided across the lifespan; however they shined a light on end of life care, as this is particularly relevant use case for people with multiple chronic conditions. Care coordination is framed under the concept of effective communication and coordination of care and includes transitions as well as access to usual care, care plans etc. Please see Appendix B for further details.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Amerigroup Corporation	Angel Oddo; Submitted by Stuart Yael Gordon	Key Measurement Priorities and Concepts	*Shared Decision-Making* Appendix C of the report proposes that the high priority MCC measure concept of "shared decision-making" would be measured by whether "healthcare providers always involve patients in decisions about their healthcare as much as they want." This measure appears to set a perhaps unreasonable standard. Amerigroup suggests that the measure language phrase "always involve" be replaced with "consistently involve." We also urge that the report be revised to explicitly state that existing well-established, industry-recognized measures of patient involvement in health care decision-making, such as those available under CAHPS, should be preferred over some newly developed standard that may not be as widely recognized. *Avoid Inappropriate, Non-Beneficial End-of-Life Care* Amerigroup feels strongly that the high priority MCC measure concept of "avoid inappropriate, non-beneficial end-of-life care" is inappropriate for inclusion in the proposed framework. Except where there is fraud and abuse, questions of what care and services may or may not be appropriate at end-of-life are issues best left to the treating provider in shared decision-making with the patient and/or the patient's caregivers, and are not generally appropriate for measurement. Amerigroup strongly recommends that the end-of-life care measure concept be eliminated from the proposed measure framework.	The committee strongly supports shared decision-making as a key measure concept area essential to assessing the quality care for people with MCCs. It was beyond the scope of this project to recommend specific measures or tools but rather to offer illustrative examples of existing measures in the field as found in Appendix C. The committee agrees inappropriate, non-beneficial care should be avoided across the lifespan; however they shined a light on end of life care, as this is particularly relevant use case for people with multiple chronic conditions.
Care Continuum Alliance	Tracey Moorhead; Submitted by Victoria Ingenito	Key Measurement Priorities and Concepts	Care Continuum Alliance (CCA) members' research has found that actively engaged patients have greater interest in improving self-care management and their health outcomes. This motivation is particularly important for patients with multiple chronic conditions because they generally have increased health care utilization and higher health costs, as dually noted in the NQF framework. CCA has developed Leading Practices in Consumer Engagement that would further inform and enhance this quality measures framework. We also encourage NQF to give additional consideration to the importance of medication adherence in improving health outcomes and reducing costs. Our Outcomes Guidelines Report Vol. 5 clearly evidences how medication adherence is a critical element of chronic care management programs. CCA has developed a Medication Adherence Best Practices Framework that would complement NQF's work on this Multiple Chronic Conditions Framework. CCA and our members would be glad to field questions, provide additional information and assist NQF in the future.	NQF welcomes additional opportunities to engage CCA in our ongoing efforts. The work of the National Priorities Partnership in particular around reducing readmissions presents a clear opportunity for collaboration.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Group Health Cooperative	Elizabeth Lin; Submitted by Terry Aoki	Key Measurement Priorities and Concepts	The High Priority MCC Measure concepts in Box 1, and Figure 2, are fine conceptual models but seem over-archingly comprehensive, and multi-dimensional and difficult to operationalize. E.g. Appendix E - Priority Measure Concept Alignment- ……was complex and unclear.	The committee attempted to prioritize a finite list of measure concepts to signal strongly the areas of greatest need for gap filling, either by adapting existing measures or through de novo measure development. Appendix C provides illustrative examples of existing measures as a starting place but there are still critical gaps to be filled.
HealthCare 21 Business Coalition	Submitted by Gaye Fortner	Key Measurement Priorities and Concepts	HealthCare 21 Business Coalition suggests that the focus should be on outcomes, care coordination, shared decision-making and other priorities listed, with the addition of the use of health information technology, EHRs and PHRs to transfer health information.	The committee views HIT as an enabler and a critical infrastructure support for performance measurement. The committee strongly supports a focus on cross-cutting measures and a preference for the use of outcomes measures, when available, and process measures that are most closely linked to outcomes.
National Council on Aging	Submitted by Kelly Horton	Key Measurement Priorities and Concepts	We appreciate that the proposed key measurement concepts including the Measurement Framework include “self-management of chronic conditions, especially multiple conditions” under the priority of “person- and family-centered care.” However, we recommend broadening the measurement concept to include “healthcare provider referral to evidence-based self-care management education and training.” In addition, regarding the conceptual model (Figure 2) in the Measurement Framework, we recommend making a small, albeit significant, change to the “Types of Care” circle from “community services” to “community-based services.” Community-based service organizations play a vital role in care coordination and the delivery of evidence-based self-care management programs which have been proven to achieve the triple aim. Effective referral from traditional healthcare service providers to evidence-based self-care management programs is a vital element for achieving better health outcomes for people living with multiple chronic conditions.	The committee acknowledges and supports the vital role community-based services play in the care of people with MCCs. The refinement to the “types of care” has been incorporated. “Healthcare provider referrals to self-care management education and training” could be sub-classified under the broader measure concept of self management as the committee did not wish to limit this to referrals.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
National Partnership for Women & Families	Submitted by Debra Ness	Key Measurement Priorities and Concepts	The list of measure concepts and priorities looks appropriate, with one glaring exception, which is the use of Health IT, including EHRs and PHRs by providers and patients to transfer information across settings, labs, pharmaceuticals, etc. Our other comments in this section echo those submitted by the Consumer-Purchaser Disclosure Project.	The committee views HIT as an enabler and a critical infrastructure support for performance measurement. The committee supports the focus on cross-cutting measures and a preference for the use of outcomes measures, when available, and process measures that are most closely linked to outcomes.
Pacific Business Group on Health	Submitted by Dena Mendelsohn	Key Measurement Priorities and Concepts	The Consumer-Purchaser Disclosure Project (CPDP) agrees with the list of measure concepts and priorities, but would also strongly suggest adding to this list a bullet that reflects the use of health information technology, EHRs, and PHRs by providers and patients to transfer information across settings, labs, pharmaceuticals, etc. At the same time, we would seek to limit the inclusion of condition- or disease-specific measures being categorized as MCC measures. While there are some conditions, such as renal disease, which lead to additional chronic conditions, we would appreciate the focus remaining on outcomes, care coordination, shared decision-making, and the other priorities listed in Box 1 on page 7.	The committee views HIT as an enabler and a critical infrastructure support for performance measurement - but not as a priority domain area such as care coordination. The committee supports the focus on cross-cutting measures and a preference for the use of outcomes measures, when available, and process measures that are most closely linked to outcomes.
Renal Physicians Association	Robert Blaser; Submitted by Amy Beckrich	Key Measurement Priorities and Concepts	Renal Physicians Association (RPA) recommends that due to the high prevalence of chronic kidney disease (CKD) and the impact of multiple chronic conditions in this population, CKD patients should be a population of special focus for this framework. The USRDS Annual Data Report cited in the framework includes the statistic that costs for CKD patients who have not progressed to ESRD comprise 23% of Medicare expenditures - driven primarily by their multiple chronic conditions.	The Committee concurs that chronic kidney disease (CKD) falls within the rubric of multiple chronic conditions (MCCs) as defined by this framework. Additionally, we have developed a case study to further operationalize the conceptual model for MCCs and have included CKD the context of the case study.
Sacred Heart University	Submitted by Kim Kuebler	Key Measurement Priorities and Concepts	Patients with multiple chronic conditions are symptomatic and it is these symptoms that promote disease exacerbations, limit physical activities and cause in-patient acute care admissions. Symptom management is palliative care and integrating palliative care into the management of chronic disease will improve not only quality of life - but maintain physical functioning and reduce acute care admissions. Hospice care or end of life care should not be the only time where palliative care is used in this patient population. Hospice care is not working in the US and most patients are enrolled in this type of care and receive palliative care in the last month of their lives. Rehabilitation is a form of palliative care for example.	The committee acknowledges the importance of palliative and end of life care, particularly receiving palliation more upstream. As such, palliation is incorporated in the “Conceptual Model for Measuring Care Provided to Individuals with MCCs” (see page 8 of the framework) as a type of care.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
St. Louis Area Business Health Coalition	Submitted by Louise Probst	Key Measurement Priorities and Concepts	The list of measure concepts and priorities should also include the use of health information technology, EHRs and PHRs by providers and patients. We would like to see a limit to the inclusion of condition- or disease-specific measures being categorized as MCC measures and keep the focus on outcomes, care coordination, shared decision-making and other priorities listed on page 7.	The committee views HIT as an enabler and a critical infrastructure support for performance measurement - but not as a priority domain area such as care coordination. The committee strongly supports a focus on cross-cutting measures and a preference for the use of outcomes measures, when available, and process measures that are most closely linked to outcomes.
