ECRI Institute’s 21st Annual Conference on the Use of Evidence in Policy and Practice

THE “NEW” COMPLEX PATIENT
The Shifting Locus of Care and Cost

November 6-7, 2014
A Free Public Service Leadership Conference

The National Academy of Sciences
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ECRI Institute’s 21st Annual Conference

The “New” Complex Patient: The Shifting Locus of Care and Cost

November 6 – 7, 2014

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Executive Summary

ECRI Institute’s 21st annual health policy conference entitled The “New” Complex Patient: The Shifting Locus of Care and Cost, was held November 6-7, 2014, in Washington, DC, at the National Academy of Sciences. This was ECRI Institute’s 21st annual conference on the use of evidence in policy and practice. It was co-sponsored by the U.S. Department of Veterans Affairs, Kaiser Permanente, the Patient-Centered Outcomes Research Institute (PCORI), the Agency for Healthcare Research and Quality (AHRQ), AcademyHealth, Health Affairs, The Leonard Davis Institute of Health Economics at the University of Pennsylvania, and the University of Pennsylvania Health System. All of the co-sponsors participated in planning the agenda, including identifying topics and appropriate speakers. Key stakeholders, including both speakers and the audience, discussed the current state of care research and delivery for complex patients. The presentations and conversations explored how the American healthcare system is changing to care for complex patients, how this care is being financed, and how and where this care takes place. Nine themed sessions over two days addressed patient outcomes research, clinical perspectives, the role of emergency departments (EDs), federal and state initiatives, the impact of technology advances, quality and patient safety, care coordination, private payer and health system perspectives, and a perspective-taking focused on the path forward.

Overview of Conference Proceedings

Day One

- **Session 1: Complex Patients, Health Systems, and the Continuity of Care**, introduced some of the major challenges of identifying and caring for complex patients from a patient-centered perspective. The session examined how the healthcare system looks from the point of view of the complex patient, focusing on patient-centered research and policy making.

- **Session 2: The Clinical Perspectives on Complex Patients**, explored how providers are defining today’s complex patients and addressed how providers are adapting their delivery of care to meet the needs of these patients. It examined whether there are care models that are improving outcomes for complex patients.

- **Session 3: In and Out of Hospitals: Federal and State Initiatives**, discussed whether new state programs and federal pilot projects designed with complex patients in mind are serving complex patients adequately.

- **Session 4: The Triage Role of Emergency Departments: Has the “Spoke” Become a “Hub”?** addressed the changing role of emergency departments and whether and how emergency departments are becoming an even more important component of integrated healthcare delivery systems.

- **Session 5: Does Technology Keep Patients Out of Hospitals?**, examined the potential and known benefits and harms of sophisticated technologies, their impact on provider work flow, and whether they truly facilitate keeping patients from the need to default to care within hospitals.

Day Two

- **Session 6: Care Outside the Hospital: Maintaining Quality and Safety**, reviewed whether the lessons from patient safety and quality research on inpatient care can be applied to other types of care settings, or whether new approaches have been or need to be developed.

- **Session 7: The Private Payer Perspective on Complex Patients**, was a discussion among private payers on their policy and business initiatives designed for addressing coverage of complex patients in and out of hospitals. This examination covered how they address the expenses and access to care associated with complex patients, including how they are using data to identify high-risk patients. Additionally, the
discussion explored the interface and inter-digitation between the public and private sectors. It aimed to elicit the thinking behind, as well as status of, current approaches.

- **Session 8: Health Delivery System Executives: The Financial and Organizational Strategies of Caring for Complex Patients**, was a discussion among CEOs who integrate research into their management. It aimed to elicit their thinking and current approaches.
- **Session 9: Capstone Session**, united issues and perspectives from the previous sessions and added fresh perspectives on how to address the needs of complex patients.

**Major Themes**

**Defining and Treating the Complex Patient**

Providers are now regularly treating patients who, not long ago, would have succumbed to their illnesses at earlier ages or led more impaired lives. This new type of “complex patient” is posing a challenge across the continuum of patient care. Panelists discussed the challenges of defining, treating and improving the systems’ ability to care for these individuals.

Dr. Jeffrey Lerner, from ECRI Institute, noted that complex patients do not fall into a single, simple category. Common characteristics that describe complex patients include multiple chronic conditions, conditions that are high risk and high cost. Panelists defined complex patients as a heterogeneous group of patients that includes those who are frequently admitted and readmitted to the hospital; those who are fragile, including newborns, or those who have lived long enough to become frail; those who have experienced major trauma; those who suffer from mental illness, substance abuse, and other social issues; children with special needs; those at the end-of-life; those with multiple chronic conditions; and those who have benefitted or may benefit from newer, riskier and often costlier, treatments and technology.

Different kinds of complex patients require different solutions. Dr. Benjamin Chu, from Kaiser Permanente, stressed the need to define this population clearly, identify the health system’s complex patients on an ongoing basis, and risk-stratify and sub-stratify this patient population in order to target absolutely necessary resources to each individual rather than look at the population in a large aggregate.

Panelists described a variety of ways to identify complex patients, including cost to the system, multiple chronic conditions or risk factors. A key issue in healthcare costs is that a very small fraction of the population accounts for the majority of expenditures; several panelists identified complex patients as those who are responsible for the top 1 to 5% of healthcare costs. According to the Centers for Medicare & Medicaid Services (CMS) (2012), the majority of healthcare is used by those with at least two chronic conditions, and 37% of Medicare beneficiaries with greater than four chronic conditions consume 74% of the Medicare budget. Cost was a major theme of the conference, concentrated around the cost of care, management of complex patients, and prevention of conditions contributing to complexity.

Other panelists sought to identify complex patients through multifaceted tools, programs, and conducted research to link specific types of complex patients to the appropriate interventions. Dr. Patrick Conway, from CMS, explained that CMS uses the Hierarchical Condition Category (HCC) score, along with factors such as advanced age, disability, frailty, behavioral health issues, mental health diagnosis, high risk of admission and readmission, highest risk for poor outcomes, and multiple chronic conditions to identify complex patients in their population. The VA attempts to anticipate the problems in their population through the use of Care Assessment Need (CAN) scores, determining risk for hospitalization and death, and predictive analytics to identify patients at risk for adverse events and suicide, with the intention of early identification and intervention. Kaiser Permanente has begun research using care managers to identify patients appropriate for care management based on medical, non-
medical, trajectory and system themes, noting that the data available from electronic health records alone is not sufficient for distinguishing what makes a complex patient a good candidate for referral to care management.

**Health System Challenges, Cost of Care, and New Delivery Models**

Panelists and participants alike commented that the challenge of treating complex patients is largely a function of the complex, often fragmented, health system. Care delivery systems are not designed with the explicit intention of treating complex patients, preventing complexity and reducing health system complexity. New models of care are focused on increasing simplicity, reducing fragmentation and targeting patient populations who can benefit from specific interventions. Dr. Chu noted the need to figure out how to define, tier, and assess the population of complex patients to determine individual needs, and then simplifying the interface for the doctor, patient, and their family.

While most healthcare delivery models are not designed specifically for complex patients, some are. New state programs and federal pilot projects seek to take complex patients into account, such as Medicare-Medicaid (“Dual Eligible”) enrollee models. Care delivery and payment models, like Accountable Care Organizations (ACOs), Health Homes, Patient Centered Medical Homes (PCMHs), Center for Medicare & Medicaid Innovation (CMMI) grant-funded projects, and bundled payments, are aimed at promoting a high-performing, cost-effective healthcare system under the Affordable Care Act. Another example of a public sector program aimed at complex patients is the VA’s Patient Aligned Care Teams (PACTs). Public sector programs are attempting to overcome the challenges of siloed structures that have historically been at their base, and adjust fee-for-service incentives that do not encourage integration.

Many new models of care focus on high-cost patients, building interdisciplinary teams focused on patients’ needs, focusing on care transitions and care coordination, and promoting innovation and rigorous evaluation. Examples of new models of care in the private sector include the University of Chicago’s Comprehensive Care Program and Mission Health’s care process models and patient engagement models. When applied to the right patient in this heterogeneous population, care management and patient engagement should reduce costs, improve care, and reduce avoidable ED and hospital admissions.

Although there are significant research and pilot programs underway, more work needs to be done to determine how to match individual complex patients with the most beneficial program or intervention. Additional research is needed to (1) identify which services work for which type of settings, (2) identify scalable and sustainable models in existing health systems, and (3) understand the true economic and health benefits of these models.

**The Changing Locus of Care and Care Coordination**

New types of providers and innovative technologies offer benefits such as improved access, but they also introduce additional providers, settings, and technology into the healthcare system. Inpatient care is historically responsible for the highest costs to the healthcare system. Therefore, to reduce costs, inpatient care must be reduced. As care shifts from primarily inpatient care to primarily outpatient care, issues are arising around transitions of care and the reliance on community-based organizations.

Emergency departments have, for many years, played multiple roles – providers of emergency care, acute care, mental healthcare, diagnostic testing, and, very often, primary care to economically disadvantaged and uninsured patients. With the Medicaid expansion under the Affordable Care Act, it was believed that the newly insured would begin to rely less on emergency rooms because of increased access to primary care. However, today, there are more visits to emergency departments than ever before. Dr. Alexander Rosenau, from the American College of Emergency Physicians, pointed out that the former misrepresentation of the ED as a site primarily for high-cost
care, for the homeless, for the poor, and for those seeking free care has been disproven by evidence. Figures from AHRQ show that the true cost of emergency medicine, from ambulance, physician fee, facility fee, imaging, lab, etc. is only 3% of healthcare dollars.

Dr. Arthur Kellermann, from the Hébert School of Medicine, Uniformed Services University of the Health Sciences, addressed several implications. He noted that hospital administrators, payers, and policymakers should pay closer attention to the role EDs play in hospital admissions. Secondly, the use of EDs as diagnostic centers warrants further research to determine if this is an efficient way to evaluate patients with complex conditions. Third, the ED should be formally integrated into healthcare delivery systems, including widespread adoption of interoperable and interconnected health information technology within and between healthcare systems, greater use of care coordination and case management, and collaborative inter-professional practice.

Dr. Joseph Thompson, Arkansas’s Surgeon General, noted that “the old model of primary care needs to transform,” shifting from an acute infectious disease model to a chronic care management model, as well as moving to a team-based model that increases the capacity of primary care networks. Dr. Lucy Savitz, from the Institute for Health Care Delivery Research, Intermountain Healthcare, observed that the notion of teams was a point of much discussion, and that “the notion of who is on that team is expanding very broadly and it is moving outside the walls of the clinics and hospitals where we deliver healthcare” to include community-based organizations, social welfare agencies, and public health agencies.

Maintaining Quality and Safety Across Settings

Ensuring the quality and safety of healthcare outside the traditional institutional settings produces additional challenges. Safety issues differ between the inpatient and outpatient settings. The inpatient setting has a safety infrastructure, near-constant observation, is highly regulated, and has information sharing built into the structure. The outpatient setting relies on self-management, has little safety infrastructure, less regulation, and dispersed information. Additionally, adverse events have a greater potential to go unrecognized in the outpatient setting. The primary safety issue in the inpatient setting is treatment errors; in the outpatient setting it is diagnostic errors. “As we shift the locus of care and cost, we really need to shift the locus of research and interventions in patient safety,” Ms. Ronni Solomon, from ECRI Institute, stressed.

Transitions of care are particularly vulnerable periods. Dr. Stephan Fihn, from the United States (U.S.) Department of Veterans Affairs Central Office, noted that there is a litany of problems that begin at a very high system level, and continue all the way down to individual patient levels in regards to gaps in safety and quality for patients transitioning between inpatient and outpatient care. Health system and health record integration could begin to bridge the gaps in safety and quality as patients move between settings.

Care Coordination and Expanded Access

Three major challenges of care coordination are (1) communicating across different, fragmented health systems, (2) aligning care with clearly determined priorities set by the patient, family, and caregivers, and (3) aligning incentives around care coordination.

For a variety of reasons, patients seek and receive care across providers and health systems. Dr. Gordon Schiff, from Brigham and Women’s Hospital, noted that continuity in the U.S. is also an issue because patients are in and out of insurance plans as their income or employment changes. The electronic health record (EHR) is an essential but not sufficient component for appropriate care coordination. Information in the EHR needs to be indexed in a way that is identifiable, searchable, and accessible across providers. It is vital that the EHR include shared care plans that focus on the patient’s objectives and priorities.
Clinicians as well as care coordinators have been traditionally disease or condition focused, leading to the potential for an individual patient to have multiple care coordinators, and thereby increasing coordination issues and the potential for competing and disparate goals. Additionally, there are often multiple care plans from primary care providers, specialists, patients, and caregivers that are in actual conflict. Typically, there is a lack of communication and coordination among the various entities and individuals who are responsible for the patient’s care, and there’s very often a failure to involve all of the key participants in the planning process, including all providers, the patient, the family, and caregivers. Those plans are often devised with a very substantial lack of understanding of the patient’s resources and circumstances. It is also important to address social determinants, such as housing, food, security, and transportation, and to link social welfare, public health, and healthcare delivery to improve access to community support. These issues should be taken into consideration when developing care plans.

Dr. Mary Tinetti, from Yale School of Medicine, noted that there are a set of universal health outcomes that are most meaningful to the patient: being as functional as possible, being as free of symptoms and impairments as possible, and living as long as possible. Dr. David Atkins, from U.S. Department of Veterans Affairs, agreed that the role of the care coordinator is to take a patient who has a long list of problems and realize that you don’t actually need to attend to everything, you need to attend to the things that are most important to the patient, which is a subset of the longer list of problems. Dr. Chu stressed the importance of social support services in the care of complex patients, and noted “it is important to begin to think about how we organize the available resources with the available agencies or groups that can actually address these complicated social as well as medical needs.”

Ms. Janet Marchibroda, from Health Innovation Initiative, noted that “We can’t get there effectively with care coordination unless we change the way we pay for healthcare,” she said. The focus should be on healthcare outcomes, not on volume. “In the fee-for-service, à la carte system that Medicare has, it not only provides no incentives or rewards in its basic structure for encouraging clinicians to work together, it frequently has been made harder because of a lack of easily accessible information that is shared among various physicians treating these complex patients,” Dr. Gail Wilensky, from Project HOPE, observed.

Dr. Fihn noted the need to identify which models of care coordination yield the greatest efficiency and best outcomes through methodologically sound comparisons of different models of care coordination, both those that exist in integrated systems and fee-for-service systems, to understand what really works best.

Patient-centered Outcomes and Involvement of Family/Caregivers

Another major theme was the importance of the patient, the caregiver, and their support system. With the increasing complexity of chronic illnesses, it becomes more difficult for patients to understand and navigate the different elements of care.

Common themes addressed by panelists included building relationships with patients, understanding their home and support situation, prioritizing patient goals, involving the family and caregivers, empowering patients, and addressing difficulties with patient compliance and access to resources.

Dr. Tinnetti addressed the CaRe-Align Collaboration’s research which identified issues to better inform patient care for complex patients. Patients and caregivers agreed that (1) care needs to be based on patients’ healthcare goals, (2) they need a single point of contact, (3) they need to have open access to the EHR, and (4) that the care be driven not by diseases but by outcome goals. Additionally, there is a need to improve the health literacy of patients and create environments that support patients asking questions about their conditions and care.

Health System Integration
Dr. Fihn stated that the first step to integration is organizing the system, including identifying who is in charge or putting in place clear process control systems so that everybody knows what they are supposed to do in terms of handoffs and information exchange. Integrating health systems poses a variety of logistical issues including issues with staff, role definitions, physician turnover, working out of scope, people working at the top of their competency, leadership, and communication.

There is potential for further fragmentation of the health system through new insurance products and settings of care, and therefore, having interoperable EHRs and access to real-time data is essential. When a health system is only managing one part of or one episode of the patient’s care it is difficult to know what is going on with the patient, unless there is access to real-time data.

**Integration and Interoperability of EHRs, Storage Retrieval vs. Data Management**

The modern EHR is a storage retrieval tool, it is not a good data management tool. The EHR evolved from an electronic copy of a paper record, therefore, the current structure is essentially identical to the original paper record. The amount of clinical information has been increased and the EHR is now used for multiple purposes that include care management, ordering and order entry, inventory control, patient tracking, scheduling, billing, financial management, quality management, and compliance.

The way that EHRs affect provider workflow is a key concern. Technology should be freeing up more time for doctors to talk to and examine patients, but this is not currently the case. The EHR is a vehicle for communication, but it does not by itself accomplish care coordination or integration.

There is significant variability across EHR systems. Dr. Wilensky stated that “Unfortunately, there is more focus on adopting the EHRs and with meeting the various criteria that have been established supposedly reflecting meaningful use, without putting in place clear standards of how you ensure interoperability across systems. We are nowhere near having interoperability on the table.”

Information exchange is critical for care coordination and needs to happen among all relevant players in the system, including patients. To promote EHR integration within and between healthcare systems, EHRs must all have the same critical fields, the availability of the same essential information for each patient, and refined, consistent definitions.

Panelists noted the need for a simplified system that is integrated into the work flow, with increased high-level analytics and synthesized data, relevant clinical decision support, and the identification of novel and meaningful data in each patient’s record.

Other challenges associated with using the current EHR include the necessity to synthesize many pieces of information, identify critical information, and prioritize multiple alerts. Important data is buried in reminders and alerts that providers are routinely receiving, therefore, there is the potential to miss critical patient-related data (e.g., lab values) or the safety signals.

**New Technologies**

Providers and payers are employing sophisticated technologies in the forms of EHRs, Patient Health Records (PHRs), telemedicine, and sophisticated drug and medical devices to improve patient outcomes.

Telemedicine and other technology that reaches into the patient’s home is designed enable providers to take care of patients from a distance and to empower patients to take care of themselves. However, when technologies are
adopted in the home setting there are issues with access, labeling, health literacy, portability, and safety. The FDA is taking steps to improve the safety and functionality of technologies developed for home use.

Technology, such as telehealth, can bridge the gaps in time and distance, transform data into information to support more effective decision making, and offer lower-cost alternatives to in-person visits. Mobile devices, the Internet, social media, and video conferencing can reduce barriers and are being incorporated into care to a greater extent. Mobile devices are playing a more important role in diagnosing and managing care as well as engaging patients and caregivers. However, Dr. Lee Schwamm, from Massachusetts General Hospital, noted that “thoughtful planning is going to be required to realign resources and compensation to demands as trends shift over time.”

The integration of EHRs and the development of new technologies pose major privacy concerns across the system. Panelists noted the continued issue of balancing patient privacy and information security with information sharing and accessibility. Sharing information in a meaningful and efficient manner is another area that requires research and evidence, including human and IT factors.

Healthcare Cost, Financing, Incentives, and Quality Measurement

An important next step is to identify the policies that work and put in place appropriate financial and non-financial rewards that will facilitate appropriate treatment for complex patients. Panelists and participants noted the need for a change in incentives for treatment of complex patients and prevention of conditions affecting complex patients, including care coordination.

Complex patients are using many different services, and the selection of services in the traditional system is often based on reimbursement and regulations, rather than what the patient needs. Dr. Conway noted that Medicare payments are shifting, and shifting in the right direction to more reimbursement through fee-for-service with a link to quality, ACOs, and bundles, and population-based payments. Dr. Thompson stressed, “Getting the incentives aligned for the outcomes that people want is the way to achieve sustainability.”

Dr. Kenneth Kizer stressed that, “Complex patients aren’t complex patients aren’t complex patients. You really have to understand who they are. We really need a much simpler system to deal with these complex patients; and that simpler system is not going to happen until we change the payment or business model.”