The Joint Commission	Submitted by Sharon Sprenger	Key Measurement Priorities and Concepts	In addition to areas already identified as measure concepts, we offer for consideration: • Place more of an emphasis on community support. • Under making care safer, medication protocol and adherence is mentioned as an MCC measure concept. Will there be more specific concepts introduced as measure development begins? • Under effective communication and care coordination, access to usual source of care is mentioned. Can this concept be further clarified?	The illustrative measure concepts in the framework report are intended to guide end users to areas of measurement important for this population. In addition, some existing measures may address these areas while other areas require measure development.
	Submitted by Lauren Agoratus	Conceptual Model for Measuring Care Provided to Individuals with MCCs	*Performance Measurement with the MCC Conceptual Model* We appreciated the representation under Figure 2 which included patient/family goals as the center of care, then different types of providers (including home, community, and schools), expanding to the types of care (especially including screening and prevention, and for pediatrics highly recommend Bright Futures http://brightfutures.aap.org), and finally to the domains of measurement which not only included cost but safety, processes, and outcomes.	The committee appreciates your support of the components of the Conceptual Model.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
American Optometric Association	Rodney Peele; Submitted by Kara Webb	Conceptual Model for Measuring Care Provided to Individuals with MCCs	NQF states, "basing standards for performance on existing Clinical Practice Guidelines (CPGs) could lead to prioritizing low-value, burdensome measures. Additionally, existing measures based on CPGs can lead to overtreatment by encouraging more care; however, few measures assess inappropriate care. For example, strict glycemic or blood pressure control is not always appropriate for all individuals with MCCs based on their functional goals and preferences." While clinical practice guidelines might not provide sufficient direction to develop quality measures, taking strong consideration of the research on MCCs can inform the measure development process and help to identify key areas of concern. For example, a 2006 Centers for Disease Control and Prevention (CDC) study found that "Of the 5.7 million people who are estimated to have vision loss, 3.2 million report risk of mild-to-moderate depression, 350,000 report risk of severe depression, 1.2 million have vision loss and diabetes, and 3 million report both vision and hearing loss."2As MCCs are so significant and widespread among those with vision loss, in figure 2, under "Sites and Providers," "Optometry" should be specifically listed. Moving forward, NQF MCC measure development should focus on key correlations that have been identified across various conditions such as vision loss and other chronic conditions.	The committee agrees that current research, particularly in regards to co morbidities, should inform the development of performance measures for people with MCCs. The model's components strive to be as inclusive as possible; however it will need to be adapted accordingly to include specific sites and providers as related to patient needs.
America's Health Insurance Plans	Submitted by Carmella Bocchino	Conceptual Model for Measuring Care Provided to Individuals with MCCs	We support the conceptual model presented in the report and emphasize that Figure 2 needs to explicitly show interaction across conditions and how care is coordinated across conditions.	The committee appreciates your support of the conceptual model. A case study has also been drafted to demonstrate interaction and coordination across conditions as suggested.
HealthCare 21 Business Coalition	Submitted by Gaye Fortner	Conceptual Model for Measuring Care Provided to Individuals with MCCs	HealthCare 21 Business Coalition supports a Conceptual Model based on outcomes such as the health outcomes and experiences of the patients on the floor rather than number of nurses on the floor. We would strongly urge adding that language be added here to reflect the fact that measures stemming from this framework should also be implemented for purposes of transparency and consumer and purchaser decision-making/accountability. Obviously, evaluating and improving care is a significant goal, but as important is making these measures useful for accountability and transparency, so that consumers with MCC, as well as purchasers, who are paying private sector costs of care, are engaged in the discussion around how best to provide appropriate, high-quality care, to this population.	Accountability and transparency will be further highlighted in the path forward section of the report.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
National Partnership for Women & Families	Submitted by Debra Ness	Conceptual Model for Measuring Care Provided to Individuals with MCCs	We support the theory behind the Conceptual Model but have some suggestions for improvement. In particular, we strongly disagree with inclusion of Structure as a domain of measurement. Evaluating structure is not a meaningful way to measure care from a patient-centric viewpoint. I refer you to the comments submitted by the Consumer-Purchaser Disclosure Project for more detail. In the "types of care" ring, we greatly appreciate seeing "palliation" listed, and are pleased to see the language around this issue included in the framework. Finally, we strongly urge language be added to reflect the fact that measures stemming from this framework should also be implemented for purposes of transparency and consumer and purchaser decision-making/accountability.	The committee strongly supports a focus on cross-cutting measures and a preference for the use of outcomes measures, when available, and process measures that are most closely linked to outcomes. The Conceptual Model's outer ring of domains of measurement has been revised to be more reflective of the National Quality Strategy priority areas. A footnote has been included stating: "each priority domain of measurement may be addressed using several types of measures, including structure, process, outcome, efficiency, cost/resource use, and composite measures. The use of outcomes measures, when available, and process measures that are most closely linked to outcomes are preferable". The committee did not want to eliminate structure as a measure type entirely, as there are areas (e.g., e-prescribing) where this may be applicable. Accountability and transparency will be further highlighted in the path forward section of the report.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Pacific Business Group on Health	Submitted by Dena Mendelsohn	Conceptual Model for Measuring Care Provided to Individuals with MCCs	The Consumer-Purchaser Disclosure Project (CPDP) supports the theory behind the Conceptual Model. We are, however, dissatisfied by certain of the components included in the model as presented. In particular, we strongly disagree with inclusion of Structure as a domain of measurement. Evaluating structure is not a meaningful way to measure care from a patient-centric viewpoint. Rather than reviewing whether a certain structural design is in place, what is important is the outcome of that structure; i.e. not whether there are x nurses on a floor, but rather the experience of patients on that floor and their health outcomes. One exception to the inclusion of structural measures is the need for measures of demonstrated use of electronic capture of data from laboratories, e-prescribing, and other data sources. In the "types of care" ring, we greatly appreciate seeing "palliation" listed, and would suggest emphasizing the role of palliative care for patients with MCC, in order to drive away from the prevailing perspective that palliative care is only for patients at the end of life. There are many benefits to patients with MCC seeking palliative care as part of their ongoing care plan and we support including this type of care in the measurement framework.'	The committee strongly supports a focus on cross-cutting measures and a preference for the use of outcomes measures, when available, and process measures that are most closely linked to outcomes. The Conceptual Model's outer ring of domains of measurement has been revised to be more reflective of the National Quality Strategy priority areas. A footnote has been included stating: "each priority domain of measurement may be addressed using several types of measures, including structure, process, outcome, efficiency, cost/resource use, and composite measures. The use of outcomes measures, when available, and process measures that are most closely linked to outcomes are preferable". The committee did not want to eliminate structure as a measure type entirely, as is pointed out in this comment there are areas (e.g., e-prescribing) where this may be applicable.
Pacific Business Group on Health	Submitted by Dena Mendelsohn	Conceptual Model for Measuring Care Provided to Individuals with MCCs	The Consumer-Purchaser Disclosure Project (CPDP) notes that the report states that "the conceptual model as a measurement framework can be used to evaluate and improve care for individuals with MCCs." CPDP strongly urges adding that language be added here to reflect the fact that measures stemming from this framework should also be implemented for purposes of transparency and consumer and purchaser decision-making/accountability. Obviously, evaluating and improving care is a significant goal, but as important is making these measures useful for accountability and transparency, so that consumers with MCC, as well as purchasers who are paying private sector costs of care, are engaged in the discussion around how best to provide appropriate, high-quality care, to this population.	Accountability and transparency will be further highlighted in the path forward section of the report.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
St. Louis Area Business Health Coalition	Submitted by Louise Probst	Conceptual Model for Measuring Care Provided to Individuals with MCCs	We share concerns with others that evaluating structure is not a meaningful way to measure care from a patient-centric viewpoint. However, there is still the need for measures of demonstrated use of electronic capture of data from laboratories, e-prescribing and other data sources. We do support including palliative care in the measurement framework to emphasize the role of palliative care for patients with MCC and to change the mindset that palliative care is only for patients at the end of life. In addition to using the conceptual model as a measurement framework to evaluate and improve care, language should be added to reflect the fact that measures from this framework should be implemented for purposes of transparency and consumer and purchaser decision-making/accountability.	The committee strongly supports a focus on cross-cutting measures and a preference for the use of outcomes measures, when available, and process measures that are most closely linked to outcomes.