There is also a need for a new generation of measures that addresses the perspective of the complex patient, including patient perspectives, patient reported outcomes, universal health outcomes, and patient goals of care. Measures are also needed to address care integration, care coordination, and team function.

Dr. Fihn cautioned that performance measures are intended to tell if you if the solutions that you’ve applied are working; however, they are not the solution. Health systems must decide what the problem is, figure out how to fix it, and develop performance measures to understand if that’s working and to change if it’s not. Using performance measurement as the stick by which you’re going to reward or punish everyone, invariably will incentivize perverse behavior. How to measure quality for complex conditions is an important research objective.
Session 1: Complex Patients, Health Systems, and the Continuity of Care

Joe V. Selby, MD, Executive Director, Patient Centered Outcomes Research Institute (PCORI), believes that the “new” complex patient is not a new population of patients, rather they are the patients who do not do well with even the best current systems’ approaches. As the healthcare system moves into new models of care, there is the need to focus on the importance and plight of them, as well as the complexities for physicians and delivery systems in treating these patients. Dr. Selby noted that although this topic has been studied for the past 20 years, the healthcare system has a long way to go. The lesson we’ve learned so far is that “patients with complex conditions are a very individual set of people, and one reason that systems’ solutions have not worked that well is that we have not yet in systems figured out how to take patient preferences and individual patient circumstances into account” for this growing patient population.

Amy L. Kratchman, Family Consultant and Director of the Leadership Education in Neurodevelopmental Disabilities Family Collaboration at the Children’s Hospital of Philadelphia, presented the perspective of a caregiver for children with complex conditions and circumstances. Each of her three children suffer from mitochondrial syndrome 1, one of her sons has a co-morbid condition of autism, and her daughter was born with nerve damage to her small intestine. Despite no medical education background, she has been charged with managing her children’s care for the past 17 years. Ms. Kratchman pointed out that it is “very scary… it is unrealistic to talk to parents and caregivers like we should already understand and know the system, because we don't, the system is very complicated.” For families and caregivers, information and communications need to be simplified and presented in a way that they can understand to promote safety and an improved patient and caregiver experience.

Ms. Kratchman noted her struggles, even with a good healthcare insurance plan, to find a patient navigator or care coordinator to help her safely coordinate care for her children. The onus is often placed on the primary care physician (PCP) to coordinate care. However, despite their desire to help, with only 15 to 20 minutes allotted per patient, PCPs do not have the time to coordinate care within a system that is not structured to value or pay for that time. Ms. Kratchman called for a system that “values and reimburses the time it takes to coordinate care.” She noted the importance of using technology to support care coordination, but stressed that “we cannot substitute technology for the crucial communication that needs to occur between the physician and the patient or caregiver.”

According to Ms. Kratchman, addressing the challenge of changing these systems would require a “culture shift that includes changes to practice, to policy, to payment systems and most importantly to empowering the patient and family so we are truly partnering in our healthcare.” This shift is essential for safety and improved outcomes. Ms. Kratchman closed with the assertion that “we must find a way to do healthcare better, faster, and cheaper, but we cannot do this blindly, we have to do it in an informed evidence-based model,” which includes patients and caregivers in the research process.

Mary Elizabeth Tinetti, MD, Gladys Phillips Crofoot Professor of Medicine (Geriatrics) and Professor of Epidemiology (Chronic Diseases) and of Investigative Medicine, Yale School of Medicine, presented her experience as a geriatrician working with older adults who have multiple and complex conditions. Dr. Tinetti addressed the current state of research for this population, their specific needs and the direction research needs to go to inform the care of patients with multiple and chronic conditions.

The majority of healthcare is used by those with at least two chronic conditions, and 37% of Medicare beneficiaries who have more than four chronic conditions consume 74% of the Medicare budget. Dr. Tinetti defined the current issues of caring for complex patients to include: access that is fragmented across providers and settings, care that
focuses on a subset of the patient’s conditions, and care that is not always targeted at what matters the most to individuals.

Much of the current care for this population is exemplified by unclear benefit and potential harm. By definition, these patients are excluded from most randomized controlled trials (RCTs) and in general, the state of the art evidence-based care models do not always align with what matters most to these patients who do not think in terms of disease specific outcomes. Although patients vary in outcomes that are most important to them, the “universal health outcomes” that are most meaningful to patients can be categorized into three distinct groups: (1) being as functional as possible, (2) being as free of symptoms and impairments as possible, and (3) to live as long as possible. Dr. Tinetti suggests that “one way forward is to simplify and look at these few outcomes.”

The CaRe-Align Collaboration between the Hartford Foundation and Patient-Centered Outcomes Research Institute (PCORI) brought together patients, caregivers, clinicians, national organizations, health systems, and payers to try to identify the issues and research topics that can better inform patient care for this complex population. Patients and caregivers agreed that (1) care needs to be based on patients’ own healthcare goals, (2) they need a single point of contact, (3) they need to have open access to the EHR, and (4) that the care be driven not by diseases but by outcome goals. PCPs and specialists identified the importance of financial and nonfinancial incentives, embedded care managers – not multiple care coordinators, clear roles and responsibilities defined for primary and specialty care, smaller networks of providers, quality metrics that are patient oriented, and evidence to support the appropriate care of this population. Health system leaders said they need to learn how to provide care more efficiently and cost-effectively to this population and they do not want to add staff, rather they’d prefer to change the roles and responsibilities of the current staff.

Dr. Tinetti suggested two moves to better align research and practice to meet the needs of these patients, first “to move from disease-outcome-centered research to patient-outcome-centered research” and “shared decision making for people with complex conditions needs to include the evidence in guidelines, patient goals and preferences, and life context.”

David Atkins, MD, MPH, Director of Health Services Research & Development, United States (U.S.) Department of Veterans Affairs, presented his learnings from the VA, the largest integrated healthcare system in the U.S. Dr. Atkins noted that the top 5% of patients in the VA account for about half of all costs. Common characteristics that define complex patients include multiple chronic conditions, high risk and high cost. In the VA, many patients with multiple chronic conditions also have mental health problems, substance abuse issues, are homeless, or lack social support.

Dr. Atkins addressed several challenges in meeting the needs of these complex patients. He noted that “even well-functioning primary care teams might struggle with this small proportion of its highest risk patients”; some of these patients have barriers to traditional access, are at risk during transitions, struggle to coordinate care across multiple providers, and have an overlay of social stressors, mental health and substance use problems. When care needs to be coordinated across multiple providers there are multiple chances for miscommunications, conflict among goals, and missed handoffs. Even in a system designed to facilitate primary care access and mental healthcare, Dr. Atkins said, “we still have patients with unmet needs and these patients account for a disproportional amount of unplanned care and costs.” There is a need to augment existing care with better social and mental healthcare, engage patients to be more active partners in managing their own care, and provide expanded access to these patients, including home care.
To identify patients at risk of poor outcomes, the VA uses a creative predictive model, the Care Assessment Need (CAN) Score, which uses multiple factors to obtain a probability of admission or death. According to the model, having multiple providers is a higher predictor of risk than having multiple conditions.

The VA examined the existing literature to inform their programs being developed to meet the needs of varying groups of high-risk populations. Dr. Atkins noted that “there is a lot of literature out there on caring for high-risk patients, but a lot of the evidence is very poor.” He reviewed existing programs which fell into three groups – those providing home-based care, comprehensive clinics that take over primary care, and programs to augment primary care. Although no programs significantly reduced mortality, several programs reduced ED visits or hospitalizations.

The VA recently launched five demonstration projects targeting the top 5% of at-risk veterans. Dr. Atkins reviewed some early insights from this work. Only a proportion of patients identified as at-risk patients were good candidates for augmented support, and contacting and engaging eligible patients can be a challenge. Home visits for baseline assessment and medication reconciliation are critical. “There are subgroups; to look at this as one population is probably overly simplistic. There do seem to be subgroups that may respond better: those who are at the highest risk, those who don’t have a mental health diagnosis, those who are younger and those who are more acute,” said Dr. Atkins. The needs of complex patients still continues to be a challenge; they are heterogeneous group and a one-size-fits-all solution isn’t going to work for them; any solution has to address the frequency of mental health issues.

**Session 1: Q&A**

Dr. Selby opened the discussion to the panelists and the audience.

In response to Amy Kratchmen’s question regarding how to reduce numerous care coordinators, Dr. Tinetti noted the importance of decreasing “the amount of people we interact with and the amount of care we provide” and suggested that the way to do that is to identify what care is going to get at the desired outcomes.

Arnold Iser, Drexel University, commented on the failure of clinicians to identify the goals of medical care before they administer care. He pointed out that “when you apply clinical practice guidelines (CPGs) to patients who would be excluded from those RCTs, that is not evidence-based medicine; that is misapplied clinical guidelines.” He raised the issue that informed consent is rarely enacted for complex patients and stressed the need to improve the standard of informed consent, including the explanation of long-term consequences.

Ted Palen, Kaiser Permanente Colorado, noted that “incentives are misaligned.” He asked, “How do we move from where we are to where we need to be” with regard to aligning evidence-based pay-for-performance metrics with the patients’ goals? Dr. Tinetti responded that three measures would address those issues: “1. Were the patient’s outcome goals ascertained? 2. Was decision-making based on those outcome goals? 3. To what extent were those outcome goals improved?” The focus needs to be shifted from the individual disease to the individual patient. Dr. Atkins responded that the VA is currently looking at the next generation of performance measurement that is both appropriate for the individual patient and will reward the clinician for doing the right thing, rather than hitting an arbitrary binary target.

Gordon Schiff, Brigham and Women’s Hospital, questioned the unintended consequence of medication cost restrictions on medication reconciliation. For example, when patients go outside the system for medications, those medications are not input into the EHR, therefore there is no comprehensive, current list of medications available to physicians. Dr. Atkins responded that the VA is running into that challenge, because previously their patients
received their medications from the VA, but now that cheaper options are available, patients are going elsewhere for their medications.

A participant commented that “It is not the complex patient, who is the norm for many of us, it’s the complex system that we are forced to work in. Why is this conference not called the complex health system?”

JayEtta Hecker, discussed lessons learned through work with a foundation formed to support research into rare genetic neurological disorders. She noted three issues for patients with rare genetic disorders: (1) the integrated complex care programs managed by hospitalists are not reliably funded, (2) getting insurance access for whole genome testing is difficult, and (3) research funding is minimal and it is impossible to get answers without whole genome testing.

John Graham, National Center for Policy Analysis, asked Dr. Atkins, “Do the Patient Aligned Care Teams (PACTs) and other teams have systemic ways of reaching out” to the community to address the needs of homeless patients? Dr. Atkins responded that the VA has a specific PACT for homeless patients, which is designed with stronger links to social services, shelters, housing support, and mental health services. “The VA is committed to reducing homelessness,” said Dr. Atkins.

Dr. Selby posed the question, what might research look like to address these issues?

Eileen Erinoff, ECRI Institute, commented about additional complexities when dealing with severe mental illness in children; dealing with stigma, transition from pediatric to adult care, care provided through school systems that falls away after graduation, the shortage of practitioners, and the underlying need to know what the best treatments are. Ms. Kratchman agreed with these issues, and mentioned that PCORI is currently working to look at health outcomes that are important for six common pediatric diagnoses and hopefully these will result in changes.

Another participant commented that the first generation of hospitalist research showed that they were hospital-centric and suggested not funding hospital-centric hospitalist research, rather only funding those that are systems-based. He additionally questioned whether there is any movement in policy to give regulatory relief to measuring and being held accountable for quality process measures for patients by excluding patients with multiple chronic conditions? Dr. Tinetti commented that groups working with these metrics are reticent about having a lot of exclusions because of the concern of whether they are giving a pass at providing appropriate care. She suggested that “the approach is not to necessarily exclude these people from the denominator, but to change what the denominators are... so they are appropriate for everyone regardless of the number of complexities or conditions.” Dr. Selby added that we are at a point where everyone is asking, ‘How do we get to a new generation of measures and how do we bring patients’ perspectives into that?’

John Gordon, Milwaukee Children’s Hospital, stated that parents say they want their child to spend more time at home and to not be hospitalized, but this creates a burden on the families to provide care at home. He asked Ms. Kratchman, “Is there research being done at PCORI or policy being worked out to figure out a way to support the family as we do this ‘lower’ healthcare cost, which is in fact ‘shift’ of healthcare cost?” Dr. Atkins responded that the VA has done research on caregivers for new veterans and elderly veterans and is looking at technological and face-to-face ways of supporting caregivers and a combination of financial support, emotional support, and education. Ms. Kratchman noted that an important first step is bringing patients and families to the table while this research is being done to better understand the burden.

**Session 2: The Clinical Perspectives on Complex Patients**
Bernadette Loftus, MD, Associate Executive Director, The Permanente Medical Group, opened Session 2, a discussion of clinical perspectives on the new complex patient, touching on the redefinition of the complex patient, changing ways care is delivered to address this new definition, and proven care models that are making a difference in care of the complex patient.

David O. Meltzer, MD, PhD, Chief of the Section of Hospital Medicine, Director of the Center for Health and the Social Sciences, and Chair of the Committee on Clinical and Translational Science, Associate Professor, Department of Medicine, The University of Chicago, discussed the Comprehensive Care Physician (CCP) Program funded by the Center for Medicare and Medicaid Innovation (CMMI) to redesign care for patients at high risk for hospitalization. The key issue when talking about healthcare costs is that a very small fraction of the population account for the majority of expenditures. “If you want to save money, you have to focus on the people at high risk of expenditure,” said Dr. Meltzer, whose work focuses on patients using the top 25% of medical resources.

“There is a very strong belief by many people that reinvestment in primary care is really critical, a belief that medicine in the U.S. has become too specialized,” said Dr. Meltzer. The core of the Comprehensive Care Physician Program is focused on workforce redesign. He noted that economic theory suggests that there is an optimal degree of clinical specialization that balances the benefits of specialization and the cost of care coordination.

Dr. Meltzer expressed his concern that the changes in ambulatory care have caused a disruption in the doctor patient relationship and stressed the value of the doctor-patient relationship for continuity of care. “We can’t do continuity anymore, it’s not practical for doctors,” he said, and it is the complex, frequently hospitalized patients that are hurt the most by discontinuity.

The CCP Model aims to address this problem by stratifying patients based on expected hospital use. Those with low expected hospital use remain under the care of an ambulatory-based PCP. The other group, with high expected hospital use, get a CCP who sees the patients in both primary care and in the hospital, allowing a patient to be cared for across settings. Challenges include whether there are enough patients willing to switch, whether doctors will let patients switch, whether doctors will do this job, and whether it is economically viable.

Dr. Meltzer’s current research on the CCP Model aims to answer these questions and focuses on high-cost patients, maximizes direct interaction with the CCP, builds interdisciplinary teams focused on patient needs, focuses on care transitions, minimizes costs – especially care coordination costs, increases financial incentives, develops sustainable roles and training for care teams, and promotes rapid cycle innovation and rigorous evaluation. This research also addresses longer-term issues including adaptation to patients’ needs such as home care and financial models for sustainability. He notes that “early impressions are incredibly positive both qualitatively and quantitatively.”

Valerie Garrett, MD, Medical Director, Diabetes Center, Mission Health, spoke from the perspective of a hospitalist caring for patients with diabetes, and reviewed the work of Mission Health to transform itself into an Accountable Care Organization (ACO). Dr. Garrett spoke of the health and economic burden of diabetes. In 2012, the ADA performed an update on the economic burden of diabetes in the U.S., which estimated indirect costs at $69 billion and direct medical costs at $176 billion; this represents a 40% increase since the ADA’s last report in 2007. Dr. Garrett noted that “61% of the direct medical costs to treat those with diabetes are for acute care in the hospital and complications.”

Dr. Garrett reviewed several known ways to reduce the cost and burden of diabetes, including reducing mortality through comprehensive disease treatment, the use of multicomponent team-based chronic care models, and disease prevention. She stressed that “there is an emerging awareness that we need to balance between the burden of disease and the significant burden of treatment for complex medical patients and... shared decision.
making must be the foundation for patient engagement.” “We recognize that persons with diabetes have health opportunities and choices shaped both internally across an ever increasing sphere of influence,” she stated and she expressed the concern that, “we believe we are providing shared decision making when we don’t actually have great competency to do so.” The basic tenets of diabetes care involve a balance between self-management and disease management.

“Mission Health recognizes the need to develop an integrated healthcare delivery network, right now we are very acute care centric and we are working our way towards population centric management,” said Dr. Garrett. The current state of Mission Health’s infrastructure does not support integrated diabetes care, however they are working towards integration and the improvement of diabetes clinical programing. One of Mission Health’s goals is to reestablish formal self-management training, including customized programing and health coaching.

Mission Health is involved in four major efforts over the next year, including implementing care process models, testing patient engagement models, developing a provider education platform for diabetes care that incorporates shared decision making, and engaging community provider organizations to align goals.

Uma R. Kotagal, MBBS, MSc, Senior Vice President, Quality, Safety and Transformation; Executive Director, James M. Anderson Center for Health Systems Excellence, Professor, UC Department of Pediatrics, Cincinnati Children’s Hospital Medical Center, discussed the approaches to improving the health of children with complex illness and to shift from thinking about healthcare to health. She presented two examples, one of learning networks as a mechanism to change outcomes for children and the other of a community-based learning healthcare system model.

Features of the learning healthcare system include patients and providers working together to choose care based on the best evidence; discovery driven by patient care; and a focus on innovation, quality, safety and value, which happens in real-time through the use of data and actively engaged patients. The model starts with engaging patients, families, and clinicians to create a “point-of-care learning engine.” Ms. Kotagal stressed the importance of the effective use of technology to reduce the costs of data collection, as well as using patient-reported measures and registry data. “The ultimate focus is really on the patient outcome,” explained Ms. Kotagal.

Additional learning network activity focuses on the analysis of social networks, how teams function, and the association with health outcomes, as well as additional system redesign of care to included pre-visit planning, population management and self-management support. “The project savings are quite extraordinary as they relate to remission rates,” she noted.

The second example Ms. Kotagal shared is the community-based learning model, focused on the goal of keeping children with chronic illness in school. The current research focuses on reducing admission rates for asthma, the leading cause of missed school days, using the Institute for Healthcare Improvement’s (IHI’s) Triple Aim. Ms. Kotagal noted that there is a disparity between White and African American patients based on the 30-day readmission rate due to social, health, and environmental factors. The community-based model attempts to address these issues through partnerships with community agencies, managing psychosocial barriers, and increasing community engagement, including home health pathways and care coordination. “We’re looking at assets in the community – the schools, the neighborhoods, the centers, and beginning to ask the question, ‘how do we bring them together to really improve the health of children?’”

Their model of thinking about integration of research and delivery includes identifying the current outcomes, standardizing care, reliably delivering evidence-based care, while customizing it to the individual patient or circumstance.
Session 2: Q&A

Bernadette Loftus opened the floor for audience questions. She asked the panel, in relation to the average physician and care team in this country, “what are they seeing and how are they redefining the complex patient?” Dr. Meltzer responded that many people are defining the complex patient in a traditional doctor-centric way, focused on the disease they treat and expressed concern that patients who have disease complexity almost always have complexity in some other form. He suggests that, “The immediate crisis in U.S. healthcare is coming about because we don’t have the money to focus on human suffering because we’re spending money wastefully on other things.” Ms. Kotagal reflected on earlier comments around too many coordinators and too much specialization. She said, “Overspecialization results with the whole child not receiving all aspects of what needs to happen. The very complex multi-system, multi-organ problems, I don’t think we are good at managing that in the outpatient setting.” Dr. Garett agreed and noted that recent surveys of PCPs show they “aren’t as disease specific in their definition of complex patient, they’re recognizing specifically mood disorders and substance misuse and abuse.” She continued that the “management of diabetes from a disease perspective is actually getting easier, the psychosocial components of the burden of disease and the burden of treatment are getting harder,” partly due to the aging population and the continued lack of available patient resources.

Bernadette Loftus asked Dr. Meltzer to address the financial incentives for the CCP program. He responded that from an economist perspective, he thinks we should “get away from fee-for-service medicine that pays us to do more and try to manage the total cost of the patient” but expressed a concern because “our ability to risk adjust is so poor and the value in terms of cost reduction of these interventions are exactly in high-utilization people who it’s extremely difficult to risk adjust for.”

Arnold Iser, Drexel University, asked Dr. Meltzer to comment on the selection of physicians for the CPP program, and to comment on incidence of mental health issues among the patients in the program. Dr. Meltzer responded that “most of the patients in our program are medically complex, and most of them are poor, but this is not fundamentally a psychological problem for people in our group.” Regarding the selection of physicians, the majority come out of hospital medicine.”

A participant from Detroit Medical Center asked, “If our goal is patient-centered outcomes, how do we align the goals of private practice physicians… as opposed to some of the things hospitals are trying to accomplish?” Ms. Kotagal noted that when we engage the patient and family, especially if the patient is present for the conversation, both the system needs and the provider needs are the same. Dr. Meltzer commented that it is important to align the incentives to treat complex patients and that PCPs often do not want these super complex patients but “they get easier to care for over time as you know them.” Dr. Garett responded that from the perspective of diabetes care management, “the struggle among our PCPs is that they do not have an effective infrastructure for deploying a team-based approach for the chronic care model.” They are still trying to address all of the needs in a 15-minute primary care episode. She added that an employment-based model is hugely advantageous.

Evan DeRenzo, Washington Hospital Center, asked the panelists to speak on the topic of the “ethically complex patient,” considering the difference between medically appropriate and ethically complicated reasons for the care of the patient. She notes that thinking of patients as ethically complex, is neither finance-focused nor therapeutic-focused, but rather focused on quality outcomes for the patient, families, and clinicians. Dr. Garett explained that although they have a fairly meaningful multidisciplinary ethics committee, she thinks that “we end up consulting our ethics committee when we get into a corner” rather than at a point of a patient’s long stay, which is not very effective and where there is high utilization towards the end of life. She continued, that at Mission Health “we feel we are not able to effectively participate in shared decision making and we have a big gap.” Dr. Meltzer mentioned that they engage with their ethics committee weekly regarding their complex patients and it’s been very helpful.
Kathy Kenyon, Office of the National Coordinator, asked “In taking care of medically complex elderly patients, in your models, have you found when and how to work with family caregivers effectively?” Dr. Meltzer responded that they are aware that it is an important issue and one that varies across patients. They try to get to know the patient well at the beginning of the process and understand their home and support situations. Additionally, the program works better if a family member is involved from the beginning. Dr. Meltzer’s organization tracks the involvement of family support over time. Ms. Kotagal noted they are beginning to understand the importance of family presence and insists that the ratio of family to providers be such that the family can shape the design of the care.

Gordon Schiff asked Dr. Meltzer to comment on the erosion of the relationship between the patient and the physician as well as physicians’ overwhelming demands on time. Dr. Meltzer responded that relationships have eroded but not so much that patients wouldn’t want the PCP caring for them in the hospital.

Session 3: In and Out of Hospitals: Federal and State Initiatives

Alan Weil, JD, Editor-in-Chief, Health Affairs, introduced Session 3, which focused on initiatives targeting behavioral change for those delivering care. Many new state programs and federal pilot projects are designed with “Complex Patients” in mind, such as Medicare-Medicaid enrollee models. Care delivery and payment models, like Accountable Care Organizations (ACOs), Health Homes, Patient Centered Medical Homes (PCMHs), Center for Medicare & Medicaid Innovation (CMMI) Grants, and bundled payments, are aimed at promoting a high-performing, cost-effective healthcare system under the Affordable Care Act.

Patrick Conway, MD, MSc, Chief Medical Officer, Center for Medicare & Medicaid Services (CMS); Director, Center for Clinical Standards and Quality, reviewed the focus of CMS’s work to move from unsustainable, fragmented care to the future state of “people-centered, outcomes driven, sustainable coordinated care” in the private and public sector through delivery system and payment transformation.

There are over 40 total models at CMMI aimed at addressing accountability for cost and quality of care for complex patients. Dr. Conway reviewed several of these models. The Independence at Home model, which is testing the effectiveness of providing chronically ill beneficiaries with home-based primary care, shows promising early data. The Pioneer ACO model includes policy and programmatic support for improving care for complex patients and focuses on shared learning across ACOs and patients at high risk for admission and readmission. The Comprehensive Primary Care Initiative addresses risk stratified care management for patients at highest risk for poor outcomes, patients with multiple chronic conditions and patients with recent hospitalizations and ER visits, and focuses on care coordination and shared learning. Primary Care for Complex Patients is a model in development that is targeted at primary care for the complex patient. This model defines complexity as high hierarchical condition category (HCC) scores, advanced age, disability, frailty, behavioral health issues, and mental health diagnosis. The State Innovations Models Initiative, is a geographically defined, state-focused initiative to achieve better care, quality, and outcomes at a lower cost through comprehensive healthcare delivery and includes implementing primary care medical homes (PCMHs), long-term support services, state-wide population health plans, improved care coordination, and the integration of behavioral health and primary care. The Innovator Accelerator Program is a major CMS investment intended to support and drive delivery system reform, which offers states technical assistance in data analytics, quality measure implementation, model development, disseminating best practices, and rapid cycle evaluation.

“The topic of this conference is directly on point,” said Dr. Conway. The CMMI, and CMS broadly, is focused on this population in terms of improving quality and lowering cost. CMS is committed to developing new models to
address this focus, implementing models, monitoring results, evaluating and scaling the models, and integrating innovation across CMS.

**Melanie Bella, Director, Medicare-Medicaid Coordination Office, Centers for Medicare & Medicaid Services,** is focused on the needs of dual-eligible patients (i.e., Medicare and Medicaid) with the intent to improve quality, reduce costs and improve the beneficiary experience. There are 10.7 people eligible for both Medicaid and Medicare, and CMS spends over 350 billion dollars a year on this population. “To date, the systems and incentives are not inclined for Medicaid or Medicare to make an investment that might benefit the other payer,” explained Ms. Bella.

Currently the two systems do not work well together for the most complex patients, which the Medicare-Medicaid Coordination Office is attempting to improve though expanding access to services, improving coordination between the federal government and states, testing innovative care coordination and integration models, and eliminating financial misalignments that lead to poor quality and cost shifting.

To address these issues, they have launched two demonstration models, one is a capitated risk-bearing delivery system model and the other is a managed fee-for-service model, and both offered the opportunity to all states that were interested to participate in one of these models. The capitated model includes a three-way contract among states, CMS, and health plans to provide comprehensive, coordinated care in a more cost effective way. The managed fee-for-service model is an agreement between states and CMS to align incentives under which states would be eligible to benefit from shared savings resulting from initiatives to reduce costs.

“The fee-for-service system today is not working well for complex patients, it is not aligned to ensure access, it is not aligned to ensure care is delivered in the most appropriate setting, and certainly the financial incentives are not aligned,” Ms. Bella explained. CMS’s vision for the Financial Alignment Initiative is to promote an improved experience for beneficiaries by focusing on person-centered models that promote coordination; improve system navigation; ensure access; establish accountability for outcomes across Medicaid and Medicare; require robust adequacy standards; and evaluate data on access, outcomes, and beneficiary experience to ensure higher quality, more cost-effective care. “For the most complex population that the two public payers serve, we have got to have systems like this in place to break down this fragmentation so that we can deal with the complexity,” she stressed.

**Joseph W. Thompson, MD, MPH, Surgeon General, State of Arkansas, Director, Arkansas Center for Health Improvement, Pediatrician and Professor, University of Arkansas for Medical Sciences,** observed that “we’re talking about the reallocation of limited resources, whether those are dollar or personnel, and how we put them in different places to improve the care for complex patients.” He stressed the need to focus on patient experience, as well as to be more specific about the needs of different types of complex patients, such as those who have multiple chronic conditions, are severely and persistently mentally ill, are developmentally disabled, or are among the frail elderly, which require different solutions.

Dr. Thompson discussed Arkansas health system’s 10-year plan for total system transformation through a four-pronged approached to address population health, including payment transformation, a workforce strategic plan to electronically connect teams, improvement of insurance coverage, and use of health information technology.

“Our model puts the patient in the middle, and it intends for every patient to have a PCMH team wrapped around them and responsible for their care management needs, prevention needs to prevent progression of chronic illnesses, and to be a home for them to turn to when they have questions and when they have needs,” explained Dr. Thompson. For each acute episode of care there is a single responsible clinician or hospital, and providers are receiving the same incentive regardless of the patient’s payer.
Arkansas is three years into the implementation of this value and incentive-based strategy. Quality is the primary goal, and quality measures must be met prior to receipt of financial incentive rewards. First year results show a dramatic improvement in quality indicator results. The system reimburses across all payers, per member per month for teams to take responsibility for the totality of the patient’s care. “To get system transformation, there have to be consistent incentives to achieve change in practice patterns with enough new infrastructure and support to actually get patients to have the service and the care system they need,” said Dr. Thompson.

Marcia P. Reissig, RN, MS, Chief Executive Officer, Sutter Care at Home, provided a perspective from her work with Sutter Health and the Advanced Illness Management (AIM) program. Ms. Reissig reviewed relevant statistics for the last year of life; on average “people spent 17 days in the hospital, 12 days in the intensive care unit (ICU), they make 54 trips to nine different doctors, they take between 18 and 30 medications, account for 28% of Medicare spending, they have a 25% chance of receiving hospice care where they stay an average of eight days before dying.” AIM is the program Sutter Health conceived to focus on patients with advanced illness, generally patients within the last 12 to 18 months of life, and is intended to be a complex care management model that fills in the gaps in care during that period of time.

These patients are using many different services and the selection of services in the traditional system is often based on reimbursements and regulations rather than on what the patient needs. The AIM program intends to address this through a package of services that are not traditionally reimbursed, including AIM care liaisons in the hospital, care managers and telesupport in primary care offices, transition teams for home visits, a central-based telesupport unit, and afterhours triage. The program is dependent on five pillars of care: (1) advanced care planning, (2) symptom management, (3) medication management, (4) ongoing physician follow-up visits, and (5) patient engagement and self-management support. The program received an innovations award from CMMI in 2012 allowing them to work towards expanding the program across all regions.

Ms. Reissig reviewed the results of the AIM program, which included a significant reduction in hospitalizations, ED visits and ICU days, and an $8,200 reduction in cost over the 90-day enrollment period. They continue to evaluate the program through research, development and dissemination. CMMI is also undertaking independent evaluation and noted in their report that “a lot of people talk about advanced care planning, but what was different here is that advanced care planning wasn’t an event, it was something that happened over time, was dynamic, and it was based on this team of people who really knew the patient.”

The goals for the program in the future include becoming a national model and creating new Medicare benefits based on the core components of the program. “At the heart of the program are the unreimbursed services. We’re going to continue to access the reimbursement where it exists, wherever it exists,” says Ms. Reissig. Continued program development will focus on sustainability and looking towards CMS to guide them to options with the most promise for the future.

Session 3: Q&A

Alan Weil asked the speakers to provide their perspectives regarding how confident they feel that quality measures in current use are “reflecting the quality that matters for the patients we’re talking about.” Dr. Thompson responded, “The system is evolving faster than our framework for assessing.” There is a need for clinical teams to shift their thinking from numerator medicine to denominator medicine and to address population-based needs. Ms. Reissig noted that through Sutter Health’s grant they are monitoring 52 different measures. They pay close attention to patients who have documented patient goals, rather than medical or healthcare goals. They focus on process, outcome, and structure dimensions but do not currently reliably capture patient preferences, patient reported outcomes, or patient goals of care. Ms. Bella responded, “For the dual-eligible population there is
a healthy debate about whether the current measurement system is appropriate for people with medical and nonmedical and other social needs.” They are working with CMS, NCQA and NQF to develop measures that address patient-centeredness and care integration. Additionally, CMS is looking at whether the current measurement system is disadvantageous to certain patient populations and is “open to trying to make sure that when resources are allocated we’re not doing anything to disincentivize providers or plans from serving this population.”

Alan Weil noted that even within the complex patient population, there is a lot of heterogeneity. He asked, “How do we balance this to make sure we’re not just increasing the average at the expense of the most in need, while supporting the type of system transformation you’re trying to effectuate?” Dr. Conway noted that this is a critical issue with no easy answer, however, CMS is attempting to parse patients into different strata by varying factors of both complexity and other demographic features “to understand not just the average effect but the effect within patient populations.” Dr. Thompson noted that from an implementation perspective, you do the best you can. “If you get [care] right for the common condition, you’re more likely to get it right for the rare condition,” he said. Ms. Reissig added that AIM is “diagnosis agnostic” and that they are focused on identifying and predicting from the broader population which patients will benefit the most from specific interventions, which requires stratification. Ms. Bella expressed concern about “getting the reimbursement right and getting the risk adjustment right for this population.” She stressed the importance of making corrections as the work evolves.

Alan Weil then asked the speakers to comment on financial sustainability, specifically, “How do you engage, and allay the fears of, those who worry that their investments will not yield a return even if they are successful clinically?” Dr. Conway noted that Medicare payments are shifting, and shifting in the right direction, to more reimbursements through fee-for-service with a link to quality, ACOs and bundles, and population-based payments. “As you move towards these payment models, they become more sustainable, because it is how we pay for care,” he stated. Dr. Thompson stressed, “Getting the incentives aligned for the outcomes that people want is the way to achieve sustainability.” Ms. Reissig notes that “eventually the system will catch up” and “in parts of our system where we have a high level of capitation, the program makes tons of sense because it’s not lost revenue, it’s truly savings.” Ms. Bella stated. She adds that health plans are seeing that the benefit of investing is there but is a long-term investment, and some providers are pleased with the status quo and do not want to participate in those new models, so aligning the incentives is a big challenge.

An audience member asked, in regards to Medicare patients who have to fight to get supplies, “is there any incentive to address this issue?” Dr. Conway responded that this is a coverage and payment issue, and includes some complex statutory issues that CMS is trying to work through right now.

Another audience member asked the panelists to speak on the “crisis of primary care,” including the PCP burnout rate and fewer students going into primary care. Dr. Thompson responded that “the old model of primary care needs to transform,” shifting from an acute infectious disease model to a chronic care management model, as well as moving to a team-based model that increases the capacity of primary care networks.

Another participant asked the panelists to comment on the competency of the care coordinators and the tools that are in place to increase those competencies. Ms. Reissig responded that their program has put together a standardized toolkit that is patient-centered, and focused on health literacy and on “making the right thing the easy thing to do” for clinicians.

Janet Corrigan noted that the current models can help to correct the historical lack of a balanced investment strategy in healthcare for medical and non-medical needs of complex patients. Directed to Ms. Bella she asked, “Are there examples that allow for taking healthcare dollars and investing them into supportive housing for a
specific population if you can show that it will lower the overall total cost of healthcare?” Ms. Bella replied that there is a big effort underway with CMS and HUD trying to work together to address the housing policies, and it is critical to invest in nonmedical services.

Charlene Hope, a clinical pharmacy practitioner, asked how the role of the clinical pharmacist can be incorporated as part of a team to help with complex patients, specifically in terms of medication management, adherence, and reconciliation. Dr. Conway noted that this is a critical component and some PCMH teams are bringing pharmacists, social workers or psychologists into their teams.

Liz Bayliss, Kaiser Colorado, noted that there is a road block in implementing process measures for this patient population due to the technology that is required and asked whether the panelists knew of any initiatives for improving the technology. Dr. Conway responded that CMS is looking at the “fundamental building blocks of quality measures and how you would build those out to evidence-based process measures in a much more rapid cycle.”

Kaitlyn Cook, American Society for Clinical Pathology, asked Dr. Conway, “Are you shifting any programs to look at quality improvement more so than comparative quality performance?” Dr. Conway replied that CMS does want to reward quality improvement.

An audience member asked, “Given that you are trying to keep patients outside the hospital, what financial models do you have targeted to special needs plans and physician practices”? Ms. Bella responded that they selected enhanced care coordination organizations (ECCO) to partner with nursing homes to align measures and incentives. Ms. Reissig added that it is “easy to say post-acute care is important, but it is so diverse, I think that presents a tremendous challenge.”

Jeff Bissey, Everett Clinic, asked, in regards to funding incentives for keeping patients out of the hospital and managing social supports, “Are there going to be different approaches to scale that support taking on more of that responsibility and funding?” Dr. Thompson noted that they are trying to eliminate the variability during acute episodes, determine whether the episode was preventable, and shift towards a patient-centered approach rather than a cost-centered approach. “The old world of volume-based fee-for-service is going away,” he stated.

**Session 4: The Triage Role of Emergency Departments: Has the “Spoke” Become a “Hub”?**

Jeffrey C. Lerner, PhD, introduced session 4, and noted that the emergency departments have “an extraordinary role to play in healthcare and the issue of complexity.”

Arthur L. Kellermann, MD, MPH, Dean, Hébert School of Medicine, Uniformed Services University of the Health Sciences, led off session 4 with four big ideas around the evolving roles of the ED. About 31% of spending, roughly a trillion dollars a year, goes to inpatient care. About half of all hospital admissions and about 60% of all Medicare beneficiaries enter the hospital through the ED. “This is the big, giant, always-open front door for inpatient care in the U.S., primarily for non-elective admissions,” said Dr. Kellerman. In the last several years, hospital admissions have been lower than would be expected based on population growth, but it is the direct admissions from primary care that have been decreasing, while the share of inpatients admitted through the ED has increased across every payer group. Due to the ED being a big source of inpatient admissions, it is also a big source of decision making.

Primary care doctors are using EDs as a partner for the evaluation of very complex, at risk or sick patients. “What we’re seeing is a shift in this patient population from the doctor’s office to the ED,” said Dr. Kellermann. One of the primary reasons cited by PCPs is that the ED offers immediate access to care and evaluation, including timely testing not available in a PCP’s office.
Although an ED visit is expensive, it is less expensive than a comparable inpatient admission. Dr. Kellermann hypothesized that “EDs may be playing a more valuable role than we realized in preventing hospital admissions, particularly of patients with ambulatory care sensitive conditions.”

Dr. Kellermann addressed several implications. First, he noted that hospital administrators, payers and policymakers should pay closer attention to the role EDs play in hospital admissions. Secondly, the use of EDs as diagnostic centers warrants further research to determine if this is an efficient way to evaluate patients with complex conditions. Third, the ED should be formally integrated into healthcare delivery systems, including widespread adoption of interoperable and interconnected health information technology, greater use of care coordination and case management, and collaborative inter-professional practice. Dr. Kellermann posited, “In an era of modern health information technology, if we could do one big idea, it would be that every EHR in America would have to have the same 40 or 50 critical fields, the same two pages of essential information that every ED and primary care doctor in America could get access to that piece of your record.”