	Submitted by Lauren Agoratus	Guiding Principles for Measuring Care Provided to Individuals with MCCs	We concur with assessing quality of care and “evidence of links to optimum outcomes.” We agree with the use of shared decision making. We were concerned about certain “exclusions…are appropriate” and our comments appear below. We agree with tracking disparities. We are unsure that “risk adjustment should be applied only to outcomes measures and not process measures” as we are concerned with skewing the outcomes data. We agree that measures must include multiple providers and all healthcare settings. We support a “comprehensive picture of the quality of care…include…patient-and family outcomes, communication, care coordination, safety, processes of care, essential structures, integration, and costs and resource use.” In this section, some of our concerns about exclusions were addressed such as “too frail for certain interventions.” We agree that consideration must be given to “patient-specific factors…severity…life expectancy.” We agree that information can include “claims, paper medical records, registries, and electronic medical records” and concur that “integration of multiple types of data is needed.” We agree that caution must be made to “avoid over-adjustment, such that performance may appear better” and that “stratifying…may better highlight how providers are…meeting needs…of patients.”	The committee appreciates your overall support of the guiding principles in theory. Issues around risk adjustment are complex and although it was beyond the scope of this project to resolve all these complex methodological issues, the committee did wish to offer some direction particular in regards to the importance of unintended consequences and illumination of disparities in care.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
	Mark Nyman; Submitted by Jeannie Boness	Guiding Principles for Measuring Care Provided to Individuals with MCCs	We congratulate the effort to create a framework to better assess patients with multiple chronic conditions. The framework is well laid out with two small suggestions: It is unclear on #2 (page 10) how a measure can be cross-cutting and yet still be disease specific. Suggest deleting the second sentence in #8 (page 10). Some of the measure concepts in Appendix B that are not highlighted deserve more attention. Role function is important over and above presenteeism or productivity. Medication management and reconciliation may be as important as end-of-life care. Treatment burden should be added to making quality care more affordable. Given the following vignette - "Say you have a patient with diabetes, hypertension, hyperlipidemia, CAD and CHF. If they had only one episode of CHF, were in their 50's and otherwise doing well you might want to be aggressive on goals across the board. However if they were in their 60's, had multiple episodes of CHF and a short expected survival, you might relax many of the goals - and just focus on optimizing the heart failure." This is the kind of "cross-cutting" assessment that the framework calls for, but is absent from the measures noted in the final appendix.	The intent guiding principle #2 on p 10 was to indicate that depending on the patient and point in time the various types of measures listed (crosscutting, condition specific, etc) could be used to assess the overall quality of care. The committee supports risk adjustment only for outcome measures and hence the inclusion of this in guiding principle #8.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
American Academy of Physical Medicine and Rehabilitation	Elliot Roth; Submitted by Pamela Gonzalez	Guiding Principles for Measuring Care Provided to Individuals with MCCs	The AAPM&R support the MCC Measurement Framework but some issues that remain unclear from the draft report include: •*Accountability.* What is the structure or process for ensuring that the specifics of the measurement framework will occur? •*Primary vs. specialty care.* How exactly does an ideal model work? Is the internist/primary care physician or hospitalist responsible for the care of all these patients and for the coordination of all care? Is there a role for other providers? •*Physiatrists' or other specialists' roles.* What is the role of the specialist in regard to certain populations that are not typical internal medicine populations? Is there a role for a specialist-coordinated model or a co-management model? •*Function.* We are advocates of performance measures that include participation, as defined by the World Health Organization, such as describing the percentage of patients returning to the community and participating in social roles, as opposed to using a change in function based solely on impairments or activity (such as mobility and activities of daily living) although these are also certainly important as well.	Accountability will need to be shared across providers and settings to fully realize the potential of this framework and the conceptual model within. Current accountability structures will need to evolve, including payment programs and new delivery systems models (e.g. ACOs) that support a more integrated approach to care. The role of primary care and a patient-centered medical home will be critical as well as specialty care including behavioral health. The committee also supports a broader definition of function to include the social and environmental context in which an individual lives. These will be important measure concepts to incorporate into an overall assessment of health and well being. The committee appreciates these thoughtful questions which will need to be further fleshed out as this model is implemented.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
American Occupational Therapy Association	Submitted by Jennifer Hitchon	Guiding Principles for Measuring Care Provided to Individuals with MCCs	Of the 9 guiding principles for these MCC measures, one is to "Assess … changes in care over time (i.e., delta measures of improvement rather than attainment)." (#5, p. 10). Not all patients can show improvement, however, so AOTA would like to see language added, such as: "OR maintaining function, preventing decline in progressive conditions, and preventing new or exacerbating conditions." Additionally, while AOTA agrees that measures should assess how care is managed as conditions change over time, we question that there are enough sensitive standardized measures in existence. Research needs to be done on measuring the process of care through health indicators so we are not forced to rely solely on the patient report. We also like the Framework's goal of requiring care coordination and communication, thus "requiring multiple providers to share accountability," but we wonder if it might be beneficial to have guidelines in place that ensure someone takes the lead on care coordination, otherwise the consequences of not being accountable are unclear, and possibly nonexistent.	The committee agrees that maintaining function or preventing decline are important outcomes for many individuals and will incorporate language accordingly. We support your other comments in regards to measure gap areas and the need for an accountable entity to ensure a patient's care is coordinated across providers and settings.
American Optometric Association	Rodney Peele; Submitted by Kara Webb	Guiding Principles for Measuring Care Provided to Individuals with MCCs	AOA supports the principle to "Promote collaborative care among providers and across settings." Prevalence of vision loss coupled with other chronic conditions necessitates that doctors of optometry are members of the MCC care teams and measures should reflect this need. NQF states, "Accountable care organizations and medical homes should be explored as promising delivery systems for providing coordinated, integrated care to individuals with MCCs." While promising in theory, these models do not always include a broad range of providers. Measures must ensure broad provider expertise. Of additional concern is that NQF measures for use in the medical home are extremely limited. The "Pre-School Vision Screening in the Medical Home" measure is the only eye care measure and it has questionable effectiveness. Evidence on the efficacy of preschool vision screening for improving visual acuity does not adequately address whether screening is more effective than no screening. For adults with MCCs, high quality eye care measures beyond screenings are needed. A 2012 study found that a dilated eye examination is more cost effective than visual acuity screening and would increase quality-adjusted life-years for older individuals.[3] The need for high quality eye care measures for MCCs will become even more critical in coming years as we expect the number of patients with MCCs to increase with each generation.	The committee acknowledges the importance of vision care to overall health and well being and supports the inclusion of multiple provider types in the conceptual model as it is customized to a patient's needs.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Amerigroup Corporation	Angel Oddo; Submitted by Stuart Yael Gordon	Guiding Principles for Measuring Care Provided to Individuals with MCCs	*Limiting Risk Adjustment as a Guiding Principle* Guiding principle #8 would require that risk adjustment be used "for comparability with caution" because the risk adjustment process could result in the unintended consequence of obscuring serious gaps in care for the targeted population. The principle goes on to state that risk adjustment should be applied only to outcomes measures and not process measures. We are in agreement that risk adjustment should be applied to outcomes measures and not to process measures, but we are unclear on the context in which NQF would limit the application of risk adjustment. Amerigroup could be generally supportive of the principle stated, but the principle requires further clarification, with a clear definition of "risk adjustment use for comparability." This is particularly important given that the draft report emphasizes the need to align quality reporting incentives and reimbursement mechanisms. As a managed care organization, risk adjustment is an integral and essential element of how we are reimbursed under Medicaid and Medicare. Before we could support principle # 8, we would need a clearer picture on how and in what context any limitation on risk adjustment in applying quality measures would work.	The committee was sensitive to ensuring disparities in care would not be masked and hence be monitored. Although it is beyond the scope of this project to resolve the many complex issues around risk adjustment, this unintended consequence was of concern.
JHU Bloomberg School of PH	Submitted by David Bodycombe	Guiding Principles for Measuring Care Provided to Individuals with MCCs	Episodes of care represent an artificial construct that often focus on acute exacerbations or flare-ups and which do little to support the ongoing coordinated and longitudinal management of care. Even those episodes grounded in procedures emphasize an interventional view that could provide perverse incentives to drive up utilization and not encourage preventive measures. Episodes tend to perpetuate a disease-based rather than a patient-oriented form of care. Making episodes the paradigm for treating persons with multiple chronic diseases expands a disease-focused view of care. Instead of focusing on someone with diabetes, the physician will now focus on someone with diabetes, hypertension, and hypercholesterolemia. They are still not focusing on patients, each of whom offers a fairly unique presentation of their co-morbidity and personal life status[i]. For persons with chronic disease, the best "episode" is a period of calendar time during which their care is being managed by a primary care clinician or other person who is responsible for the overall care of that complex patient. [i] Starfield, B. (2010) Chronic illness and primary care. In: Nasmith, L, Ballem, P, Baxter, R, et al. Transforming Care for Canadians with Chronic Health Conditions: Put People First, Expect the Best, Manage for Results - Appendices. Ottawa, Ontario, Canada: Canadian Academy of Health Sciences.'	The committee agrees and supports a more person-centered versus a disease centered approach to perfromance measurement. Hence their emphasis on crosscutting measures and patient reported outcomes such as functional status. The model puts patient and family preferences at the center, as measured over time.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
JHU Bloomberg School of PH	Submitted by David Bodycombe	Guiding Principles for Measuring Care Provided to Individuals with MCCs	Clear distinctions need to be drawn between responsibility for care and "shared accountability" for care. "Shared accountability" in the absence of someone who, individually or organizationally, is responsible for the patient's overall care (e.g., a gateway) is problematic. "Accountable care" is generally used in the context where some entity, such as an Accountable Care Organization, assumes accountability for the care of their patient-members. "Shared accountability" is tantamount to management by committee and runs counter to the notion of effective primary care. Rather than shared accountability, the focus of measurement should be on appropriate levels of care coordination with evidence that responsibility is not broadly diffused among a number of providers. The ideal goal of such care is to avoid acute exacerbations or flare-ups. Measurement around the period of ongoing management should focus on the appropriate and timely provision of prevention and management services.	The committee agrees that shared accountability is needed to provide coordinated care; but this can not be in the absence of an accountable entity, whether a patient centered medical home or other delivery system model, to ensure appropriate care is achieved across providers and settings.
National Partnership for Women & Families	Submitted by Debra Ness	Guiding Principles for Measuring Care Provided to Individuals with MCCs	NPWF supports the guiding principles, with the exception of "structural" measures in principle #2. In addition, Principle #8 on risk adjustment, needs further clarification, particularly since this is going to be a report/tool for measure developers. The issue of whether risk adjustment models should included SES has been the subject of recent discussions around hospital readmissions measures. We do not support this approach, since, as written on page 11, it does not improve quality of care to obscure gaps and/or disparities in care and outcomes when the true paradigm change will require understanding the needs of a given demographic/community and addressing those needs. We would appreciate, therefore, a deeper discussion of this issue, given the divisions among multi-stakeholders over how to address it.	The committee favors patient reported outcomes, when available, and process measures most distal to outcomes. Although it is outside the scope of the framework to resolve the complex issues around risk adjustment, the guiding principles attempt to offer some direction, particularly in regards to addressing unintended consequences such as disparities in care.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Pacific Business Group on Health	Submitted by Dena Mendelsohn	Guiding Principles for Measuring Care Provided to Individuals with MCCs	The Consumer-Purchaser Disclosure Project (CPDP) agrees with the guiding principles, but would urge that principle #2 remove "structural" from the list of items assessed, as per our earlier comment on the conceptual model. We would also suggest that principle #8 on risk adjustment be discussed in more detail. There have been recent discussions in the context of hospital readmissions, of whether risk adjustment models should include socio-economic status to reflect the reality that having lack of post-hospitalization support has a significant link to readmissions and other poor outcomes. However, as written on page 11, it does not improve quality of care to obscure gaps and/or disparities in care and outcomes when the true paradigm change will require understanding the needs of a given demographic/community and addressing those needs. We would appreciate, therefore, a deeper discussion of this issue, given the divisions among multi-stakeholders over how to address it.	The committee favors patient reported outcomes, when available, and process measures most distal to outcomes. Although it is outside the scope of the framework to resolve the complex issues around risk adjustment, the guiding principles attempt to offer some direction, particularly in regards to addressing unintended consequences such as disparities in care.
St. Louis Area Business Health Coalition	Submitted by Louise Probst	Guiding Principles for Measuring Care Provided to Individuals with MCCs	As per our previous comment in the conceptual model, the word "structural" should be removed from principle #2. We would also like to see a deeper discussion on risk adjustment (principle #8) due to the divisions among multi-stakeholders over how to address it. Overall, we do agree with the guiding principles.	The committee favors patient outcomes, when available, and process measures most distal to outcomes. Although it is outside the scope of the framework to resolve the complex issues around risk adjustment, the guiding principles attempt to offer some direction, particularly in regards to addressing unintended consequences such as disparities in care.
The Joint Commission	Submitted by Sharon Sprenger	Guiding Principles for Measuring Care Provided to Individuals with MCCs	The guideline principles are well written. The idea of stratification is important especially with issues concerning disparities among the population. A recommendation to add initial and ongoing care planning under #4 would help further clarify that care planning process. The longitudinal approach to measurement to demonstrate improvement is important in this population, with the many variables that can affect measurement. Culture change is a topic that should be noted within organizations as far as how to approach patients with MCC. In proceeding with further development, culture change should be kept in the forefront.	The committee agrees that care planning is not static and will add this refinement. The committee agrees culture change from a provider centric model to a patient centric model of measurement will be needed will note this accordingly in the report.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
	Submitted by Lauren Agoratus	Path Forward	*Identifying and Filling Measure Gaps* We agree that there needs to be "cross-cutting, longitudinal measures." Although "measures for children with MCCs are virtually non-existent and represent a prominent gap" we would highly recommend using data from the National Survey of Children with Special Health Care Needs (www.childhealthdata.org/learn/NS-CSHCN) but agree more research is needed. *Standardizing Data Collection, Measurement, and Reporting* We also agree that "using standardized data elements could increase the utility of electronic data sources and decrease provider data collection burden" particularly in light of health information technology under healthcare reform. *Payment and Delivery System Reform* Although we agree with disease specific measures, there are different levels of severity even within the same diagnosis. We think that care management must be care coordination but not misused as a cost cutting measure. We strongly agree with using models of ACOs (accountable care organizations" and medical homes (www.medicalhomeinfo.org) as best practices.	The committee appreciates this feedback and your overall support. We welcome further guidance as the framework is implemented as to how best apply this model to children with special health care needs.
American Academy of Hospice and Palliative Medicine	Submitted by Dale Lupu	Path Forward	The American Academy of Hospice and Palliative Medicine strongly concurs with the need for cross-cutting measures. We have emphasized this in many prior comments on measures related to hospice and palliative care. The NQF process itself has been a barrier to cross-cutting measures. The harmonization process does not allow measures to be expanded beyond the denominator population in which they have already been tested, making it a very slow process to pull together separate measures into an appropriate cross-cutting measure.	We appreciate your support of the direction of the committee in support of crosscutting measures. NQF is also committed to ensuring perceived barriers to endorsement of these types of measures are addressed.