Alexander M. Rosenau, DO, FACEP, President, American College of Emergency Physicians; Senior Vice Chair, Department of Emergency Medicine at Lehigh Valley Health Network, discussed how the role of the ED is evolving and revolutionizing patient care. A healthy emergency care system has a prerequisite of a healthy ED, which is essential to supporting the IHI’s Triple Aim. Dr. Rosenau cited the evidence presented by Dr. Kellermann and RAND Corporation and pointed out the former misrepresentation of the ED as a site primarily for high-cost care, for the homeless, for the poor and for those seeking free care has been demolished by this evidence. “If we want to put our resources in the right place, and spend our money as a country in the right place, we have to have good data and good information that comes from that data.”

Additionally, the ED’s customers are not only the patients, but the PCPs and the communities served by the ED. “Emergency medicine has been called by the Hospital Advisory Board, the hub of the enterprise,” he stated. The flow of ED patients come from many sources, the community refers into the ED, and the ED has taken on a role in observation, skilled nursing and palliative care. The ED is increasingly at the front lines for disease, epidemic and disaster response.

Dr. Rosenau notes that there is still “an overall discomfiture with the paradigm shift” from referring “from” to referring “to” the ED, which is often based on the perceived cost of emergency care. Figures from AHRQ show that “the true cost of emergency medicine, from ambulance, physician fee, facility fee, imaging, lab, etc. costs 3% of the healthcare dollars. However, he mentioned that the current healthcare expenditure is not sustainable. To improve the value, emergency medicine must work towards reducing avoidable admissions, reducing avoidable readmissions, care for patients efficiently, be accessible and available, improving care coordination and using evidence-based medicine where applicable. He added that market innovation and creativity have had an impact on emergency medicine through freestanding EDs, urgent care centers, retail clinics, PCMHs and the medical neighborhood.

Richard W. Grant, MD, MPH, Research Scientist; Director, Delivery Science Fellowship, Division of Research, Kaiser Permanente, presented research he has been conducting at Kaiser Permanente on complex patients referred for care management, and the best approach to reduce cost and improve care for patients with complex chronic conditions. When applied to the right patient in this heterogeneous population, care management should reduce costs, improve care, and reduce avoidable ED and hospital admissions. Dr. Grant notes that care management is distinct from disease management in that it focuses on the most complex and expensive patients, involves social workers and nurses, attempts to address multiple barriers to care, and is more resource intensive.
The overarching goal of Dr. Grant’s research is to gain insight into which complex patients are more amenable to current care management. The study collected quantitative and qualitative data from Kaiser Permanente Northern California (KPNC) care managers about their patients. The care managers were asked to differentiate their patients into one of three categories: care management not necessary, good candidate for care management, and not a good candidate for care management.

Qualitative data showed that care managers were able to distinguish whether a patient was appropriately referred to care management. They classified 62% of patients as good candidates, and of the 38% who were misreferred, half were referred unnecessarily and the other half needed to be referred to something besides traditional care management. Several themes emerged among patients who were good candidates for care management: they were older, had numerous medications prescribed, and had high utilization.

Qualitative results showed that care managers differentiated patients based on medical, non-medical, trajectory and system themes. Medical themes included physical function, mental function, psychiatric or substance abuse problems, and healthcare need. Non-medical themes included social support, motivation, and agency. Trajectory themes addressed where the patient was in their disease stage and whether they were experiencing medical or non-medical transition in their lives. System themes included medical system access, referral stage and system resources. The most common reason referral was not necessary was that the patient had adequate social support, followed by adequate agency, a low healthcare need, and adequate access. Good candidates for referral had inadequate social support, high healthcare need, limited mental function and inadequate access. Patients who were not ideal for care management but needed something more, primarily had psychiatric or substance abuse problems, low motivation, and inadequate system resources.

“The electronically available data from our health record isn't actually that good at distinguishing what makes a complex patient a good referral to care management,” explained Dr. Grant. Therefore, being able to distinguish patients based on these factors is not going to appropriately determine whether the patient should be referred to care management. This speaks to the importance of effectively leveraging the medical record. “We need to collect different kinds of data,” stressed Dr. Grant. Patients with complex chronic conditions “as a rule are the ones that get referred to care management, but they are not always the ones that need care management,” he reiterated.

Session 4: Q&A

Jeff Lerner asked the panelists, “What does the EMR fail to capture? Even if it captures what you need, what do you do about particularly difficult patients like substance abusers? Is there a role for the ED that would help us with that problem?” Dr. Rosenau responded that there is a role, “on a daily basis the ED sees so many people across so many economic, geographic and other data points of the person’s lifespan that it is so important that we partner with the outpatient world.” He continued that are times where society is missing taking care of patients who really need our care and that gets into the question of “how much you medicalize social problems?” Dr. Kellermann added that substance abuse is one of the most difficult issues in the ED and clinicians are squeezed by two social forces, one being the legitimate concern of acute pain and the other is drug diversion and drug addiction. The EHR is one of the few good tools to address this issue, as multiple ED visits and prescriptions can be tracked. Dr. Ronenau cited the FDA, “EDs generate 4.7% of the short-acting opioid prescriptions in the country,” which speaks to another misconception about the ED and the origin of overprescribed opioids. Dr. Grant responded that “complex patients are complex for a lot of different reasons, but a manageable number of different reasons, and I think the ideal next step is ‘how do you link specific types of complex patients to the right types of intervention?’” Dr. Kellerman added that the ED needs to partner with the medical home, not be a substitute for the medical home.
Dr. Lerner asked “Could you imagine a connection that is more deeply rooted in the community, not just outpatient, for the ED?” Dr. Rosenau noted several programs that connect the ED with the community including trauma nurses talking to high school students about the dangers of drinking and driving, research on texting and driving, and drive-up immunization services. Dr. Kellermann stated that emergency medical services have been doing this historically through house calls, identifying issues in the home and prompting outreach.

An audience member asked the panelists to speak on the issue of opioid dependence and overdose and whether, if they had access to treatments such as naloxone, they would prescribe them in the ED. Dr. Rosenau noted that it’s not something he would want to see their ED get involved with because it is substituting one opioid drug for another, however, “the way to give someone a chance to get over their addiction is for them to be alive, and for that you need naloxone.”

Dr. Kellermann noted that the ED “is not just an arena of care for highly complex patients, it is a barometer for a city’s public health, primary care, and inpatient health system,” and that you will know these systems are not working by the presence of patients with preventable problems, ambulatory sensitive conditions, critically ill patient overflow in hallways and diverted ambulances.

MaryAnne Sterling, Connected Health Resources, challenged Dr. Grant’s assertion that there are patients for which care management is not appropriate due to adequate social support. She expressed her concern with this because “adequate social support is not adequate,” and suggested that family and caregivers be educated, empowered, and treated as team members. Dr. Grant agreed that care managers not be as quick to rely on the patient’s social supports but should engage caregivers in the patient’s care. Dr. Kellermann added that it is important to have someone to communicate with who is assertive and willing to express their needs.

Another participant asked the panelists to address the misunderstanding about the ED and healthcare costs, and the “insanity of medical pricing.” Dr. Rosenau replied that “[hospitals] are looking for a way to keep their chin above the water in order to be a community resource. The ED, physician charge, and the actual medications that are used are really fairly inexpensive, but we’re talking about paying for a whole system.”

Leah Kayman, Truven Health Analytics, works with large employers who self-insure and who have care management programs in place, and addressed the struggle to measure the effectiveness of care management programs. Dr. Grant responded that care management works, the problem is that “there is a lot of data but that data doesn’t point you to the one patient [that is appropriate for care management] very effectively.”

An audience member asked how to address episodes of care for complex patients that end up in the ED and the alternatives when the hospital does not want to admit them due to penalties for readmission. Dr. Kellermann agreed that part of the problem is that “as we move to capitated payment and population-based management, you’re going to see hospital administrators say ‘whatever you do don’t readmit that patient.’” Dr. Rosenau replied that there are always alternatives including observation, clinical decision units, skilled nursing facilities, and appropriate readmission. Additionally, when the patient goes home they need to understand what happened and what they need to do to continue their care.

Dr. Joseph Thompson asked how health systems might centrally monitor for opioid abuse, rather than expecting the EDs to individually monitor for abuse. Dr. Grant responded that the place to monitor opioid abuse is not in the ED, it is in the outpatient world. “If we’re going to solve a problem, look to where 95% of the problem is,” he said. Dr. Kellerman added that, “The more we can get back into the community and into PCMHs, the more efficient and affordable our healthcare system will be.”
Diane Robertson, ECRI Institute, asked if senior-specific EDs are a real thing that have an important role in the management of complex patients or whether this is a fad. Dr. Grant noted that much of geriatric EDs are not about structure, rather they are about process – making it friendly, including hospice care, and setting up transitions from the ED to outpatient care. Dr. Kellerman stated that this “trend is real and mainly driven by economics.”

Session 5: Does Technology Keep Patients Out of Hospitals?

Murray N. Ross, PhD, Vice President and Director, Institute for Health Policy, Kaiser Permanente, opened session 5, which asks whether complex technology can keep complex patients out of the hospital. The panelists were asked to address the patient conditions and care settings where technology can improve patient care and drive value, and what we need to be thinking about to ensure patient safety, encourage innovation, and measure success.

Lee H. Schwamm, MD, FAHA, Executive Vice Chairman, Department of Neurology, C. Miller Fisher Endowed Chair & Director, MGH Stroke Services, Co-Director, Institute for Heart, Vascular & Stroke Care, Massachusetts General Hospital, Professor of Neurology, Harvard Medical School, reviewed his beliefs about whether technology can keep patients out of hospitals. “To control costs, we need to focus on value, making sure that quality is preserved while costs are decreased or that quality is increased at the same costs,” he stressed.

Dr. Schwamm discussed six opportunities to improve care including: (1) better triage, (2) cost effective treatments, (3) early supported discharge to home, (4) flexible post-acute levels of care, (5) integration with the medical homes, and (6) remote monitoring in the homes of at-risk patients. He stressed that technology, such as telehealth, can bridge the gaps in time and distance, transform data into information to support more effective decision making, and offer lower-cost alternatives to in-person visits. However, he noted that “thoughtful planning is going to be required to realign resources and compensation as trends shift over time.”

Telehealth changes care by shifting local care to remote care through the use of e-visits, video conferencing, e-mail, telephones, text messaging, and electronic curbsides, and is at the early phase of adoption. “Telehealth still has to be integrated into traditional ambulatory and hospital-based practice in order to be effective,” he stated. He noted the importance of understanding patients’ and providers’ expectations, discovering new models of care, and providing secure access. There are benefits and barriers to the adoption of telehealth. Benefits include increased practice outreach, development and efficiency, decreased travel time and expense, expansion of educational opportunities and improved patient and family satisfaction. Barriers include disruption of the traditional doctor-patient relationship, physician reluctance to adopt novel technology, limitations in billing and reimbursement, and concern for malpractice liability. He concluded that within 10 years “telehealth will be a basic and integrated part of our practice.”

Stephen T. Lawless, MD, MBA, Vice President of Quality and Safety, Nemours, Alfred I. duPont Hospital for Children, presented his perspective as part of a “super-user system” and addressed whether technology can reduce readmission for complex patients. Dr. Lawless reviewed the current national state of care and noted several issues including patients not understanding their diagnosis, treatment plans, or medications upon discharge, lab results pending at the time of discharge, and PCPs not receiving discharge summaries before they see a patient post-discharge. In contrast, the Nemours/A. I. duPont Health System has in place an integrated system that allows hospital interaction and includes the availability of user-friendly granular data, visual signals for patients at high risk of readmission and discharge process steps within the EMR, and hard-wired primary care and specialty care compensation measures.

The EMR allows for a new form of research through data mining. The Nemours/A. I. duPont Health System is currently looking at whether they can enhance continuity of care through the use of the EMR to identify sources of
fragmented care. “We should no longer be a physician-based healthcare system, we have to be a patient-based healthcare system,” stated Dr. Lawless. Additionally, the EMR provides support for implementing appropriate, evidence-based medicine. “The electronic record is a glue, if you can integrate it, and we’re not fully there yet, but we can be,” he noted. He also stressed the importance of team engagement, more consistent granular data, refined definitions, and looking at more innovative approaches of decreasing readmissions with the EMR.

Jeffrey E. Shuren, MD, JD, Director, Center for Devices and Radiological Health, the Food & Drug Administration, stated that there is potential for technology to keep patients out of the hospital, but we are not there yet. “If you’re going to use technology, it has to work,” he said. The FDA ensures that medical devices are safe and effective, as well as facilitating device innovation and access to technologies that work.

Hospitalization is expensive, quality of life is poor, and patients are more likely to get sick in the hospital. Dr. Shuren asserted that “To keep people out of the hospital, the technology has to be able to be used at home and everywhere outside a healthcare facility.” The goal is for technology to empower providers to take care of patients from a distance and to empower patients to take care of themselves. Quality of life in the home setting is better than in healthcare facilities. However, technology has traditionally been designed for the hospital setting. When adopted in the home setting there are issues with access, labeling, health literacy, portability and safety. “You have to make the technology for the people who are going to use it, you have to design it for the lay user, and then you have to give them information they can use,” he said.

The FDA is taking steps to improve the home use of technology including providing information to patients and caregivers, helping manufacturers think about differences between technologies designed for the home vs. the hospital, labeling devices for the home, and promoting accreditation bodies to set standards for these technologies. “Already we think there are a lot of technologies out there that help patients stay out of the hospital,” said Dr. Shuren.

Another piece of digital health technology is software, which the FDA regulates as a medical device. The Office of the National Coordinator (ONC) and the Federal Communications Commission (FCC) charged the FDA with developing a risk-based regulatory framework for health information technology, including mobile medical applications (MMAs). The FDA’s approach to software regulation includes platform independence, promotion of innovation, promotion of patient engagement, protection of patient safety; it is risk-based, narrowly tailored, and functionally focused. MMAs are increasing by the day and the FDA is charged with determining the small subset of software that is appropriate to regulate. “If it is software, and essentially it takes your mobile platform and makes it a medical device under the law, and it’s the kind of stuff we look at. Just because it moved from a big computer to a ubiquitous platform, we still want to make sure it works,” he noted. The FDA also engaged in a massive effort to deregulate software that is well established as low risk. The FDA continues to work on frameworks for medical device developers to help minimize risk and promote cyber security.

Session 5: Q&A

Dr. Ross asked the panelists, “As you think about the challenges and barriers, we hear about finances and reimbursement, we hear about technological connectivity and efficacy, potential safety issues, and the sociology of using technology, human factors such as work flow and perceived competition among providers – what do you see as the top barriers to getting more rapid adoption of those technologies that we think could improve care and drive value?” Dr. Schwamm noted that some challenges include incorporating the technology into the work flow, managing the deluge of data, and turning that into information that can be acted upon. He expressed the need for additional research and evidence that show these innovations improve outcomes. Dr. Lawless addressed the issue of variability in EHR systems, and noted that EHRs have not been designed for patients, they’ve been designed for
providers within a single system. This variability causes hesitancy in adoption. Dr. Shuren added that there are
issues of interoperability within the complex environment that involve a lot of players, and “we’ve never laid out
the roles and responsibilities to assure that these things are used right.” Dr. Schwamm added that getting
information integrated into the health record is important and with many apps and alternatives there is a risk of
fragmentation of the health record.

Dr. Ross asked, “Are we holding technology to a higher standard than current practice?” Dr. Schwamm replied,
“This is our opportunity to use technology to create these integrated healthcare environments, rather than
fragmented ones.”

John Gordon, Children’s Hospital of Wisconsin, asked, “Do you think there is a place for developing expert systems
for dealing with these N of 1 complex problems?” Dr. Lawless explained that they are gradually putting in
stewardship programs, which review medically complex patients’ records through a team-based approach prior to
treatment. Dr. Schwamm noted that there are many patients who would benefit from expert consultations across
medical systems, and “the challenge becomes, when we remove barriers to access, how to we manage the flow of
requests.”

Arnold Iser noted that none of the presentations showed evidence that telehealth has a positive impact and he
inquired whether that was by choice. Dr. Schwamm stated that there are several studies of telemedicine in acute
stroke care that show long-term clinical outcomes that are as good as those with in-person care but added that
additional research is needed to show outcomes resulting from telehealth.

Alan Adler, Blue Cross, asked, “How much do you think all the focus on technology is displacing cognitive skills and
thinking time for doctors?” Dr. Lawless replied that the knowledge about, and readability of, the EHR is an issue
that everybody is facing, from copying and pasting to template discharge instructions. Dr. Schwamm agreed that
this is a good point, “there are technologies that allow our cognitive exercise to occur in a way that is displaced in
time or distance, and then there are technologies that digitize our work and I think the real question is, ‘are we
educating a generation of doctors who are more comfortable looking at screens rather than at people?’” He added
that technology should be freeing up more time for doctors to talk to and examine patients. Dr. Shuren believes
that over time the technology can be redesigned to address some of the issues raised, but noted that there needs
to be a system to capture experiences and issues with the technology so that developers can design better
products. Dr. Schwamm added that the technology must also incorporate the patient voice.

A participant from the Detroit Medical Center asked, “Do you think we are getting in our own way in terms of a
culture of medicine regarding technology and our fears around technology as it relates to healthcare… are we
limited or restricting ourselves from the advantages of technology?” “I think we are underestimating the
crowdsourcing opportunities to solve some of these problems and assuming too much about what patients want,”
said Dr. Schwamm. He suggested moving more towards an open source approach to thinking about measurement,
patient health, and digesting large amounts of data.

Gordon Schiff expressed concern that we are not adequately talking about or looking at basic things that have
made a difference, including the ability to close loops in test results and referral management, being able to reach
a provider, and reaching out to patients about side effects of their medications.

Another audience member asked how technology outside the typical healthcare system will be funded. Dr. Lawless
expressed hope that making the EMR a utility and simplifying the EMR may make it less expensive overall. Dr.
Schwamm noted that in a fee-for-service model, this is hard to fund. However, “in a population health model, if a
nurse practitioner equipped with an app can do the job more effectively and at lower cost than a physician, there’s
money on the table to invest in technology.”
A participant asked, as the trend increases towards employers bringing on for-profit telemedicine services, what is the value of telemedicine and is it practical to continue on that path? Dr. Schwamm replied, “We’ve seen this developing very rapidly. Under the population health model, health insurers are contracting with organizations that provide them physicians on demand as a way of doing case management and preventing ED visits in chronically ill patients.” He explained that this could be wonderful if integrated into the healthcare system, but “marketed out through third-party physicians with no continuity, it might save the insurer money but it is not in the best interest of the patient.”

Session 6: Care Outside the Hospital: Maintaining Quality and Safety

Janet Corrigan, PhD, Distinguished Fellow, the Dartmouth Institute for Health Policy and Clinical Practice, introduced session 6, which addressed the issue of maintaining quality and safety outside of the hospital. She noted that there have been safety and quality challenges as the system moves towards a more consumer-centered and community-centered healthcare system. New types of providers and innovative technologies offer benefits such as improved access, but they also introduce additional providers, settings and technology into the healthcare system.

Ronni P. Solomon, JD, Executive Vice President and General Counsel, ECRI Institute, discussed the burgeoning issue of safety in ambulatory care. “To do good safety work, we need to figure out the root cause of why something happened,” she stated. Root causes include communication, care planning, coordination, discharge planning, documentation, the human-computer interface, leadership, culture, equipment design and training.

There are a numbers of ways in which ambulatory care may be more logistically complex and prone to error than the inpatient setting, especially for complex patients. “Yet, only 10% of the patient safety studies have been performed in outpatient settings,” she noted. Additionally, the safety issues differ between the inpatient and outpatient settings. The inpatient setting has a safety infrastructure, near-constant observation, is highly regulated, and has information sharing built into the structure. The outpatient setting relies on self-management, has little safety infrastructure, less regulation, and dispersed information. Also, adverse events have a great potential to go unrecognized. The primary safety issue in the inpatient setting is treatment errors, in the outpatient setting it is diagnostic errors. “As we shift the locus of care and cost, we really need to shift the locus of research and interventions in patient safety,” Ms. Solomon stressed. Transitions of care are particularly vulnerable periods.