American Occupational Therapy Association	Submitted by Jennifer Hitchon	Path Forward	We applaud the authors of the framework for recognizing that measures for children with MCCs are virtually non-existent and represent a prominent gap. We recommend that, going forward, NQF specify that the development of measures in this area related to function (activity performance and participation) is particularly important. One resource to consider -- relied upon by researchers in the field of occupational therapy -- is the Children's Assessment of Participation and Enjoyment (CAPE).	Although the committee was desirous for the framework to be applicable across populations, we welcome further guidance on how to best apply the model to children and adolescents. NQF is committed to enriching its measure portfolio for this population.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
American Optometric Association	Rodney Peele; Submitted by Kara Webb	Path Forward	In MCC measure development, the American Optometric Association recommends that NQF remain aware of the potential for behavioral impacts for patients with multiple chronic conditions. A 2009 study found that "Adults with visual impairment and severe depressive symptoms were more likely than adults with neither condition to smoke, be obese, be physically inactive, have fair-poor health and have difficulties with self-care and social participation." [4]Individuals with MCCs often have complex circumstances and quality measures developed pertaining to this patient base must recognize this. The AOA fully supports considering complexity and interaction among MCCs. In fact, many MCCs have unique ties to vision and eye health that often go unchecked, and these can be particularly important toward improving the health function and quality of life of individual's with MCCs.	The committee acknowledges the importance of vision care to overall health and well being and supports the inclusion of multiple provider types in the conceptual model as it is customized to a patient's needs.
Pacific Business Group on Health	Submitted by Dena Mendelsohn	Path Forward	The Consumer-Purchaser Disclosure Project (CPDP) support the strategic opportunities described in this section, and appreciate that "identifying and filling measure gaps" is given high priority, particularly given the intensive discussions around gaps in measurement identified by the Measure Applications Partnership.	The committee appreciates your comment.
St. Louis Area Business Health Coalition	Louise Probst	Path Forward	We appreciate that a high priority is given to "identifying and filling measure gaps" and support the strategic opportunities described in this section.	The committee appreciates your comment.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
	Submitted by Lauren Agoratus	Please provide comments on the report as a whole.	*Appendix B* Under "effective communication and coordination of care" we would strongly recommend the inclusion of transition from pediatric to adult systems of care. We strongly agree under "treatment of leading causes of mortality" to examine "missed prevention opportunities." Under "making care safer" we would include consistency in medications (i.e., doctors adjusting dosages and telling patients to ignore what's on the label, pharmacies replacing familiar medications with whichever generic is cheapest each month, having patients use pill splitters to adjust dosages, etc.) We would also add preventable errors (now being disallowed for reimbursement) and hospital acquired conditions in this section. Under "making quality care more affordable" there must be consumer input into what are "reasonable patient out of pocket medical costs and premiums." We also agree with examining "inefficiently delivered services" which could be something as simple as multiple blood draws in different departments of the same facility on the same day. Under "person-and family-centered care", we were pleased to see family/caregiver experiences. We agree with self management but blame must not be assigned if a condition is progressive despite compliance.	Appendix B was the committee's attempt to identify high leverage measure concept areas for this population. They also mapped to the NQS in an effort to promote alignment. The additional concepts provided will be helpful in further fleshing out measure gaps in these critical areas. Thank you for this helpful feedback.
	Submitted by Lauren Agoratus	Please provide comments on the report as a whole.	*Appendix C* Under "optimize,…maintain…prevent decline" we agree with the use of a functional definition but should include more than just LTC with pain, depression, pulmonary etc. Interventions such as speech, occupational, and physical therapies must be considered for children and adults with disabilities. Under "shared accountability", again we strongly support "children with effective care coordination and with a medical home."	Appendix C provides illustrative examples of available measures that address the high-priority MCC measure concepts identified by the committee. The measure concepts noted in your comment can be addressed by some of the existing measure concept.
	Submitted by Lauren Agoratus	Please provide comments on the report as a whole.	*Appendix D* Under "communication, care coordination and integration", we would recommend the addition of cultural competency, physical accessibility, language access including ASL, and especially health literacy as it is the single largest barrier to healthcare access. Under process of care, we would add consistency in prescribing in the previously mentioned changed dosages, generics, pill-splitting etc. Under "structure", in addition to home visits we would strongly recommend the addition of telemedicine which will increase access to underserved populations.	You propose important sub domains for these concept areas which can inform the filling of measure gap areas moving forward.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
	Submitted by Lauren Agoratus	Please provide comments on the report as a whole.	*Appendix E* Under "work with communities" we would strongly recommend the addition of emergency preparedness (i.e. natural disasters), particularly for those with special needs. Although we appreciate the "patient family perceived challenge in managing" we would strongly recommend the addition of caregiver education and support such as respite. More people enter institutional care due to caregiver burnout rather than deterioration of the condition. Under "ensure person-and family-centered care" here again we would suggest the addition of cultural competency and health literacy as mentioned above. Under "make care safer", we would recommend the addition of preventable medical errors and hospital acquired conditions. Under "promote effective communication and care coordination" we would add transition from pediatric to adult systems of care to be included in "seamless transitions between multiple providers and sites of care."	As above, the further operationalization of these measure concept areas will be critical to addressing gap areas.
American Academy of Physical Medicine and Rehabilitation	Elliot Roth; Submitted by Pamela Gonzalez	Please provide comments on the report as a whole.	The American Academy of Physical Medicine and Rehabilitation (AAPM&R) appreciates this opportunity to comment on the proposed NQF Multiple Chronic Conditions (MCC) Draft Measurement Framework Report. AAPM&R is a national association representing more than 8,000 physical medicine and rehabilitation (PM&R) physicians (physiatrists) and many of the patients we care for fit the NQF definition of multiple chronic conditions. PM&R specialists routinely diagnose and treat inpatients and outpatients with musculoskeletal, neurological, neuromuscular, cardiopulmonary, and other disabling conditions, emphasizing the improvement of function and quality of life. We support the MCC Measurement Framework and its focus on functional assessments, integration of the disability community, and patient centric care. Thanks for ensuring that patients with multiple chronic conditions are not just treated as "exceptions" to the field of performance metrics.	The committee appreciates your support and emphasizing the importance of assessing functional status.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
American College of Cardiology	Submitted by Joseph Drozda	Please provide comments on the report as a whole.	The American College of Cardiology appreciates the opportunity to review and comment on the Multiple Chronic Conditions Measurement Framework. This is an important conceptual and early implementation plan that provides a thoughtful approach to a complex problem. The definitions are well done and the principles are explained in sufficient detail. The emphasis on function is extremely important, and the variety of healthcare providers addressed in the document is laudable. Appendix E is particularly valuable, probably because of is clarity and brevity. The one important omission is the communication of MCC issues to the committees charged with disease-specific guideline delineation, such that this concept could be at least incorporated in the introduction and/or "limitation" sections of a guideline - indicating MCCs as important contributors to modifications in guideline application. This is particularly important because many performance measures are based on guideline recommendations.	The committee appreciates your support and acknowledges ACC important contribution to the development of evidence-based guidelines. We agree moving forward that the core tenets of this framework will need to be incorporated more upstream into guideline development.
American College of Cardiology	Submitted by Joseph Drozda	Please provide comments on the report as a whole.	Perhaps another omission, although the Committee was specifically charged with a measurement framework, is the need to educate the healthcare community about the implications of MCCs. A final recommendation is that using readmission as a performance measure deserves a more detailed discussion by the Committee. The data that would support readmission rate stand-alone measures as good proxies for care coordination are very limited. The Veterans Administration, for instance, has greatly increased its care coordination in the last 10 years yet their heart failure readmission rates have actually inched up slightly while mortality has trended down.[1] In addition, large RCT from the VA showed that improving the transition of care increased re-hospitalization though patients were more satisfied with their care.[2] In summary, although there may be some opportunities to improve the document, it is on the whole very well done and the Steering Committee is to be congratulated. [1]Heidenreich PA, Sahay A, Kapoor JR, Pham MX, Massie B. Divergent trends in survival and readmission following a hospitalization for heart failure in the Veterans Affairs Health Care System 2002 to 2006. J Am Coll Cardio 2010;56:362-8. [2]Weinberger M, Oddone EZ, Henderson WG. Does increased access to primary care reduce hospital readmissions? Veterans Affairs Cooperative Study Group on Primary Care and Hospital Readmission. NEJM 1996;334(22):1441-7.	The committee appreciates your overall support. They agree both upstream and downstream workforce development is needed to ensure health care providers possess the core competencies needed in this area. It was beyond the scope of this project to evaluate the impact of specific performance measures in practice, but acknowledges the limitations of a single measure being used as the sole indicator of quality.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
American Nurses Association	Submitted by Maureen Dailey	Please provide comments on the report as a whole.	The American Nurses Association applauds this important work, which builds on the Department of Health and Human Services Multiple Chronic Conditions Framework and other frameworks. Populations requiring complex, high intensity care coordination seamlessly across inter-professional teams. The importance of team-based care should be highlighted earlier in the document. Structures of care, the backbone of patient safety, were not addressed in detail. Access to the right mix of inter-professional team members in the right setting timely is key to mitigate progressive risk, manage symptoms etc. achieve the best quality and cost outcomes.	The committee supports your comments on the importance of multi-disciplinary team-based care essential for providing high quality care to this population and will highlight accordingly.