Ms. Solomon cited a 2011 study that estimated 4.5 million ambulatory visits occur each year because of adverse drug events. Medication reconciliation during care transitions is another important issue, over half of patients have a medication discrepancy at the time of admission and many patients receive new medications or changes to their medications during a hospital stay. Outpatient facilities are under pressure to manage sicker patients because of hospital penalties for readmissions, potentially putting patients at risk for adverse events. She stressed that “safety communication is critical” and patients can be an important part of that effort through consumer reporting.

Ms. Solomon reviewed the multitude of safety programs at ECRI Institute including adverse event, near miss, and hazard reporting programs. Additionally, ECRI does proactive assessments, reviews root cause analyses, conducts onsite accident investigation, and carries out safety and risk management projects for the public and private sectors. ECRI is also a Patient Safety Organization (PSO). From this information, ECRI publishes a list of the Top 10 Patient Safety Concerns and does deep dives into adverse events, such as medication errors and near misses, and reports mitigation strategies.

Stephan D. Fihn, MD, MPH, Director, Office of Analytics and Business Intelligence, VA Central Office, provided his perspective as a primary care provider and administrator at the VA. As the VA transitioned from a mainly inpatient
oriented organization to a primary care organization in the 90s, it was a leader in establishing quality and, more recently, safety metrics and programs in the outpatient department. “The problem that we’re beginning to experience as a result is information overload on the part of the physicians. Our own investigators have seen that providers are missing important data because it’s buried in other reminders and alerts that they are routinely receiving and they miss the critical lab value or the safety signal that they ought to get.”

About five years ago the VA reorganized its entire system into PCMHs, which measure on a regular basis, team function, communication, the environment of care, care coordination, and patient safety environments. “We found that these factors were highly related to key outcomes,” he noted, including readmission.

Dr. Fihn cited Bob McDonald as saying “the VA serves as a bit of a canary in our system,” and many of the problems that are ultimately recognized throughout the healthcare system turn up in the VA because it is a public institution committed to transparency. The VA attempts to anticipate the problems in their population through CAN scores, determining risk for hospitalization and death, and employing predictive analytics to pinpoint patients at risk for adverse events and suicide, with the intention of early identification and intervention.

“I am confident that we can assure the quality and safety – to the extent that any one of us are able to do that in the current healthcare system – for care that we deliver in our system,” he stated. However, there is an increasing issue of coordinating care for veterans that happens outside of the VA system. Over three million patients are dual eligible through the VA and Medicare and about 2.3 million use both systems. For these patients, the risk of re-hospitalization and death are higher and there is a lack of care coordination. Additionally, the recently passed Veterans Choice Act allows veterans to seek care from non-VA healthcare providers if they are unable to secure an appointment within 30 days or reside more than 40 miles from the nearest VA medical facility, creating potential for fragmentation. “I think this is going to be an issue for the nation as a whole; the generation coming up is used to choice of getting care. My worry is that as we focus on the safety and quality in our own individual institutions we may be missing the larger problems that occur from care that is delivered in multiple sites,” he stated. To combat this issue, the VA is working on health information exchanges and care management systems to promote coordination across the complex healthcare system.

Gordon Schiff, MD, Associate Director, Center for Patient Safety Research and Practice, Division of General Internal Medicine, Brigham and Women’s Hospital, Associate Professor of Medicine, Harvard Medical School, covered topics including whether it is the complexity of the health system or the patient, continuity of care, caring relationships, diagnosis challenges, conservative diagnostics and prescribing, substance abuse, and “decomplexitizing” by building a more simple, accessible, efficient, and caring system.

He noted that in relation to the problem of continuity of care “we are a complete outlier internationally.” As of 2005, only 84% of people had a regular doctor, and only 50% had been with the same doctor for five or more years. These are fundamental components of other countries’ systems. In the U.S., patients are in and out of Medicare and insurance plans as their income or employment changes, resulting in further issues with continuity of care. Dr. Schiff cited a 2014 article stating that small PCP practices have low rates of preventable hospital admissions. He attributed this to maintaining relationships and continuity of care.

There are a variety of challenges and distractions in diagnosis, such when a patient presents with various symptoms, a failure to recognize new diagnoses, problems of sorting out complications of chronic diseases, and adverse drug effects. He stressed the need for a more conservative approach to diagnosing and prescribing. Principles of conservative prescribing include thinking beyond drugs, practicing strategic prescribing, vigilance to adverse effects, caution with new drugs, and the consideration of broader, long-term effects.
Dr. Schiff suggested ways to reduce system complexity to create a more simplified, standard system. He noted that “that a single payer system is more consistent with that, it’s an interoperable system that overcomes a lot of problems that we’ve had; it removes barriers for access and it relies on systems thinking rather than on blame and discouraging people from being seen, and really could be partly a way of dealing with the problem of burnout.”

His hope is that care for complex patients moves from the current state of frustrations, hassles, limited options, impossible demands, wasteful bureaucratic steps, and lack of help, to a future of caring for complex patients that is fun, challenging, focused on patients’ needs, creates deep relationships, and involves teamwork and continuous improvement.

Session 6: Q&A

Janet Corrigan asked the panelists to speak on the following questions, “As we begin to transition to more organized systems of care... what can we do for those who don’t have access to those systems? Are there steps we can take to help educate consumers and individuals about the best choices to make? Should we be more aggressively educating the veterans about the benefits of in-system care vs. going out?” Janet Corrigan noted “the need of having a community health system that covers a geographic area and integrates all of the kinds of supports with clear responsibilities delineated across all of the various participants” to be able to deal with complex patients. Dr. Fihn responded that in regards to information needs, the VA has started to make records available to patients through the Blue Button Initiative. As a primary care provider, he noted that his role is increasingly that of an information manager and that there is a need for better information management tools. “The modern EHR is a lousy tool for that kind of work, it is not a good data management tool, it is a good storage retrieval tool,” he said, and there is a tension between information sharing and care coordination, due to restrictions on sharing patient information. Dr. Schiff added that “we have to figure out how to make [the EHR] work in a more efficient way. These are not integrated into the workflow.” He also noted the importance of building relationships, prioritizing what is important to patients and using that to create outpatient care plans and empowering patients.

Lauren Cohen, Rehabilitation and Technology Consultants, expressed concern that in relation to complex patients and their complex needs, “the toolbox of outcome measures, and where we put our weight for incentives and disincentives, are not reflective of the care or outcomes we are achieving” and asked, “How do you imagine this would look in the future to be sensitive to complex patients? What kind of outcome measures should we be developing that would be sensitive to these complex patients?” Dr. Fihn stated that the current evaluations of PCMHs have primarily used the Healthcare Effectiveness Data and Information Set (HEDIS) measures of outcomes, and that “most physicians would say that these are not the measures by which we ought to be measuring the quality of care we give.” The VA has looked at patient surveys, provider surveys and data from the corporate warehouse, including both qualitative and quantitative data that has shown to be correlated with readmission, ED visits, patient satisfaction, provider burnout, and the majority of clinical quality measures. They are trying to get at measures that take into account team function, patient attitudes, and higher-order measures of care.

Jennifer Boyd asked Dr. Fihn, with regard to the VA assessing teams’ perceptions of their own coordination and communication, “If there is a response from the teams that they think they need improvement, does the VA have programs or tools they use to help teams with their coordination or communication?” Dr. Fihn replied, “If you look at most of the research for the PCMH and the NCQA recognition criteria, about half of it is putting elements of care into place, like performance measurement systems, EHRs, scheduling systems, 24-hour access, etc. When we started, we had all those things in place. What we’ve discovered is, that’s not the hard part. Getting those things into place doesn’t make you have a PCMH because integrating it, getting people to use it and the teamwork turns out to be the really hard part – on that we are still struggling and pushing forward.” He mentioned that there are logistic issues, including issues with staff, role definitions, physician turnover, working out of scope, people
working at the top of their competency, leadership, and communication. The VA has invested millions in training, but they have not solved the problem of creating functional teams and figuring out how they work together.

A participant expressed that, “I think that it is very clear from these presentations, that the complexity of the healthcare system is what breeds, by and large, the complex patients we’re talking about. I think that if we’re going to fix the problem, we have to fix the complexity within the system and I don’t think we should confuse complexity with sophistication and elegance.”

Session 7: The Private Payer Perspective on Complex Patients

Carmella A. Bocchino, RN, MBA, Executive Vice President, Clinical Affairs and Strategic Planning, America’s Health Insurance Plans, introduced session 7 in which presenters addressed how programs are evolving to meet the needs of complex patients.

Gail Wilensky, PhD, John M. Olin Senior Fellow, Project HOPE, presented a comparison of the private payer and public payer structures from her perspective, as she currently works in the private sector but previously worked as an administrator at CMS. She noted that the private sector has taken the lead in the treatment of complex patients. The reason why, she explained, is because the private sector has the basic structures in place for care coordination, whereas “Medicare has spent its whole existence trying to get away from the siloed structures that are fundamentally at its base.” Current programs in the public sector are attempting to overcome these challenges, such as ACOs, shared savings, and medical home models, but the underlying fee-for-service incentives do not encourage integration. “The point really is to look at what we are able to see in the private sector and allow it to help the public sector as well as the large number of patients who are being treated,” she said.

She outlined a set of activities that are present in good programs within the private sector. “Where we see successful activities in the private sector, we are seeing them be able to take advantage of their much more sophisticated information systems.” The federal government has struggled with having workable complex information systems. “Being able to make use of sophisticated information systems allows these private payers to be able to target early based on people who have certain diagnoses, certain lab test findings, or ED visits, as well as to be able to receive follow-up treatment that is designed for people who have particular chronic diseases,” she said. Having the ability to select and use sophisticated platforms to manage these patients once identified has also been very important.

The private sector has a focus on direct member engagement, as well as working with physicians and institutions, to make sure that the appropriate, empirically-based strategies are put into place to improve the treatment of major causes of both spending and death. It is also easier for the private sector to make use of delivery system supports that are critical in terms of treating these individuals, including the use of home visits. “If you don’t have a delivery structure that supports the proper treatment, you’re running upstream in terms of trying to provide this care,” she noted. The Medicare population, more than any other population in the U.S., is least well served by the siloed payment structures and delivery systems, and would benefit most from an integrated payment and delivery system. She stressed that an important next step is to identify the policies that work and put in place appropriate financial and non-financial rewards that will facilitate appropriate treatment for complex patients.

Sam Nussbaum, MD, Executive Vice President, Clinical Health Policy and Chief Medical Officer, WellPoint, shared the private payer perspective from his work at WellPoint/Anthem, the largest commercial insurer, largest insurer for the Medicaid population, and one of the largest exchanges. Although WellPoint has been successful with predictive analytics, identifying complex highly ill patients, and developing strategies that involve nurse care managers, he focused on new models and approaches that are based on provider collaboration and partnership, that include aligned economic and financial incentives, and involve investment in delivery system capabilities. Data
shows that healthcare costs are highly concentrated; for WellPoint’s commercial population, 1% of membership accounts for 28% of total cost and 5% accounts for 57% of total cost. While some of these patients have complex illnesses, many have a single-system disease and the high cost of their care is driven by innovative breakthrough therapies. WellPoint is focusing its improvement efforts on the top 1%.

CareMore is a facility-based care model that is focused on the chronically ill patient; is undergirded by technology; and includes coordinated care teams, care planning, social support, legal support, behavioral healthcare, and end-of-life care. In this model the hospitalist physician, termed an extensivist, is responsible for leading and coordinating the care of the patient, which begins with a “healthy start” initial evaluation that assesses the patient’s medical needs, social needs and creates a personalized care plan. He noted that, “When we look at what this model can produce, we can see it’s some of the best results in the nation.”

One of the other key drivers of cost of care and opportunities to improve care for complexly ill individuals is specialty drugs. Drug spending for the commercial population is around 25% of overall spending, of that about 30% is for specialty drugs. He stressed that many of these drugs are breakthrough drugs, however, they must be effectively managed. “So much of what we have to do to manage complex and costly individuals is a comprehensive approach to specialty drug management,” Dr. Nussbaum said, which includes clinical pathways, medication adherence, coordination of care, and reimbursement.

Another approach they have taken is to create delivery system partnerships, including centers of specialty care excellence, which have been shown to improve clinical outcomes, lower costs, and decrease complications, especially as compared to inpatient care. Provider collaboration is fundamental in this model and includes essential capabilities such as a strong data foundation, a care continuum, reporting on analytics, operations, and member engagement.

“The story I wanted to tell is how we can partner with the delivery system, look at optimal care, take the evidence we have and use our resources to develop new evidence so we can make sure we are a key partner in improving the access, quality, and delivery of healthcare in our nation,” said Dr. Nussbaum.

**Andrew Baskin, MD, National Medical Director for Quality Performance, Aetna,** observed that we do not currently have a good definition of complex patients, but we are aware that these patients have ongoing needs and there is no single simple solution. He reviewed four examples of programs Aetna has in place to address the needs of the complex patient.

The Compassionate Care Program, an example of a specialized care management program, has been in place for five years and is focused on the significant needs of patients with complex, advanced illness and terminal illness. Specially trained nurse case managers handle many gaps in the general care delivery system including physical, emotional, spiritual, and culturally diverse needs of patients in the advanced stages of disease. Additionally, it provides advanced care planning, directives and support, emotional support, pain management, care choices, and use of hospice care. Current data shows high member and family satisfaction, decreased acute care, and decreased intensive care days at the end of life.

Aetna’s Oncology Management Program attempts to identify members at the most critical point in their cancer treatment to best support them throughout their cancer journey. Patients are identified as early as possible, placed in the care management program, and followed through diagnosis, treatment planning, chemotherapy and surgery, and post-treatment care. The program provides holistic, personalized approaches to care, effective case management including comprehensive needs assessment, efficient and appropriate utilization of benefits, care and resource coordination, and promotes the use of appropriate therapies, providers and facilities. The program is also connected to the Compassionate Care Program for comprehensive end-of-life needs.
Patients are also identified as potentially complex by the use of specialty drugs. Aetna’s Specialty Health Care Management team currently supports nine complex conditions, including Hepatitis C, Asthma, Crohn’s Disease, HIV, Oncology, Osteoporosis, Multiple Sclerosis, Rheumatoid Arthritis, and transplants, whose treatment accounts for more than 80% of specialty drug spend. High-risk members are identified through weekly reports of patients newly diagnosed with a disease that requires treatment with a specialty drug; those new to specialty therapy; those who are non-compliant with medications; and referrals. Support through this program keeps members healthier by increasing adherence to specialty drugs, and provides collaborative care, adherence monitoring, medication management, and disease management and education.

The final program Dr. Baskin reviewed was a pilot program for improving care of patients with Autism Spectrum Disorder. The Holistic Treatment aspect attempts to embed care coordination and proactively manage complex treatment for members with Autism and common medical and behavioral co-morbidities. Benefits include increased member satisfaction, reduction in medical cost, and improved quality of care. Early identification and intervention aims to screen siblings for identification and early intervention. Benefits include improved ultimate functional status and decreased utilization and cost.

Dr. Baskin noted that Aetna is “trying to find complex patients in situations where we can make a difference.” The journey has been going on for a long time and Aetna continues to mine data and look for opportunities to improve care for these patients.

Session 7: Q&A

Arnold Iser asked Dr. Nussbaum to elaborate on the concept of the extensivist. Dr. Nussbaum noted that a small group of individuals in Medicare Advantage plans spend a lot of time in the hospital for many reasons. The idea, in order for efficient delivery of care and continuity, is that a hospitalist who knows them well spends several day each week in the hospital and then maintains a continuous supportive relationship and sees patients in a clinical site built around a team. The extensivists take care of a small population and can devote their time in and out of the hospital. They found that this is one way of overcoming fragmentation and missed handoffs. Dr. Iser asked whether they are planning to extend this program beyond Medicare Advantage. Dr. Nussbaum elaborated that they are extending applications to the Medicaid population, as well as working with other delivery systems on a joint venture to care for the entire delivery system’s patients.

A participant asked Dr. Nussbaum how the reimbursement model works for the CareMore program, how they acquire patients, and to comment on the receptivity of the model. Dr. Nussbaum replied that “CareMore is a Medicare Advantage product... it is marketed and focused on taking care of the most complexly ill.” The PCPs are not employed by WellPoint, they are capitated. “What fuels that funding is the fact that it is an insurance product,” he explained. Dr. Wilensky agreed that it is a challenge to have payments consistent with the kind of change that you want to have in delivery and noted that the reimbursement models are varied.

Gerald Schatz, Georgetown Pellegrino Center for Clinical Bioethics asked the panelist to elaborate on the changing incentives and disincentives for interdisciplinary conferences for individual complex patients. Dr. Baskin replied, “The new care management fees that Medicare is allowing is certainly allowing that to occur. Other than that we would be talking about individual relationships with providers that can demonstrate extra capabilities and potential for extra results and we’re always looking for opportunities to consider alternative payment mechanisms to reward that.” Dr. Wilensky noted that the issue of how to get better communication and coordination is one of the most serious because it is so critical. “In the fee-for-service, à la carte system that Medicare has, it not only provides no incentives or rewards in its basic structure for encouraging clinicians to work together, it has frequently been made harder because of a lack of easily accessible information that is shared among various
physicians treating these complex patients,” she observed. However, she noted that “we are seeing attempts to move to encourage collaboration among the physicians treating a complex patient.” Dr. Nussbaum gave two specific examples of incentives. For primary care, across all of Anthem/WellPoint, they now pay care coordination fees. The model is one of shared savings based off a projected medical trend. In this model there are performance measures that must be met prior to receiving any financial incentive. The Cancer Care Quality Program pays oncologists monthly per patient to stay on a clinical pathway that meets the best professional evidence for quality care. “These are very significant incentives that are driven by quality and clinical performance, but will also improve affordability of care” he said.

A participant noted that in the process of payers trying to develop innovative programs to address these problems, they are collecting a lot more utilization and care data. He asked, “Do we have or do we need portability of that information, because people don’t stay in their medical home or with their payer. How does that information become portable?” Dr. Wilensky stated that “Unfortunately, there is more focus on adopting the EHRs and with meeting the various criteria that have been established supposedly reflecting meaningful use, without putting in place clear standards of how you ensure interoperability across systems. We are nowhere near having interoperability on the table.” Dr. Baskin said, “Along with interoperability, the next step is health information exchange; you have to be able to exchange the information in a way that the pipes are open.”

JayEtta Hecker asked, “Where is the research, where is the dialog, where is the attention to getting better diagnoses, reliable treatments and ultimately prevention for these extremely costly cases of catastrophic disabilities in a growing number of our children?” “One of the places that is supposed to focus on these issues like this is PCORI,” said Dr. Wilensky. The use of registries has been a strategy that has been around for a long time to build data sets that would allow for further information. She noted the privacy concerns of viewing data across medical records but noted that “more funding of registries would be a cheap way to get better information.”

John Graham, National Center for Policy Analysis, asked, related to the issue of patients who switch payers, “To what degree does this inhibit your ability to innovate and what kind of policy changes would you recommend to improve any disincentive that you think might be there?” Dr. Wilensky noted that the emerging use of private exchanges, which is projected to grow substantially over the next five years, could address this question, as well as fundamentally change the financial incentives that have been involved with employer sponsored insurance. “The best way to do it short of having complete portability of the health plan is to have truly interoperable health records,” she stressed.

Mary Emmett, Charleston Area Health System, asked, “Where is the patient centeredness in this conversation related to insurers?” and “In your creative ways of trying to address gaps in the care systems, are you not creating more silos?” Dr. Nussbaum replied, “I think your question suggests that we failed to tell our story, because in fact this is so much about focusing on patients, individuals, our members and how we can build a system of better health, better care coordination and better involvement in the community, working with all of the health professionals and providers in the community. In terms of silos, that is the last thing we want to create. Even if you look at the fact that we’re working across more aligned delivery systems, that whole goal is to drive coordination.” He suggested that almost everything they are doing is to try to break down those barriers and silos and to create a better performing system through information exchange and best practices. Dr. Baskin noted that all of Aetna’s programs are designed and updated with patient involvement in mind, including use of patient focus groups and member satisfaction surveys to inform program design.

Michele Kelvey-Albert, Qualidigm, believes that the discussion of end-of-life care should be through the PCP and asked Dr. Baskin, “Have you considered with your Compassionate Care Program incentivizing the physician to have
those conversations more readily?” He replied that he has not considered it, but he would “in the context of not just that service, but a lot of services that primary care doctors’ offices could do.”

Corinne Romero, Primary Children’s in Utah, asked, in relation to chronic NICU patients that are technology dependent, “Is there any research or information on the cost that would be saved, or whether it is more expensive for them to be cared for at home?” Dr. Nussbaum noted several ways of getting at the issue raised, one of which is to identify high-risk mothers and work to make pregnancies healthier. Another is to devote resources to nurse care managers for babies and their families in prolonged NICU stays. Dr. Baskin recognized that this is a unique population needing benefit flexibility.

**Session 8: Health Delivery System Executives: The Financial and Organizational Strategies of Caring for Complex Patients**

Ralph Muller, President and Chief Executive Officer, University of Pennsylvania Health System, opened session 8 which addressed perspectives of large health systems through a discussion amongst the panelists.

Benjamin K. Chu, MD, MPH, MACP, Regional President, Kaiser Permanente Southern California (prior RAND), gave an overview of Kaiser Permanente, the oldest health maintenance program in the country, serving 9.5 million members program-wide. Kaiser’s system is all prepaid and there is a guaranteed flow of funds per member per month. Kaiser is also struggling with defining the new complex patient, and Dr. Chu notes that “there are increasingly more sophisticated algorithms where we can narrow and refine the definition of complex patients.” He posed the larger question of how to risk stratify and sub-stratify this patient population. One of the problems, he noted, is that when you throw a lot of resources at what you think is the complex patient, you’re throwing a lot of resources into people who may regress to the mean or who may or may not need that level of support. So the question is how to get granular about it and how do you begin to target absolutely necessary resources to each applicable individual instead of looking at the population in such a large aggregate.

Elizabeth B. Concordia, President and Chief Executive Officer, University of Colorado Health (prior hospitals at University of Pittsburgh Medical Center [UPMC]), compared her perspectives from UPMC with those from the University of Colorado Health and noted that that when you’re running an academic health system that also has a health plan, like UPMC, the model is different because you have instant access to data, as compared to running an academic institution without a health plan. It is important to provide care for patients as well as manage them over a continuum. “Whether you’re managing the total dollar or just taking care of the patient, you have some different approaches one would take in managing that population,” she stated.

Ralph Muller, President and Chief Executive Officer, University of Pennsylvania Health System, observed that with the Affordable Care Act there is greater focus on population health and he posed the question of how complex patients fit into notions of population health and how they compare to less complex patients. The UPenn Health System has historically treated a highly complex population. “One of the challenges in the new payment environment, especially as insurers in Philadelphia are coming to us and asking us to take risk with more populations, is how exactly do you do that with appropriate risk adjustments?” said Mr. Muller.

Panel Discussion: Mr. Muller asked Dr. Chu to elaborate on how Kaiser’s system, as a truly integrated delivery system, deals with the complex patient compared to the less complex patient and how its delivery system is structured to differentiate among those populations. Dr. Chu responded, “One of the ways we’ve done that is to routinize and mechanize a lot of the things that drive those outcomes as measured, but that’s different than making sure the full coordination of care happens with an individual with multiple chronic illnesses.” He stressed the importance of defining the population clearly and identifying patients on an ongoing basis. Dr. Chu compared programs at Kaiser to many of the VA programs including palliative care, home care, long-term care, and disease-
specific care coordinators. However, patients within multiple disease specific programs may end up with multiple care coordinators, leading to conflicting information or treatment plans. He noted that this is the wrong direction and that even though they have plenty of care coordinators, they need to reconfigure these resources around the member with detailed proactive planning.

Mr. Muller noted that there is a lot of movement now with the exchanges that might start disaggregating healthcare. He asked, “How do you approach complex patients and speak to challenges as new insurance products are coming out of the follow-up to the Affordable Care Act that in many ways start disaggregating care rather than aggregating care?” Ms. Concordia stressed that having access to real-time data is essential. When the health system is only managing one part, or one episode, of the patient’s care it is difficult to know what is going on with the patient, unless there is access to real-time data.

**Session 8: Q&A**

Alan Adler, Independence Blue Cross, said that our main problem is the complexity of the healthcare system, rather than taking care of complex patients. He asked, “Is there any hope of reversing that and simplifying things?” Mr. Muller replied that a single-payer system would have to be through the government, and that won’t happen anytime soon. Furthermore, “we may in fact be making it more complex with all these market-based solutions to healthcare,” he said. The number of products offered overwhelm people trying to make a judgment. Dr. Chu replied, “Maybe the solution is not building in more complex ways of dealing with our complex patients, but simplifying it.” With the increasing complexity of chronic illnesses, it becomes more difficult for patients to understand and navigate the different elements of care. For the complex patient, involving the family and the social structure is critical. He noted the need for figuring out how to define, tier, and assess the population of complex patients to determine individual needs, and then simplifying the interface for the doctor, patient, and their family. Assigning a navigator to proactively ensure adherence to the patient’s long-term care plan is a model that has been working well for Kaiser. As a closed system with access to real-time data, Kaiser has the capabilities to solve this issue, but it will require being intentional and proactive about defining the population and actively addressing the issues. “If we can’t solve this problem, it’s really going to be hard for everybody else to,” he stated.

Arnold Iser asked Dr. Chu, “When you have the insurer and healthcare provider system as one, you have an enormous benefit of having not only the medical record, administrative database, but also the resources of a highly capitalized insurer, that can act in its own self-interest and save some money by spending some money ahead of time by being more proactive. Does Kaiser take full advantage of that capacity to be proactive? Do you think that insurance providers will be putting more of their own care coordinators into the healthcare systems?” Dr. Chu stressed that Kaiser is going to be much more intentional about determining the appropriate resources for the appropriate patients. Kaiser has found that there is value to having navigators come from the delivery side, rather than the insurance side.

Joanne Lynn, Center for Eldercare and Advanced Illness, inquired whether we are hitting reform at the right level to reduce per capita cost. She noted the importance of the community well of resources and asked, “Should we be thinking in terms of reforms that allow a geographic concentration... so that we do not have the inefficiencies of having all these different agencies being able to serve different people in the community, instead have one agency that goes down the street and serves everybody that needs to be served?” “Health systems reflect the political culture of the community,” said Mr. Muller, “and in many ways what you’re talking about is the American political system and its diversity.” Ms. Concordia agreed that our regulatory governmental system does not allow one to work in the manner Dr. Lynn suggested and that a single-payer plan certainly would address a lot of those issues. However, from her perspective we have to consider “what can we do with what we have to get something done?” Simplicity has been a common theme, but another common theme is patient engagement and we need to do a
better job figuring out what is making it difficult for the patient to be compliant and get access to the resources they need. “I think that we do need to address what’s the future, but where I sit today, I’m going to focus on what can we actually manage, what can we control and how can we engage the patients to provide a better outcome given the structure and the environment we’re in now,” she noted. Dr. Chu added that fragmentation does not help us pair the available resources with the needs of the individuals, but information technology can bring a lot of these disparate elements together. Additionally, social support services are key for complex patients, therefore, he stated, “it is important to begin to think about how we organize the available resources with the available agencies or groups that can actually address these complicated social as well as medical needs.”

Cheryl Portwood, Philadelphia, expressed concern that in terms of talking about engaging patients, using technology and having patients participate in their care, there is an issue of health literacy and the average individual’s ability to collaborate. She stressed the need for a single-payer system for this population of patients. Mr. Muller agreed that there is asymmetry between what the medical professional knows and what the patient knows. “Part of the hope is understanding more the relationship between medical, social, and other kinds of supports, and the notion of taking care of patients over time,” he said. Ms. Concordia agreed that there is an opportunity to improve the health literacy of patients and create an environment that supports patients asking questions. There are many ways in which technology can address this need for complex patients.

Gordon Schiff observed that a significant amount of money was spent enrolling patients in Obama’s healthcare plan that could have gone to care for patients. He noted that a single-payer system actually gives people the most choice. Currently, there are many financial barriers, costs are high and people are not getting the care they need. Dr. Chu noted that it is how you structure the payments and delivery system that is the key to caring for the complex patient, and it is the responsibility of payers to reconfigure a payment system that could help provide appropriate care for these patients. Mr. Muller added that many systems are working with patients over time and realizing the interconnection between social and medical forces that have a powerful effect on patient outcomes.

Leah Kayman asked the panelists to comment whether their system could learn something from another panelist’s system. Ms. Concordia replied that it would be nice to have all of the information and the data in order to provide for the patient and do predictive modeling.

Janet Corrigan asked, “How do we shore up our social and environmental supports in the community to care for the aging population and the most in-need individuals?” She also suggested that ACOs contribute a slice of the shared savings to a community trust to provide additional resources for social and environmental supports. “The biggest gap,” said Dr. Chu, “is having the full range of social and community support.” Kaiser attempts to address this through its community health needs assessment to identify services for patients who have the greatest needs. He agreed that getting people to commit funds would be a good direction but was unsure how quickly the current structure could evolve in that way. Mr. Muller added that pooling resources is a good idea, but that less fortunate areas would find it difficult to sustain that model.

Jeff Lerner asked the panelists, as CEOs managing complex organizations with a lot of different workforces, “How do you run a system when you have these increasingly diverse and greater numbers of complex patients?” Ms. Concordia responded that from a workforce perspective, “an important role the leader plays is to set the vision. Fundamentally, we’re here to care for the patients and to help them be better tomorrow than they are today.” She added that because care is so fragmented, it is important to clearly articulate this vision so that providers recognize how what they are doing affects the other areas of the system that the patients flow through. Dr. Chu has a very good multispecialty group practice that is cohesive and capitated, therefore, it is easier to mobilize resources within the Kaiser system. “It is simple, if you can actually define who we are doing it for,” he said. Over the past 10 years, Kaiser has gotten better at defining its complex patient population, continuously renewing
information, and measuring outcomes for these complex patients, including measures of satisfaction of care. Mr. Muller stressed the power of training and working in teams to care for these complex patients.

A participant from University of New Hampshire noted the need for the realignment of resources to support the education of RNs, who provide value to the system in providing care for the complexly ill. Mr. Muller stressed that the first step is to figure out how to keep patients out of expensive settings, then the reallocation of resources can happen. Dr. Chu agreed that in terms of the workforce, health systems should configure teams that have people doing what they are trained to do, and “the workforce of the future has to be one where we parcel out the tasks that are necessary, expand the scope of our interactions with our members and their families but do it in a way that restores the joy of practice and leverages training for what can be done.” Ms. Concordia added that there is a lot of hope and opportunity with IT to create new models of care.

Session 9: Capstone Session

Jeffrey C. Lerner, PhD, opened the capstone session, during which panelists shared their perspectives of what they had learned from the conference and where they think we should go as we move into the future and improve our understanding of complex patients.

Panelist Included:

- Janet M. Marchibroda, Director, Health Innovation Initiative, Executive Director, CEO Council on Health and Innovation, Bipartisan Policy Center
- Larry Norton, MD, Deputy Physician-in-Chief for Breast Cancer Programs; Medical Director, Evelyn H. Lauder Breast Center; Norna S. Sarofim Chair in Clinical Oncology, Memorial Sloan-Kettering Cancer Center
- Lucy A. Savitz, PhD, MBA, Director of Research and Education, Institute for Health Care Delivery Research, Intermountain Healthcare; Research Professor, Clinical Epidemiology, Director, CTSA Patient Centered Research Methods Core, University of Utah
- Jonathan B. Perlin, MD, PhD, MSHA, FACP, FACMI, President, Clinical Services and Chief Medical Officer, HCA; Chair-Elect Designate, American Hospital Association

Panelist Discussion:

Dr. Perlin observed the need to improve the ability to care for individuals with multiple complex conditions. He stressed the need to look at the general health of the country and identify ways to prevent our population from becoming one of complex patients, including investing earlier in these issues and coordinating resources. From the presentations, Dr. Perlin noted three common themes – complexity, coordination, and cost. Complexity, the first issue, is divided into two parts, the patients, who are more than the sum of their chronic diseases or sociodemographic vulnerabilities, and the system, specifically the fragmentation of the healthcare system. In terms of meeting the complex needs of the patient, the second issue is the need for care coordination, an issue which took many dimensions, including the care related to the patient’s multiple needs, among the care providers, across geography, over time, across different and multiple funding mechanisms. A requisite for this coordination is the interoperability of information and ways to use that information, such as predictive modeling. He also noted the importance of mobile devices to diagnose or manage care, and of patient-reported outcomes to assess care received. The third issue is cost and finance, specifically concentrated around the cost of care, management of complex patients, and prevention of complex conditions. He noted that there needs to be a change in incentives for prevention of complexity as well as incentives for health and wellbeing.
Dr. Norton commented that, “every human is very complex” and the complexity of the management of patients is increasing. He presented an analogy of the electric guitar and the notion that modern music is extremely complex because electronics have allowed us to make it complex. The reason why we have this complexity, he observed, “is because we can make it so complex. We have the electronic tools, the information technology tools, and the communication tools to make it complex.” He expressed concern regarding some ideas that were presented such as the concept of the virtual nurse and paying providers to adhere to guidelines, thereby rendering them regulations rather than guidelines. He argued for creativity in patient care that may be evidence based but not included in a guideline, and identifying the right care for individual patients. He also observed the issue of expense in healthcare. He asked, “Where is the research component in medical care?” There has been a dramatic shift away from research in medicine towards healthcare delivery and this presents a challenge in reducing patient complexity by having more effective therapies.

Dr. Savitz addressed several themes that stood out from the discussions. One theme is the complexity of the system; he noted the challenges associated with using the current EHR, particularly synthesizing the many pieces of information and identifying or being alerted to critical information. Another is that care settings are changing; care is shifting from primarily inpatient care to primarily outpatient care, and issues are arising around transitions of care and the reliance on community-based organizations. She observed that the notion of teams was a point of much discussion, and that “the notion of who is on that team is expanding very broadly and it is moving outside the walls of the clinics and hospitals where we deliver healthcare” to include community-based organizations, social welfare agencies, and public health agencies. Another big theme is the importance of the patient, the caregiver and their support system. She questioned, “How do we think about the changing role of the patient, their caregiver, and their family? Have we communicated that to them effectively and have we given them the tools that they need to do it?” Many people are working on the next generation of patient-reported measures to understand patients in a consistent way over time. She also mentioned the role of social determinants and the need to think about how we link social welfare, public health and healthcare delivery. “The majority of what leads to health and wellness has nothing to do with healthcare delivery,” she said, “it is the environment you live in, the triggers in that environment and the things built into the environment that make it possible for you to be healthy and well.” Finally, she noted the need for more research, developing the right measures, and extensively evaluating programs. “We need to step up our game in how we implement and imbed research in delivery system settings so we can study those as they are being implemented.” The work in predictive analytics is vital to better target limited resources. Presentations showed complex patients are a heterogeneous group including children with special needs, people at the end of life, people with multiple chronic illness, people who have traumatic events, as well as people with other social issues, such as very low income or lack of housing. “We need to be clear in our language about who we’re talking about and how we target those resources,” she closed.

Ms. Marchibroda reviewed several key themes she noted across presentations. She observed that there are opportunities for change in policy, especially as it relates to care coordination with teams as well as across settings. “We can’t get to care coordination effectively unless we change the way we pay for healthcare,” she said. The focus should be on healthcare outcomes, not on volume. Another issue she mentioned is improving performance measurement and identifying and developing a more precise set of measures that get at the issues that matter. Finally, she stressed the need for effective health IT, including access to the clinical data systems, appropriate patient data to identify where interventions are needed, and rolled up data for use by the care team. Social media, the Internet, and smart phones reduce barriers and these can incorporated into care to a greater extent. Dr. Lerner asked her to comment on good policy prospects for helping us address this. She noted that there are a lot of examples where there has been cooperation across parties and some new policies being put into place addressing outcome measures, paying for outcomes, interoperability, and an oversight framework that promotes innovation in the use of health IT tools while promoting patient safety.
Dr. Lerner stated, “People use the phrase ‘all healthcare is local’, but I would argue that all healthcare is locus.” He asked Dr. Norton, “At Memorial Sloane-Kettering, you get patients not only from NYC but from around the world, so how can you deal with these complex patients in a way that you think would be best?” Dr. Norton expressed that this is a fundamental question and that the biggest divide is policy and practice seeing the same problem from two different ways; one from a place of policy, regulation, measurement, and standardization and the other from a place of freedom, individuality, and creativity. There are two ways of approaching these issues, one is to establish guidelines and make sure people adhere to guidelines, the other is take input variables and output variables and create artificial intelligence systems to connect those in ways that are not specified by guidelines, which addresses the creativity step. “I think we have to capture that kind of creative decision making in medicine, and I fear that we’re moving in a different direction,” he said. The big struggle, he stressed, is how to resolve these two points of view.

Dr. Lerner asked Dr. Perlin, “You have a lot of experience with two large systems, the Hospital Corporation of America (HCA) and the VA. Is there a difference that you see in these two very large systems and is there a way you would go about creating systemness?” Dr. Perlin responded that “at an operational level you could move between the systems and find an awful lot of familiarity.” Dr. Perlin asked Kenneth Kizer to speak about his vision for a system that would be able to mount the resources to address the needs of complex patients. Dr. Kizer clarified that the VA did not originate out of the military health system, it was a product of the public health service. The reform of the VA that happened in the 1990s is now being operationalized in the private sector, for example, ACOs, integrated EHRs, and performance measurement. He echoed many of the observations of the panel, specifically he noted three core messages, “complex patients aren’t complex patients aren’t complex patients, you really have to understand who they are; we really need a much simpler system to deal with these complex patients; and that simpler system is not going to happen until we change the payment or business model.” He noted that if we do not address the social determinants, such as housing, food, security, and transportation, he’s not optimistic we’re going to change the cost curve or quality of life, and we need to take a different look at how we approach the high utilizers. Dr. Perlin added that we have an opportunity to learn from complex patients and use data to really understand the individual; they are not the sum of medical conditions or social conditions.
Appendix A: Post-conference Follow-up Interview – Dr. Stephan Fihn

Stephan D. Fihn, MD, MPH, Director, Office of Analytics and Business Intelligence, VA Puget Sound Health Care System

Interview: Thursday, December 18, 2014 – 12:30pm – 1:30pm

Question: What are the gaps in safety and quality for patients in transitioning between the hospital and community settings? Is this problem solvable? How do you suggest getting started in terms of addressing the problem?