American Occupational Therapy Association	Submitted by Jennifer Hitchon	Please provide comments on the report as a whole.	The American Occupational Therapy Association (AOTA) is the national professional association representing the interests of occupational therapists, students of occupational therapy, and therapy assistants. The practice of occupational therapy is science-driven, evidence-based, and enables people of all ages to live life to its fullest by promoting health and minimizing the functional effects of illness, injury, and disability. Occupational therapy practitioners across all settings treat patients with multiple chronic conditions, and we applaud NQF for recognizing the effect of multiple chronic conditions on quality of life and function, including occupations. The Committee has done exceptional work in trying to address a very challenging initiative and we support the draft document. Overall, our primary comment is that it is imperative that NQF include the concept of "participation" in the development of new outcome measures (community participation, a return to social roles, etc.). There is certainly (and commendably) a clear focus on participation outcomes throughout the Framework -- social support, the appropriate incorporation of caregiver and family in decision making and care, optimizing function -- but the existing language is dominated by medical model terminology.	The committee appreciates your overall support of this work. Your comments are consistent with the recommendations of the NQF convened National Priorities Partnership --specifically the emphasis on social and environmental aspects of health and well being.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Amerigroup Corporation	Angel Oddo; Submitted by Stuart Yael Gordon	Please provide comments on the report as a whole.	*Encounter Data vs. Claims and Charted Data* The measures illustrating the first of the high priority MCC measure concepts (i.e., "optimize function, maintain function, or prevent decline in function") appear to emphasize the use of record review data and claims data over the use of encounter data. Amerigroup would encourage instead that encounter data be preferred to measure patient functionality. Our preference for encounter data is based on two considerations: (1) Encounter data would provide a truer picture of the patient's changes in functionality than would conclusions drawn from claims data or from medical charts. (2) We understand it is a goal of the NQF to simplify the administrative burden of reporting quality measures. The use of encounter data would impose a lesser administrative burden on the reporting provider than the submission of claims data or charted data. *Recognition of Cost Variations in Achieving Cost Transparency* The illustrative measures set out in the high priority MCC measure concept of "transparency of cost" does not appear to reflect that health care service costs frequently vary by state, program and contract area. These variations are likely to make the standardization of measures across states and programs difficult. We believe the report should acknowledge that standardization of measures of cost transparency will require consideration of these cost variables.	You raise important tissues around data sources for capturing this type of patient reported outcome. It was beyond the scope of this committee's work to identify what data source should be optimally used. Your experience in this area will be valuable moving forward as the model is implemented. You also raise an important methodological issue around variation as pertained to cost. The committee wished to highlight costs of care as an important domain of measurement but a detailed analysis of these implementation challenges were out of scope for this project.
Care Continuum Alliance	Tracey Moorhead; Submitted by Victoria Ingenito	Please provide comments on the report as a whole.	Care Continuum Alliance (CCA) supports NQF's effort to clarify and streamline quality measures for individuals with multiple chronic conditions. The framework's emphasis on designing cross-cutting measures that assess quality in care transitions for those with multiple chronic conditions closely aligns with CCA's work on care transitions. Our Transitions in Care Workgroup compiled a case studies compendium highlighting lessons and successes in a variety of transitions in care programs. We also share NQF's goal to pair incentives for patients and providers with performance-based payment programs. This reinforces the role of incentives as an important tool within chronic care management programs and more broadly within Population Health Management strategies.	The committee appreciates your support of crosscutting measurement. The case studies you have developed will be very useful moving forward as this model is applied in real life settings. We appreciate your ongoing guidance.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Centers for Medicare and Medicaid Services	Michael Rapp; Submitted by Rabia Khan	Please provide comments on the report as a whole.	CMS submits the following comments on the Multiple Chronic Conditions Framework: The Multiple Chronic Conditions Framework is critically important and pertinent to measurement of quality across all care settings. However, the potential applications of this report remain unclear. Will NQF utilize the framework to analyze and identify measures during the Consensus Development Process (CDP) or Measure Applications Partnership input to HHS? Page 10 - Although the guiding principles and framework have face validity individually, are they in priority order? The framework should guide measure development and refinement towards identification and attainment of meaningful health outcomes despite ongoing presence of multi-morbid conditions. Recognizing that a "gold standard" outcome would be difficult to arrive at, would safety be a dimension that transcends all domains in the conceptual model? It seems that avoiding harm is critical in this patient population.	NQF will use this framework as a guidepost for its endorsement work moving forward in this area. Many of the framework's core tenets such as crosscutting measurement is aligned with the work of the National Priorities Partnership and the Measure Applications Partnership. The guiding principles are not in rank order and are by nature mutually inclusive. The committee agrees safety is a common thread across this model and is an area ripe for exploring as this model is further fleshed out in practice.
Centers for Medicare and Medicaid Services	Michael Rapp; Submitted by Rabia Khan	Please provide comments on the report as a whole.	CMS submits the following comments on the MCC Framework: Dual eligible and post acute care/long-term care populations encompass individuals living in the community with multiple chronic conditions. Much of the language in the framework equates "condition" to "illness." Individuals with physical, cognitive, developmental, congenital conditions do not necessarily perceive themselves as "ill," although they may be ill at various points in their lives. Thus, the term "illness" needs to be clearly defined and appropriately used throughout the report. As an example of potential clarity and changes, "trajectory of illness" (page 9) could be edited to state, "beneficiary's health trajectory over time."	The committee appreciates this distinction and will revise accordingly.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Centers for Medicare and Medicaid Services	Michael Rapp; Submitted by Rabia Khan	Please provide comments on the report as a whole.	The following are CMS comments specifically related to Appendices B and D: Appendix B - "Enable Healthy Living: Optimize Function": CMS recommends including measure concepts for functional status, specifically related to mobility, self-care, cognitive status, social participation, occupational participation, and structural/environmental considerations (e.g., accessibility to transportation, public spaces, and housing). Appendix B - "Effective Communication & Coordination of Care": CMS recommends including measure concepts that incorporate patient/family/care-giver participation in care planning that reflect individual's preferences. Appendix B - "Make Care Safer": CMS recommends including measure concepts that incorporate avoidable adverse events, such as pressure ulcers, infections, and injurious falls. Were the measures in Appendix B the only "successful" measures when the framework was applied to the NQF measures portfolio?	Appendix B was the committee's attempt to identify high leverage measure concept areas for this population. They also mapped to the NQS in an effort to promote alignment. The additional concepts provided will be helpful in further fleshing out measure gaps in these critical areas. Thank you for this helpful feedback.
Centers for Medicare and Medicaid Services	Michael Rapp; Submitted by Rabia Khan	Please provide comments on the report as a whole.	Appendix D states, "1) Communication, care coordination and integration: measures that look at coordination and communication between physicians, specialties and sites of care and integration of an overall care plan." This statement does not include the patient, but it is clear that effective care coordination and communication needs to involve the patient when integrating an overall care plan.	Agree. The committee also emphasized shared decision-making as a critical measure concept are.
Group Health Cooperative	David McCulloch; Submitted by Terry Aoki	Please provide comments on the report as a whole.	Group Health supports NQF's work in recommending these measures. This is the clearly the "right" work to focus on in American Healthcare.	The committee appreciates your comment and support.
Group Health Cooperative	Elizabeth Lin; Submitted by Terry Aoki	Please provide comments on the report as a whole.	In Appendix C - the measures approved by NQF are too long to be of practical value in clinical practice, e.g. 15 items to measure domains for mobility and ADL separately, just in post- acute care patients.	Appendix C was meant to be illustrative of existing measures in the field for these measure concpet areas and was not intended to be an exhaustive list. The committee agrees there would need to be a prioritization of what measures were collected base don the patient's needs over time.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Group Health Cooperative	Elizabeth Lin; Submitted by Terry Aoki	Please provide comments on the report as a whole.	There is need for very short (e.g. 3 item or less functional assessment that can be applicable across conditions, similar to the Sheehan Disability Scale that we used in research for both mental and physical chronic illnesses (Sheehan DV, Harnett-Sheehan K, Raj BA. The measurement of disability. International Clinical Psychopharmacology. 1996; 11(suppl 3):89-95.	The committee supports the need for routine assessment of functional status in clinical practice in a way that is feasible and reliable.