Answer: There are just a litany of problems that begin at very high system levels and continue all the way down to the individual patient level. If we look at the transcendent issues that are often the root cause of problems, it’s that there rarely is an overarching plan of care for any given patient. Plans are usually developed ad hoc, during the process of care, they may or may not involve the patient or the caregivers, and there are often multiple plans – the plan from the hospital, the plan from the clinic, the plan that the family has, the plan that the specialist has – that sometimes are in actual conflict. Patients frequently do not understand what the plans are so they depart the hospital with inadequate knowledge of what was done, what was planned, and what is needed. There is typically a lack of communication and coordination among the various entities and individuals who are responsible for the patient’s care and there’s very often a failure to involve all of the key participants in the planning process.

As a PCP, I am rarely consulted when the hospital is devising the discharge plan, even though in many instances I am the one that is going to have to carry out that plan. Frequently the patients, and key members of their family or other individuals that will serve in the role of caregivers, may not be adequately involved. Those plans are often devised with a severe lack of understanding of what the patient’s resources and circumstances are, and so forth.

I recall a study we did several years ago; the goal of the study was to try and identify hospitalizations outside our system that had occurred so that we could use them as part of a cost study. When we asked patients, “Had you been hospitalized?” and then consulted records such as Medicare files, we found that patients seriously underestimated that. What I learned from that is many patients are having trouble even remembering they were in the hospital. They were very sick, so it’s not a good time to be spending a lot of time educating patients who are taking drugs that may affect their cognitive abilities, are in pain, or are very sick. We send patients home when they aren’t feeling completely well. So we have all these problems, we try to use the patient as the primary vehicle for communication, assuming they’ll keep everybody in the loop, and that’s often not a good assumption.

We could even talk about individual problems with drug interactions, changes in drugs, and the fact that the physiology of the patient in a hospital is typically very different than the person at home whose diet and activity is different. I think a big overarching issue is that, in the hospital, the healthcare system is able to exert a fair amount of control over the patient and the patient’s environment; when they leave that changes dramatically. The patient and others are in control of the environment; we not only do not control it, we may not even understand it. It’s a challenge to say the least.

Q: Would CPGs, quality measures, standards or greater interoperability of EHRs be helpful in addressing the problem? Where do we start?

A: That gets back to the question of, is it solvable and where do we start? Theoretically, it is solvable and in fact, it’s imperative to solve. If our goal of hospitalizing patients in the first place is to repair their health, and if we can’t
continue that process when they leave, then in many cases that vitiates the value of the hospitalization in the first place. If we go to the trouble of replacing somebody’s knee and their follow up is such that they do not get it rehabbed correctly, and they don’t get full function from that knee, then we have to ask the question of, “Why did we put that knee in?” If we put a stent in somebody’s coronary artery and then we send them out, but they aren’t taking their antiplatelet drugs and the stent clots, we will have essentially erased any expected value that we thought we would gain in the hospital.

My sense is there is an imperative to address this. We’re sending patients out, often in a pretty vulnerable state. In the hospital we do things to them in terms of surgery, chemotherapy, and medications, which makes them even more vulnerable than they might have been before they came in. I think we have a medical, and certainly a moral, responsibility to address those issues.

Is this solvable? The answer is theoretically yes, but in fact it has to be. So the question is, where do you get started? I think the first place you get started is with organizing the system. There are really only two workable solutions from a high level; one is to identify who is in charge. It’s like any process or organization, you either have to have someone who is in charge – which we don’t have now – or there is extremely clear process control systems so we don’t have anyone in charge but everybody knows what they are supposed to do in terms of hand offs and information exchange and it can work that way. It’s not necessarily top down, but we don’t have either of those now. Nobody knows who is in charge and there really are no systems for coordination. I think you would start there, and large integrated health systems are starting to try and develop both oversight as well as process control.

Information Exchange and Interoperability

You’re correct, information exchange is critical for coordination to happen. There has to be good information exchange and accessibility for all relevant players in the system, and patients, at a minimum, need to have full access to that information. Typically, only the provider and system in which that provider works has access to that information, even the patients don’t get it. They might get a couple printed pages when they leave the hospital, and those are typically not all that useful or informative.

I would define interoperability quite generally. If you talk to an IT person they might say they have a technical definition for interoperability, and that’s certainly important, but there is a larger issue of information exchange, even low-tech information exchange. The hoops we make patients go through just to get very opaque, but useful, paper documents is enormous. You could start with something as simple as, every patient leaves the hospital with a jump drive that has their information on it that they can take to any provider with key information.

Interoperability is in some ways the Holy Grail, but my worry as a provider is, we’re all struggling to use our own EHRs in our system. Simply giving us access to another system and the data that are in there could potentially double or triple the amount of information we have to wade through. I am concerned by the prospect of interacting with multiple EHR systems, without making sure the data are compiled in a meaningful, usable way, that doesn’t require sorting through endless records from other systems, as well as our own.

Clinical Practice Guidelines and Quality Measures

With regards to the question about CPGs and quality measures, I think we need much more fundamental kinds of system improvement. To be honest, there are people who think they can simply put out measures and expect the systems to respond, but I’m not so sanguine about that as a great solution. That’s my own personal belief. I think they are important and we do need them, but they really are ways to understand whether we are making progress, they are not the solutions.

Q: The VA has been a leader in care coordination, for example, in developing the Vista system and the Blue Button Initiative. As mentioned at the conference, the VA Choice Act will result in ‘pseudo pods’ of VA systems,
which no longer have the same integrated medical records for all VA patients. How do you think the VA Choice Act will impact the integration of the VA, and how do you plan to address potential issues that may arise from this?

A: So we talked about that and, I think it’s fair to say, we are struggling. I don’t know where the term ‘pseudo pods’ came from; I don’t think I used it. I’m not sure what that means. I did talk about my concern that patients, for a variety of reasons, seek and receive care outside of our system – sometimes under our own auspices because we authorize and purchase it or because they elect to go outside and use other systems – and we won’t necessarily have access to the information that we need to integrate.

To some extent that happens now, we have Medicare eligible patients who receive some care with us and some outside; we have purchased care arrangements where we’re not able to provide a service within our defined time limits and therefore we authorize a patient to seek that care elsewhere and we pay for it. There is also care which patients need to receive emergently and are admitted to other system and may or may not be transferred over to one of our facilities. There are patients who may choose to receive some services on an out-of-pocket basis. They may think it’s worth it to pay 15 or 20 dollars at Walgreens to get a flu shot, rather than drive across town to get a flu shot from us, it might be simpler and easier for them; or they may seek care at a storefront or clinic rather than calling, getting an appointment and coming to one of our facilities. There are a lot of reasons patients may go elsewhere. In many instances we don’t have, or haven’t had, access to that information. I think that’s particularly a problem in the VA, but I think that’s also a problem even in integrated health systems, and certainly a problem throughout the typical fee-for-service systems, where patients may have direct access to specialists or may have other sources of care.

Within our VA system we have tremendous information exchange. As a provider, I can directly, from within our EHR, look at the care a patient may have received at any one of the thousand or so other sites of care throughout our system and look directly at those medical records. For patients who move – we have patients who we call snow birds who live in the north but spend a few months in southern climates in winter months – there are lots of reasons why I may need to look at that information. We’ve been working on multiple solutions simultaneously. In my view, Blue Button is one; patients can print out records and take them to their doctor, and very often I will ask patients to hand carry records back to me if they are treated elsewhere, or will directly request those records.

Regarding the Veterans Choice Act, I think there will be more of those paper records. Also, there is a group in the VA working on ways to capture those data in useful ways, not simply as scanned PDF documents, but to convert those documents, make them available through our EHR, and index them in a way that makes them identifiable, searchable, and accessible. Obviously, the Holy Grail here would be true interoperability and we do have a lot going on in terms of participation in health information exchanges (HIEs), and other sorts of things such as getting records from Walgreens, for example, for patients who get flu shots. There are many examples of where we are working to do that.

Q: Several speakers mentioned the challenge of sharing data across EHRs and healthcare settings due to privacy constraints. What steps is the VA taking to address these privacy constraints? Would you like to elaborate on any additional challenges of health information exchange and the development of care management systems?

A: I think that the main privacy concerns for us, is that our system currently requires, prior to our sharing data, the individual veteran to authorize consent to the sharing of information in writing. We are really working hard to get that consent. We have almost sixty coordinators in the communities collecting consents and we’re working to
automate the process better so that it becomes part of their registration. We’re trying to get 25,000 veterans this year signed up for participation in HIE through what we call the Veteran’s Lifetime Electronic Record (VLER). We’re working with the privacy and security folks constantly as we do that. It is a big concern, and obviously everybody knows that in this day and age there is a balance between information sharing and accessibility, and security. I think we are bound by VA policy, we’re bound by statutory restrictions, and we want information sharing; it’s often essential for good healthcare. If you have a chronic illness and you have an acute exacerbation of that illness, and need to seek care outside of your system, those providers are clearly handicapped if they don’t have access to your information. So there’s a tradeoff there, and I think that society has to figure this one out as well. We’re working under perhaps more scrutiny than other parts of the health system, but I think everyone in the system is struggling. That said, I think our goal is to work for and achieve interoperability to the greatest extent we can.

Q: Another challenge you mentioned was information overload on the part of physicians and the potential to miss critical information due to numerous reminders and alerts. How is the VA addressing this issue?

A: EHRs and interoperability could make this problem worse not better. I think this is a really important challenge and I think this is not unique to us. We’re a bit ahead of many systems, but the private sector is catching up admirably with us in terms of information overload. Our affiliate, University of Washington, recently acquired Epic, and I’m now suddenly hearing a chorus of the same kinds of concerns that I’ve heard from providers at the VA. This is not a problem unique to the VA.

From my standpoint, there are some root causes. One of the root causes is that essentially the EHR evolved from an electronic copy of a paper record. So if you look at the structure – our EHR has been around for 20 years – it is essentially identical to the original paper record; the tabs are the same; the information is displayed in a very similar way; the underlying metaphors of care in terms of clinical notes based on didactic interactions with providers are the same; the information is entered in similar ways; providers actually manually enter or dictate text into notes that are compiled into chronological order. One could argue, for a modern health record, the EHR isn’t actually the right structure. It worked thirty to forty years ago, but it’s not what really works now.

On top of that, not only have we massively increased the amount of clinical information in there, we’ve then used the EHR for multiple purposes that include care management, ordering and order entry, inventory control, patient tracking, scheduling, billing, and financial management. It’s the old conundrum of all software – integration has benefits but there are always tradeoffs when you continue to integrate, and software that worked well for one purpose gets less functional when it has to get integrated and work in tandem with other software that is intended for other purposes. At some point, the EHR has turned into a very large, complicated, and somewhat cumbersome software that makes it difficult to both record and retrieve information, which was its original major purpose; now lots of other things are loaded in there. We’ve loaded quality management in there, and compliance, which adds substantially to the burden on users. As providers we spend lots of time clicking through boxes that are required, not necessarily for improving the care of the individual patient in front of us, but for necessary documentation, quality management, and compliance reasons. There is a lot of intended decision support, but it’s fairly generic and isn’t typically relevant to the patient sitting in front of us. So we’ve layered a lot of information in there, which distracts from the primary need to take care of that individual patient.

I think I did allude to some of the solutions. From my standpoint there are several key solutions. One is to reduce the burden of information collection. Everybody who interacts in the system spends an enormous amount of time simply typing, clicking, or entering information, much of which isn’t necessary for the care of that patient right
then and there, and may or may not be that relevant; there’s no consideration whether it is. We collect this for everybody who comes in the door. I have patients who we ask whether they have been in West Africa every time they come to the front desk, even if we asked them yesterday; that’s physically impossible. I have patients who have refused influenza vaccinations for the last thirty years, every time, and yet every time they come in we ask them if they want the flu vaccine. There are two ways in which we can reduce these situations. The first is to put all that into work flow, not have these separate checklists outside of the care process, but make the decision that if it’s important enough for the patient’s care and for monitoring quality, then it’s important enough to put it right in the work flow so that it’s integrated, there isn’t double entry, and there aren’t a whole stack of checklists that you have to do after the patient departs. The second is to make it context relevant so that there is some way in which, through some intelligent computer programming, there’s an assessment of the importance and relevance of collecting a particular bit of information on a particular patient every time. I understand that for compliance there are overarching requirements, but from my view most systems have been incredibly conservative in terms of determining what they should or should not require for collection, and always decide in favor of collecting, instead of sitting back and saying, “this is going to cost us 30 seconds of every provider’s time and that’s a pretty valuable resource, is this information really worth that?” I don’t hear those kinds of discussions going on very often. If we’re given decision support and a patient’s lipids are not necessarily perfect, we should have in the background the system calculating and saying, “Well, this is a young female patient, her risk of cardiac disease is really low, her LDL is not really that high, so we don’t need to give this reminder. The reminder this patient really needs is for HPV vaccination, cervical cancer screening, mammography, or STD counseling.” Whereas an elderly man with heart disease, it would be the exact opposite. Clicking a box wouldn’t be necessary because the system has the intelligence to make some determination about the value of information in the work flow.

Another key solution relates to high-level analytics and syntheses. What we tend to present people with is a lot of raw data and we don’t do much processing in the form of analytics. Instead of presenting all the patient’s smoking history, lipids, and exercise, in the background we should just say to the provider “Look, based on the information we have, this patient is at extraordinarily high risk for x or y and here are potentially relevant interventions that you might consider,” instead of presenting the same identical list of tests and procedures that you see for every patient. It would help for the provider to see a list, like Amazon does, of tests ordered by providers for the last 10,000 patients who had the same problem this patient has. It’s not saying you should order it, but it gives context to decision making. We need high-level intelligent search capabilities for information in these data sources, as good as Google, so we’re not rummaging through notes and reports. This could be done up front – the patient comes in with hip pain, the record presents to you all of the relevant information to that problem.

The implication is that the EHR evolves from an information storage and retrieval system to really an information management system that’s built around facilitating decision making and making sure that when anyone in the health system is faced with a clinical decision about a patient, all of the relevant information is there, and it is synthesized it in a way that facilitates decision making. That will call for a very different beast from what we currently have. All of these are long-term projects.

The last thing is we just need to clean out what we’ve done. I get invited to these big data conferences and they always talk about the rapid expansion of information in the world, and my stance is that most of it’s copied. The vast majority of it isn’t original, it’s duplicated from somewhere else. Our EHRs are laboring under the weight of cut and paste and duplicated data. We need to figure out ways to clean a lot of it out and identify the truly novel and meaningful data in the records. A lot of that has to do with the governance.
I think if you look, we spend most of our IT resources on gathering and storing information, we spend very little on using it. The shift will take a cultural transformation. Typically, when confronted with computer generated information, physicians are very skeptical, and their expectations are that if it’s ever wrong it’s useless. We don’t do that with Amazon, right? These are imperfect systems; they are there as aids, but not as replacements, and we should not be threatened by them. They still require clinicians and other professionals to look at the data and evaluate them, because they won’t be perfect. We haven’t built systems that are that good. They will improve over time but I think that no one should expect perfect decision support; we certainly don’t have that now, far from it.

Q: In your presentation you mentioned Bob McDonald’s statement that “the VA serves as a canary in our system.” Can you highlight any emerging issues in the VA?

A: The example that occurred to my mind is the primary care and mental healthcare staffing shortages, and we’re experiencing them. We talked about tracking care outside our system, interoperability, and the effective use of guidelines, performance measurement, and management systems.

That goes back to your question about, “Will standards and performance measures fix this problem?” and no they won’t. Performance measures really are intended to tell if you if the solutions that you’ve applied are working, they are not the solution. Somebody has mixed up the engine and the speedometer; when you think the speedometer is what drives the car, you’ve got a problem. That’s really what they’re intended to do, to tell you if the solutions work, but health systems have come to the conclusion that we can just put out performance measures and expect people to fix the systems underlying them. Sometimes that works, but sometimes people figure out how to game the performance measures. Scheduling issues are an example; we’ve put out unrealistic performance measures without fixing the underlying problems of access in terms of capacity. I think that happens all the time, which is seen in every industry. Really, the order of things is to decide what the problem is, figure out how to fix it, and develop some performance measures to understand if that’s working and to change if it’s not. Using performance measurement as the stick by which you’re going to reward, or more likely punish everyone, invariably will incentivize perverse behavior.

Another example is access. We’ve been pilloried in public for our access issues, but they’re not any better in most other systems. As we go out to purchase care, we’re seeing that some of the providers outside cannot necessarily provide that care any faster than we can. There are some parts of the system, particularly primary care and some targeted specialties, where capacity not only within the system, but within the community is limited. I think other systems are going to face that as well.

The bigger problem is managing large healthcare systems. We’ve thought about healthcare systems and the unit of analysis has been the hospital. The Joint Commission goes and inspects hospitals, and most of our quality systems and measurement systems are all designed around the fact that they will be used in an individual hospital system. What’s rapidly happening is consolidation in the healthcare system. So, we used to say that we are far and away the largest healthcare system – I think we’re probably still the largest integrated healthcare system if you don’t count Kaiser as one system. Now, we are seeing all these big consolidated systems, and I think some of the struggles we’ve had in managing a large, far-flung system are going to become issues in other systems that have dozens and dozens of hospitals and millions of patients. It’s a lot different. In my job, we’re presented with problems that are difficult in an individual hospital, such as managing hospital acquired infections, hand washing, vaccinations, access, and coordination, and then we multiply it by one thousand sites of care. Those problems aren’t easy when you’re in charge of a system, all the employees work directly for you, and you’re the manager.
Then you sort of step back and think about how you do this as a whole system, often in a system that has heterogeneous patient populations and heterogeneous systems, and across large geographic distances. I think there are many systems that are going to be grappling with this.

**Q: Considering your experience in the VA and with Group Health, do the two systems treat patients approximately the same way? For example, in regards to treating complex patients, transitions of care or care coordination. If not, how do they differ?**

**A:** I’ve never worked for Group Health, but I’ve collaborated with Group Health and Kaiser. I think, in general, the answer is yes. Where they have gone in the last few years that we haven’t caught up with yet is a real emphasis on virtual care. Their systems are less porous than ours; in other words, they tend to capture more of that care within their system than we do, but they do still have some outside care and purchased care. I think the biggest difference is they’ve gone whole hog into trying to reduce face-to-face care to the lowest level that’s necessary. I think that patients appreciate it. When I talk to colleagues and friends that are Group Health members or Kaiser Permanente subscribers, what they love is that they do not have to go to the doctor; they can do things online. Their doctors are given a lot of time to do secure messaging, and there are a lot of online resources and mobile applications. What I see as one of the really big differences is that they’ve put a much bigger emphasis on that. We have not gotten as far; we have security and privacy issues that are barriers to that.

Overall the answer is yes. I think the differences are much greater between integrated healthcare systems – us, Group Health and Kaiser – as compared to fee-for-services systems.

**Q: Can you give one or two examples of how your thinking has been informed or influenced by the conference?**

**A:** I walked away with, if we’re going to make a bumper sticker for the conference it should be “it is the system, stupid.” That’s what we heard over and over again. The other one would be, “patients aren’t complicated, systems are.” This is traditional in medicine, we blame patients for our problems or our ignorance. When I started out, ulcers were due to stress, now we know they’re due to infection. All these things we thought were caused by the patient, in fact, were not. We talk about complicated patients, but what’s really complicated are the systems we’ve built to take care of them. What I learned is that the rule of the day ought to be simplification. I think our new Secretary has said that over and over again. We’ve not made things simpler, if anything we’ve made things more complicated. What I heard is that we should stop talking about complex patients and start talking about system simplification.

The other thing that was a recurring theme, particularly outside the VA, was pernicious incentives that the payment system has created that make care coordination difficult. My thinking has been influenced in that it reinforced how serious those problems are.

**Q: What do you consider to be the high priority areas of research to address the challenges raised at the conference?**

**A:** In the area of healthcare organization, I would ask “Which models of care coordination yield the greatest efficiency and best outcomes?” I heard a lot of people at the conference get up and make pretty wild claims that they were saving huge amounts of money. I actually don’t believe them and I think there are reasons why we should be suspicious. When insurance companies say they reduced utilization by 30%, I want to know “Do you have the same patients or did you get rid of some of them? Did you raise their premium so they couldn’t pay anymore?” We just finished a trial here on patients for whom care coordination was employed; where we took a
bunch of very complicated patients and we managed their care, and utilization was reduced by 30% in the subsequent year. The only problem was, we had a control group and their utilization went down by 30% too. There’s a lot of regression to the mean. I think that in a fee-for-service, commercial environment, there are a lot of claims made, but there’s very little research to know what works. I think what we need is methodologically sound comparisons of different models of care coordination, both those that exist in integrated systems and fee-for-service systems, to understand really what does work. I don’t think the data is there.

In health IT, I think how to share information in a meaningful and efficient manner is important. We’ve talk a lot about that but we don’t know how to do it. What works? There are the human factors, IT factors, and other factors.
Appendix B: Post-conference Follow-up Interview – Dr. David Atkins

David Atkins, MD, MPH, Director of Health Services Research & Development, U.S. Department of Veterans Affairs

Interview: Tuesday, December 16, 2014 – 4:30pm – 5:30pm

Question: In your presentation, you defined the most at risk complex patients in the VA system as those with a high number of providers and medications, as well as those dealing with social, mental health and substance abuse issues and homelessness, is that correct? Would you like to elaborate on that definition?

Answer: I think there are differing ways you can define high risk, and it’s determined a little bit by what you consider as high risk which is dependent on what dictates the population that will be included. If you say high risk in terms of hospitalization or death, you get a slightly different answer than if you look at high risk meaning many visits and lots of costs, but there’s a reasonable overlap regardless of how you define it. I think we in the VA have used a measure that is based primarily on risk of hospitalization or death, so that’s driving our discussions. Having multiple providers is probably a proxy for having multiple conditions. The population the VA serves is really a safety net population; we serve a subset of veterans who are either sickest or have no other source of healthcare coverage, and in that select group of people there is a higher prevalence of mental health and social stressors. So what we’re reporting is partly a function of the nature of our healthcare system, but I think it is probably generalizable to other systems. I’m sure if you took a Group Health or a Mayo Clinic population you would see a slightly smaller influence of the mental and social contributors. Those populations are largely employer insured.

Q: The VA originated as a public health service. Looking at the issue of complex patients from a public health perspective, can you suggest any ways to improve the general health of the population and prevent patients from becoming complex patients?

A: That’s an interesting question to think about what we could do to intervene earlier in the process. I think we’ve given a lot of attention to issues of disease prevention and health promotion, although I can’t say we’ve had ringing successes as a health system. We have an obesity prevention called MOVE – which is to promote physical activity and weight loss with an aim at preventing some things that contribute to complex conditions like diabetes and heart diseases. The challenge is that a lot of those prevention things extend beyond the health system. So, the ability of the health system alone to intervene in low physical activity and obesity is limited. We’ve had more success, and I think have done better with, our organized program around smoking cessation, which is a contributor to multiple chronic illnesses.

It’s harder to intervene on the social and mental health end of things. We certainly try hard to screen and identify people before they reach crisis in terms of mental health problems, including early depression, post-traumatic stress disorder or risk of suicide. One small area we continue to have a large emphasis on is homelessness, which is almost by definition a complex problem. Any homeless patient is a complex patient because homelessness is often a marker for underlying social and mental health problems. Then, it inevitably exacerbates any medical problems that people have because it makes it very hard to deal with chronic health issues when you’re living on the streets. We have been developing a model to try to intervene to prevent homelessness, as well as intervening early when patients become homeless. I would say that’s one example.

I would endorse the idea that from a societal perspective we ought to be paying more attention to the old adage, “spend more money on repairing the bridge and less on fishing people out of the water,” but I would say we’re still
pretty much dealing with folks after the problems occur. A health system alone is only part of the solution. We are thinking about how to reach out into the community for things that need to be addressed at a community level. I endorse the aim, and we are struggling like any health system to try to figure out ways of reducing or preventing diabetes, and reducing the burden of heart disease and stroke. I think we’ve certainly had success with blood pressure treatment; I think we’ve done a good job, but I couldn’t tell you whether we’re reducing the number of complex patients. That raises an interesting question that’s probably a good marker to follow: are we slowing down the supply chain that is turning out patients that are going to be our high-risk and high-cost patients?

There’s a schematic that I’ve seen a colleague at Kaiser use: you have a pyramid and at the top of the pyramid are your highest risk complex patients, and you’re investing a fair amount of your resources there. Then as you move down that pyramid, your interventions are less intensive but the aim is to keep people from moving up to the top of the pyramid. The middle are the folks who have some illness; they aren’t yet complex but as they get older they are going to accumulate additional problems and get more complex so you’re trying to figure out how to manage them and keep them from progressing. At the bottom of the pyramid are your relatively healthy people and you’re trying to figure out what you can do within the health system to keep them healthy. You can’t afford to do the same intensity across all the population because the bottom is 60% of your population, but there are some low intensity things that you hope will slow the progression up the pyramid.

Q: The VA has been a leader in care coordination, for example, in developing the Vista system and Blue Button Initiative. Can you highlight how the challenges and/or next steps in caring for complex patients differ between systems with integrated EHRs and non-integrated EHRs? Can you give any examples of lessons learned from the integration of the VA system?

A: I would say in the interest of full disclosure, an EHR is a vehicle for communication, but it doesn’t necessarily by itself accomplish care coordination or integration. Although having an integrated EHR makes our communication relatively good across sites and amongst providers within the VA, we have the same challenges in coordination, maybe to a slightly lesser degree, than any other systems without an integrated EHR. The fact that you can see the note from the specialist, or that the specialist can see the referring note from the provider and then go back in and see what else is happening in primary care, doesn’t necessarily mean that they are all on the same page about what the patient’s goals are or who is responsible for managing their care.

We’re actually sponsoring a small state of the art conference this year to look at care coordination. Some of that is precipitated by the current legislation, which is going to increase the amount of non-VA and VA care that we have to coordinate, but we’re also going to address coordination of care within the VA because we know we still have a way to go there. One of the ways it manifests itself in the VA, is when there are problems we create care coordinators. I think that I heard this referred to at the ECRI conference, but you can end up with patients who need coordinators for their care coordinators because they have, for example, a homelessness coordinator, a suicide coordinator, and a PTSD coordinator. They are mostly there to help make sure that things don’t fall through the cracks, but what you need is one person who is in charge to set the agenda and make clear everybody else’s role. So, to say to the cardiologist, “look, your role as the cardiology consult is to advise us on how to manage the patient’s heart failure medications, but we’re ok with assuming responsibility for that” or saying “this patient has such severe heart failure, we’d like you to assume primary responsibility for managing that and let us know as you adjust it and we’ll handle his depression and his arthritis.”
The EHR is an essential piece, and Blue Button is a device that makes it easier to convey essential information, like medication and diagnoses, but that in itself doesn’t guarantee that care between the non-VA provider and VA provider is coordinated. We just published a study on attitudes of non-VA clinicians, and it highlighted what we sort of already knew, that it can be very hard for the non-VA clinician to get a hold of VA clinicians. While VA patients may come with information they are able to get through Blue Button, that’s still not necessarily accomplishing the true coordination. I don’t know that we’re any better or worse than any other health system in terms of the challenges of communicating across different health systems.

My main message would be, the EHR is an essential but not sufficient component. We’re working on things like shared care plans. Within the EHR there would be a plan that sets out for everybody to see the patient’s objectives. The idea would be to have a process to make sure the care plan reflects the patient’s priorities. So, the patient may prefer not to have tight glucose control because they’ve had trouble following it and they’re willing to accept the fact that they may have slightly higher long-term risk but maintaining their independence is more important to them. It’s important to have that documented, so that if they go to see the endocrinologist they don’t get put back on insulin, and everyone is in agreement on what those goals are and those goals are largely driven by the patient’s priorities and not by individual specialists’ priorities.

Q: As mentioned at the conference, the VA Choice Act will result in ‘pseudopods’ of VA systems, which no longer have the same integrated medical records for all VA patients. How do you think the VA Choice Act will impact the integration of the VA, and how do you plan to address potential issues that may arise from this?

A: We’re looking at how to evaluate it. I think there is some work going on in some places, that operate where there are HIEs, and so there may be some places where it’s maybe a little easier to share information across the system through the HIE. I was recently trying to catalog in how many HIEs the VA is involved. There was just a report from RAND in *Annals of Internal Medicine* on HIEs, documenting that even where they exist, their use is relatively low. I don’t know if that’s attributable to logistical barriers, or that in a busy office visit clinicians find it too cumbersome to log onto an external system to pull up data, or that the information there is not organized well enough to make it easy to access at the point of care.

I think we’re all very aware of the potential challenges. Seventy percent of veterans who are within VA care also get care outside of the VA, and that figure depends a lot on Medicare eligibility and increases as people get older. So, we already know that and it becomes more of a problem as patients have a higher proportion of care outside of the VA. I heard some figure for another health plan, reminding me that it’s not unique to a place like the VA. In Indiana, where they have a good HIE and patients who touch one health system like the Indiana University Health System, a substantial proportion of those patients also have care in some other health system. It is not uncommon for patients to be interacting with multiple health systems, even in the insured market. It’s a particular problem for the VA that we’re grappling with, and we’re anticipating it is becoming a little more acute. I think Blue Button is our first effort, but it’s a big challenge. We have some research projects with PCORI that are involving some exchange of information between the VA and other health systems for research, but not for clinical care, and then we have the HIE. I think we’re aware of it but haven’t completely solved the problem yet.

Q: Does the VA have specified job descriptions for Care Coordinators? What are their responsibilities? What education is required of Care Coordinators?

A: I may not be the best person to answer that because I don’t practice in the VA right now. I’m sure there are specified job descriptions, but my guess is that they vary substantially based on the specific issue. There are post
deployment coordinators and their job is to help patients navigate the system as they enroll in the VA. So, I would say a lot of their coordinator role is a navigation role, making sure patients know how to navigate care, ensuring the right people are connected, and that things are not falling between the cracks. I don’t know what educational level they’ve attained; my assumption is that they are not at the level of a care manager, who often is an RN. My guess is that these people may come from a social work background. We have suicide coordinators, PTSD coordinators, and homelessness coordinators. Their training would vary with the types of conditions and services that they are coordinating. Their role is a mixture of navigating care, coordinating services, and making sure that information is flowing.

I would say what’s probably missing is that they aren’t really empowered to address what might be the big problem of care coordination, in that you have different clinicians who might be pursuing different and sometimes competing goals. This is the kind of thing that Mary Tinetti discussed in her talk, using her father as an example. The real issue that you want to try to solve with better care coordination is that if you have a patient seeing multiple providers, how do you make sure they are on the same page and that one of them isn’t assuming that the most important thing is getting the patient’s blood glucose under control while another is worried that the patient is confused and has too many medications and is trying to simplify the medication regimen so that the patient can handle it better?

I think the vision in the VA is to have more of that care coordination with expanding medical homes through our PACT initiative. I think the assumption is that the PACT provider would be the default person for coordinating care, but I don’t think we’re necessarily there yet. I think we’re getting there, but you have patients who have serious medical illness, where much of the care may be directed by a specialist. The other key term is “quarterback;” you need somebody who is a quarterback, coordinating care and telling all of the other people involved in the care what their role is and where to go.

Q: Can you elaborate on the technological and face-to-face ways of increasing the support and engagement of patients and caregivers?

A: We are doing some things to reach into the home. There are a number of things going on, which I don’t think I talked about in the conference, to engage patients using technology, things like smart phone apps, which will help. We’re rolling out something modeled on an app built for the National Health Service called Florence; the VA has given a different name to it. It’s a smart phone app that will prompt patients, check in on patients and might send them a text message in the morning saying, for example, “how are you feeling today?” and if they say “fine” it will say “don’t forget to take your medication” and then the patient is supposed to text back confirming they took it. You can customize the program. We’re experimenting with things like home telehealth and home video conferencing as ways to engage caregivers. We have some caregiver apps that are designed for iPads to support caregivers of patients with severe poly trauma, to help reduce stress with the aim of helping keep severely injured veterans in the home environment. There are a number of initiatives on the clinical end that use combinations of video technology, support, and educational interventions that can be delivered through smart phones or tablet technology. Then a fair amount of follow-up is just plain old telephone, which is still important and as good as anything.

Q: Is there an overlap between what you have learned in treating military trauma patients compared with treating civilian trauma patients? For example, in the primary (ex. trauma surgery) and secondary treatment (ex.
PTSD) of a military member injured from and IED to the primary and secondary treatment of a Boston Marathon bombing victim.

A: We don’t see the primary trauma, which is covered by the Department of Defense (DOD). We’re mostly dealing with patients in the rehabilitation and later phases of their recovery. We do have poly trauma centers in the VA that are designed to handle patients when they are transferred out of the DOD system but might still have severe needs. That turns out to be a relatively small population, but they obviously have very high needs.

I would say challenges are on the rehabilitation side. I think the basic challenge is providing sources of support in the home, close to the patient and their caregivers, and trying to find ways so they don’t have to keep coming into the health system. I would say there are two general lessons; one for the patient, for they often want to do everything they can to stay at home because they are sick of the hospital, having spent a lot of time there and feeling this loss of independence. So everything you can do to foster a greater sense of independence for that patient is vital. At the same time, you need to find ways to support the caregiver(s) who may be overwhelmed by caring for this patient, especially if we’re talking about the current wave of veterans – the patient they knew as a 22-year-old son, or husband, or fiancé who is now suddenly dependent on them for a lot of stuff they didn’t necessarily sign up for.

Q: Can you give one or two examples of how your thinking has been informed or influenced by the conference?

A: I was very interested in the perspective that Mary Tinetti offered. I think a critical piece that is often lost in the efforts to deal with high-risk patients is the patient perspective, and how the patient’s priorities may not always be aligned with those of the clinicians taking care of them. Some of the challenges in care coordination may reflect that either you’ve got different members of the healthcare team who aren’t necessarily focusing on the same set of priorities or you’ve got clinicians and patients who don’t necessarily recognize that their priorities are different. So when a patient stops taking their medications, the clinician thinks they are being non-adherent but it’s because they don’t recognize that the patient is basically acting on a different set of priorities. They’re not just arbitrarily deciding not to take their drugs; they’re not taking the drugs because the drugs are causing something that’s at odds with something the patient cares about. I think we still have a ways to go to make sure that our care is aligned with a set of clearly determined priorities for the patient. That takes time, and you really need to understand the breadth of the things that the patient cares about. That’s not something that necessarily fits into a 15-minute visit, especially for a patient who has multiple illnesses. We often think about the challenge of complex patients in making sure that you can attend to everything, and what I took away from Mary Tinetti was that sometimes the best role of care coordination is to take a patient with a long list of problems and realize you don’t actually need to attend to everything; you need to attend to the things that are most important to the patient, which is a subset of that long list of things. Sometimes in trying to attend to everything, we actually end up defeating the purpose.

Mary is a geriatrician, so if you come at this from a geriatric perspective, often much of your job is simplifying regimens and backing off on treatment. No clinician starts out wanting to get a patient on 15 drugs, but if you’re seeing a patient for their arthritis, and someone else is seeing them for their thyroid disease, and someone else is seeing them for their depression, and nobody is owning the whole patient, you can get to that point without realizing it. We’ve been doing stuff with intensive primary care teams that are meant to do a better job at looking at the social and mental health factors and dealing with some of those obstacles to care. For our patients, the ones
whom we target with that, those factors may be important, but there is another piece which is looking at the patient who is on a very complicated medical regimen who might be better off with a simpler one.

**Q:** What do you consider to be the high-priority areas of research to address the challenges raised at the conference? You mentioned in your presentation that there is a lot of literature on caring for high-risk patients, but much of the evidence is very poor. What are some of the difficulties in carrying out research related to complex patients?

**A:** One thing we wrestle with a lot is trying to match our programs to the needs of individual patients. The fundamental challenge is that complex patients are inherently a heterogeneous population. There are multiple pathways to get to be a complex patient, and while they may have certain things in common, the right program to help them really has to be tailored to their needs. Designing a program that you can scale up but also individualize is very challenging. The VA happens to have a lot of other existing programs that deal with specific populations of complexity. So we have programs that are targeted at homeless patients, which has social work support, a link to housing support, and the expanded clinic hours that meet that population’s needs. We have a home-based primary care program that deals with homebound patients, who would be considered complex in other systems.

It’s challenging to figure out, if you were to say “what kind of team should we build to help manage these patients,” you’ve got to realize they are going to be dealing with a varied group of patients and needs. In our experience, we found that once you built a program, and flag patients as high risk, the program managers often look at that set of patients and they’re not sure they can help some of them.

We’re good at identifying who is high risk and who is complicated, but I would say we don’t yet know how to identify the patients who can benefit from the specific programs we’ve developed. In developing some high-risk programs, we’re recognizing that we don’t actually have good evidence that a patient will benefit from an intervention. Sometimes people look at a patient and say, “this patient doesn’t show up at clinic, they have a substance use problem, this is going to be a waste of time,” but that might be the very patient who this kind of program can help. Maybe they need somebody who they can build a connection with; maybe they need someone to do aggressive outreach. In terms of a research agenda, determining which set of services can make a difference for which set of complex patients is an important area.

The other issue that we’ve grappled with at the VA is which services work for which type of setting. The VA has the unfortunate experience of often finding that when we try to use things within the VA that worked well in outside environments outside of the VA, their benefits are much smaller. We would like to think that’s because we’re starting from a better baseline. We don’t have low hanging fruit in the VA because the stuff that’s easy to fix doesn’t exist within the VA. Once you solve the low hanging fruit issues, what are the things you can you do that are actually sustainable to address the issues faced by the high-risk population? I think a lot of these programs are sold as being easy money savers or at least budget neutral; the returns on preventing one admission are so high that you can afford to spend a lot on outreach and other services. But I would say that in a health system like the VA, the financial case for improved complex case management gets a little harder, and yet we have to be able to show a business case in order to expand and make these program sustainable. I would say that identifying scalable and sustainable models in existing health systems and understanding the true economic and health benefits of this can be categorized as a general research area. I would say our current models may not be sufficient.

**Q:** The VA has had success with disease-based quality metrics. In what way do quality metrics need to change in order to address patients with multiple chronic conditions or other complexities?
I think how to measure quality for complex patients is, in itself, an important research objective. I think Mary Tinetti made the point that the standard disease specific objectives don’t work for measuring quality of care. I know she’s working on trying to move towards more global health outcomes, like quality of life and functional status, as more important metrics. I think there’s an important research agenda to figure out; are those global health outcomes responsive enough to our interventions to be good quality measures? I think sometimes the reason we gravitate toward disease-specific measures is that those are things that, not only can we measure them, but we have some evidence that they change in response to our measures. We focus on blood pressure control because we know that the blood pressure will respond as we adjust medications, and we have evidence that this is linked to stroke. I don’t know if we know how well quality of life and functional status measures respond, but those are the things the patient cares about, so that’s one important research topic. Until we can find good ways to measure and see if we’re improving these things, it will be hard for us to avoid slipping back into the more comfortable realm of quality measurement. We have to be able to show clinicians that these things actually respond to what they do if we’re going to hold them accountable for it.