Health Promotion and Disease Prevention	Submitted by Andrew Goodman	Please provide comments on the report as a whole.	The Bureau of Chronic Disease Prevention & Tobacco Control in the New York City Department of Health and Mental Hygiene (NYC DOHMH) welcomes the opportunity to submit comments to the National Quality Forum (NQF) on the draft report of the Multiple Chronic Conditions Measurement Framework. This draft report is an admirable first step in developing principles that will guide the evaluation and improvement of healthcare for patients with Multiple Chronic Conditions (MCCs). Within future drafts of this framework, we encourage the Steering Committee to recognize the importance of incorporating screening and treatment for tobacco use within routine care for patients with MCCs.	The committee has identified health lifestyle behaviors as a priority measure concept which would include screening & treatment for tobacco use.

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Health Promotion and Disease Prevention	Submitted by Andrew Goodman	Please provide comments on the report as a whole.	According to the U.S. Department of Health and Human Services' 2008 Clinical Practice Guidelines on Treating Tobacco Use and Dependence, tobacco cessation should be a high priority for patients with MCCs. Tobacco use is known to be an independent risk factor for many chronic illnesses, including heart disease, lung disease, and numerous cancers.[1] Furthermore, tobacco use interacts with many other medical conditions, affecting the heart, lungs, brain, kidneys, and other body systems, which can lead to adverse clinical outcomes in MCCs patients.[2] For example, smoking greatly increases the risk of developing both micro and macro vascular complications in diabetics,[3] and also exacerbates additional comorbid conditions, including cardiac disease, Chronic Obstructive Pulmonary Disease (COPD), and asthma.[4] Cigarette smoke also increases metabolizing of various medications that patients with MCCs may use, like insulin, which can result in higher effective dosages.[5] [1] Fiore MC, Jaen CR, Baker TB et al. Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008. [2] U.S. Department of Health and Human Services. The Health Consequences of Smoking: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004. [3] Haire-Joshu D, Glasgow RE, Tibbs TL. Smoking and diabetes (Technical Review). Diabetes Care, (1999) 22: 1887-1898. 1999 [4] Fiore MC, Jaen CR, Baker TB et al. Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. May 2008. [5] Rx for Change. Drug Interactions with Smoking. Updated June 2003. http://smokingcessationleadership.ucsf.edu/interactions.pdf	The committee supports this comment and has identified population health -- consistent with the National Quality Strategy -- as a priority domain area for measurement for individuals with MCCs.

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Health Promotion and Disease Prevention	Submitted by Andrew Goodman	Please provide comments on the report as a whole.	Compounding these medical complications is the higher prevalence of current smoking among persons with a smoking-related chronic disease (36.9%) relative to those without any chronic diseases (19.3%).6 When examined by disease type, current smoking prevalence was higher among those with smoking-associated cancers (except for lung cancer) (38.8%), coronary heart disease (29.3%), and stroke (30.1%) compared to those without chronic disease (19.3%). Additionally, almost half (49.1%) of adults in the U.S. with emphysema and 41.1% of individuals with chronic bronchitis smoke.7 Within the current framework, tobacco use is mentioned as a National Quality Strategy (NQS) concept that is aligned with MCC Measure Concepts relating to patient outcomes and missed prevention opportunities (pg. E-1). As the Steering Committee addresses measure gaps for people with MCCs, we recommend NQF measure 0028a (Tobacco Use Assessment) and measure set 0027 (Smoking and Tobacco Use Cessation, Medical Assistance) to support the delivery of tobacco dependence treatment. Including measures relating to screening and treatment for tobacco use will ensure key prevention practices identified by federal initiatives such as the NQS will be incorporated within care for those with MCCs. These particular measures align with other reporting systems, including Meaningful Use, thereby reducing measure burden for providers. In order to prompt more vigorous cessation efforts by healthcare providers, we also encourage the Steering Committee to consider the use of tobacco dependence treatment measures within new payment and delivery models.	As above, the committee supports this comment and has identified this as a priority area for measurement for individuals with MCCs.
Health Promotion and Disease Prevention	Submitted by Andrew Goodman	Please provide comments on the report as a whole.	We thank the NQF for the opportunity to comment on this framework. Incorporating tobacco cessation will have a positive impact on MCCs patients' quality of life, functional capacity, and morbidity and mortality outcomes.	The committee supports this comment and has identified this as a priority area for measurement for individuals with MCCs.

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Health Resources and Services Administration	Submitted by Girma Alemu	Please provide comments on the report as a whole.	Overall, we feel the document is comprehensive. As stated in the document, basing performance measures strictly on clinical practice guidelines could lead to over treatment and burdensome measures. However, the document does not provide guidelines on how to strike a balance between the measures proposed in this document and current disease management measure sets. The DHHS HIV Treatment Guidelines, for example, provide updated guidelines to screen patients for additional chronic conditions: • Other infectious diseases such as Hepatitis C and Hepatitis B • Conditions such as Diabetes and Heart Disease • Behavioral conditions, such as substance use, addiction, and depression and deliver the care they need. From these guidelines, the HIV/AIDS Bureau (HAB) develops and maintains performance measures for care and treatment. These ensure funded providers focus on the multiple chronic conditions in this population. This is also a critical part of the National HIV/AIDS Strategy. Finally, as the NQF seeks performance measures for care coordination, it may want also to consider measures that relate to effective communication (B-1).	The committee appreciates your overall support. You raise important issues in regards to implementation of the model moving forward and the need to balance crosscutting and disease specific measures. Your experience in the realm of HIV should be a useful model to inform this work.
HealthCare 21 Business Coalition	Submitted by Gaye Fortner	Please provide comments on the report as a whole.	HealthCare 21 Business Coalition supports that providing scenarios, or “use cases” of how these measures would promote the shared vision of a patient-centered system that provides high quality, high value care to the most vulnerable patients would be of tremendous value to measure developers as well as to the field as a whole.	The development of “use cases” would be a useful tool as the model begins to be operationlized in the field. Although the scope and time frame of this project did not allow for this to be done, a case study was developed as part of the response to review to make the model more “real”.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
Memea Family	Submitted by Fiatagata Memea	Please provide comments on the report as a whole.	I am a recipient of Medicare and Ohana Health, an entity of Wellcare. I have been with MCC since 1990, when my last child was born, and that is when I contracted diabetes. All of my health issues is related to the diabetes. I am finally beginning to get a tighter control of my diabetes with the assistance of my physician and the diabetes educator. I believe that once I can manage this disease, all of my other health issues will resolve itself. Because for most of my young life and adolescence, I can count on my 2 hands, the times I had to visit the doctor's office. In college, I was as healthy as any young adult. But not until I contracted gestational diabetes, did my health issues begin to deteriorate. And even at it's onset, was there ever any real dedication from the medical community to help me manage my diabetes, like I would go into the doctor's office, and he/she would ask me what medication's I was taking, to include my insulin and it's doses. There was never any collaboration between any agencies on reviewing or assessing the multiple chronic diseases in Medicare and Medicaid recipients. I am glad for this effort by the HHS. Not until I moved here to Hawaii, did I get the attention that was so sorely missing in managing my diabetes.	The committee is grateful for your feedback. The voice of patients and their families/caregivers is critical to informing and grounding our work. Thank you for taking time to comment.
National Council on Aging	Submitted by Kelly Horton	Please provide comments on the report as a whole.	We are pleased that the guiding principles and national initiatives upon which the Committee has premised the Measurement Framework including shared decision-making (patient-centered care, patient engagement, and a strong foundation of shared accountability), reliable measures (including patient experience, clinical outcomes, and commitment to quality care), meaningful stakeholder involvement (including consumers), and access to care. These elements are the essential building blocks of creating a new care delivery system with the triple aim of providing better care, reducing costs, and improving health outcomes and quality of life for people living with multiple chronic conditions.	The committee appreciates your comment and support, and for emphasizing these important concept areas.

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National Kidney Foundation, Inc.	Submitted by Lynda A. Szczech	Please provide comments on the report as a whole.	Since chronic kidney disease (CKD) is often caused by or combined with other life-threatening chronic diseases (e.g. diabetes and cardiovascular disease) NKF appreciates the effort to develop a methodology for consideration of clinical performance measures (CPMs) in the context of multiple chronic conditions (MCCs). On the other hand, we believe that some of the conclusions in the report require additional clarification. For example, we do not agree that basing standards for performance on existing CPGs could necessarily lead to prioritizing low value, burdensome measures. Similarly, an impractically high level of complexity, cost, potential interactions, and burden should not automatically be ascribed to adherence with disease specific guideline recommended treatment in individuals with MCCs. Instead we contend that NQF decisions about applicability of disease specific guidelines in the development and application of performance measures for individuals with MCCs should focus on how those guidelines are developed. In the case of clinical performance guidelines developed under the Kidney Disease Improving Global Outcomes (KDIGO) program, the use of the GRADE system obviates the issue of “overtreatment” as only those recommendations that are based on strong evidence are rated as high strength and should be adopted as clinical performance measures. See Dr Uhlig’s article for a summary of the GRADE process, especially table 5 that indicates that only a “strong guideline recommendation may form the basis for a clinical performance measure” (CPM). (K Uhlig, et al. Grading evidence and recommendations for clinical practice guidelines in nephrology. A position statement from Kidney Disease: Improving Global Outcomes (KDIGO). Kidney International (2006) 70, 2058–2065.)	The report draws caution to the potential unintended consequences of using a multitude of disease-specific CPGs for people with MCCs devoid of a holistic view of the patient and their goals and preferences. However, it is not the committee’s intention to devalue the importance disease-specific guidelines and measuring disease-specific outcomes. These would be ideally coupled with crosscutting measures. The committee calls out “patient important outcomes” as a priority area of measurement which includes disease-specific clinical indicators. The NKF provides an excellent example of an evident-based approach to care which can serve to inform work in this area moving forward and the further operationalization of this model. The committee appreciates this feedback.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
National Kidney Foundation, Inc.	Submitted by Lynda A. Szczech	Please provide comments on the report as a whole.	Also note that the KDIGO explicitly states that the guideline, INCLUDING THE STRENGTH OF THE RECOMMENDATION, must be cited verbatim . (The following quote is from the KDIGO CKD-MBD guideline, chapter 2, summary and future directions. Kidney Disease: Improving Global Outcomes (KDIGO) CKD–MBD Work Group. KDIGO clinical practice guideline for the diagnosis, evaluation, prevention, and treatment of chronic kidney disease–mineral and bone disorder (CKD–MBD). Kidney International 2009; 76 (Suppl. 113): S1–S130). "We strongly encourage users of the guidelines to ensure the integrity of the process by quoting the statements verbatim, and including the grade system after the statement when quoting/reproducing or using the statements, as well as explaining the meaning of the code that combines an Arabic number (to indicate that the recommendation is "strong" or "weak") and an uppercase letter (to indicate that the quality of the evidence is "high", "moderate", "low", or "very low")." The advantages of using this approach are described in the preceding section: "In the session of December 2008, the KDIGO Board also revised the grading system for the strength of recommendations to align it more closely with GRADE, an international body committed to the harmonization of guideline grading across different specialty areas. The full description of this grading system is found in Chapter 2, but can be summarized as follows: There are two levels for the strength of recommendation (level 1 or 2), and four levels for the quality of overall evidence supporting each recommendation (grade A, B, C, or D) (see Table 2, Chapter 2).	

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National Kidney Foundation, Inc.	Submitted by Lynda A. Szczech	Please provide comments on the report as a whole.	In addition to graded recommendations, ungraded statements in areas where guidance was based on common sense and/or the question was not specific enough to undertake 150 a systematic evidence review are also presented. This grading system allows the Work Group to be transparent in its appraisal of the evidence, yet provide practical guidance. The simplicity of the grading system also permits the clinician, patient, policy maker and provider to understand the statement in the context of the evidentiary base more clearly." Thus, for those organizations that issue disease-specific guideline statements using GRADE or a similarly rigorous approach, then only those statements that are 1A or perhaps 1B should be considered for CPMs and thus there should not be "low value" or "burdensome" CPMs based on those guidelines. In addition, the guideline statements are already prioritized based on the strength of the evidence rating. In addition, NQF should consider the recommendations of the IOM to determine feasibility for implementation of CPMs based upon disease-specific CPGs, especially in CKD patients, who have multiple chronic conditions. (Institute of Medicine. "Clinical Practice Guidelines We Can Trust." March 23, 2011.)	
National Kidney Foundation, Inc.	Submitted by Lynda A. Szczech	Please provide comments on the report as a whole.	December 1, 2005 There are virtually no data to suggest that there should be differences in CPMs based on disability, cognitive impairments, life expectancy, illness burden, dominant conditions, socioeconomic status, and race/ethnicity (at least in CKD). We maintain that it is inappropriate to consider such issues until relevant studies are undertaken and evaluated. In particular, we object to any assumption that a patient with multiple comorbidities wants "less-aggressive" care. The bottom line is that if the CPMs are rigorously developed, then it is clear which guidelines are important and should be adopted by NQF for national measures of quality. Nonetheless, disease-specific CPGs and CPMs may sometimes be medically contraindicated for patients with MCCs. For example, it would be dangerous to apply the American Heart Association's atrial fibrillation guidelines to people with End Stage Renal Disease and later-stage CKD. For this reason, a blanket statement like "Performance measures should be as inclusive as possible, as opposed to excluding individuals with MCCs from measure denominators" is not universally applicable.	

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National Partnership for Women & Families	Submitted by Debra Ness	Please provide comments on the report as a whole.	As noted in the definition comment, we truly applaud the work of the steering committee on this incredibly complex, multi-faceted issue, and we are elated at the idea of truly meaningful measures of how care is delivered to patients with MCC may soon be a reality. However, to make this framework as useful as possible, it needs a much greater reflection of the patient's voice. As currently written, it leans very heavily toward being an academic resource. We suggest adding language from the consumer and patient perspective that relays just how critical it is to improve care for this population, in order to spur meaningful measure development. Our biggest concern is that the framework as written gets used by measure developers to create measures that are not conducive to promoting patient centered care, and in the end we will have wasted this journey.	Agree. In response, a case study has been drafted that captures the patient's voice, specifically in context of the model put forth in this framework.
Pacific Business Group on Health	Submitted by Dena Mendelsohn	Please provide comments on the report as a whole.	The Consumer-Purchaser Disclosure Project (CPDP) applauds this project and hopes that it will begin to pave the way for the development of measures to improve care for patients with Multiple Chronic Conditions. We do offer one over-arching suggestion for how to improve the framework, to ensure that it achieves its aims: The report notes that NQF seeks "a comprehensive picture of the quality of care provided to individuals with MCCs." As currently written, however, the framework tilts very heavily toward being an academic resource and does not provide enough of the "patient's" voice to truly provide that comprehensive picture noted in the above quote. Toward that end, we suggest citing surveys, interviews, focus groups, etc. - both in the text and in the bibliography - reflecting the ways in which the lack of MCC measures is currently effecting patients, and how patients and other stakeholders will use these measures, if and when they are developed and implemented. We believe that providing scenarios, or "use cases" of how these measures would promote the shared vision of a patient-centered system that provides high quality, high value care to the most vulnerable patients would be of tremendous value to measure developers as well as to the field as a whole.	The committee agrees the patient's perspective should be amplified. To that end a case study has been drafted to play out the conceptual model through the "patient's eyes".
Renal Physicians Association	Robert Blaser; Submitted by Amy Beckrich	Please provide comments on the report as a whole.	Renal Physicians Association (RPA) supports the development of the Multiple Chronic Conditions Draft Framework Report and appreciates the opportunity to comment.	The committee appreciates your support.

Commenter Organization	Commenter Name	Topic	Comment	Steering Committee Response
St. Louis Area Business Health Coalition	Submitted by Louise Probst	Please provide comments on the report as a whole.	We see this as the beginning of the development of measures to improve the care for patients with Multiple Chronic Conditions and suggest showing how a lack of MCC measures is currently effecting patients. Also, you need to show how patients and other stakeholders will use these measures, if and when they are developed and implemented.	The committee appreciates you view this framework as a pathway to getting to measures that matter for this population. You raise important issues in regards to next steps around implementation and we welcome your further guidance.

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