Global Healthcare Innovation Management Center

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[THE GROWING IMPORTANCE OF PRIMARY CARE: ARE WE READY FOR THE CHALLENGE?]

Moving from a physician centered healthcare system toward a patient centered healthcare system, from volume to value, from profit to patient, from silos and fragmentation to coordination and collaboration, from caring for many to caring for all, are wide chasms that 21st century America hopes to cross with the help of the Affordable Care Act. The success of its implementation and outcome relies not only on the resources that are allocated or the cutting edge technologies that are evolving but also on the shift in our values and attitudes. We need to transition from within -- realizing that sustainable success in such multi-stakeholder endeavors comes when we listen to each other and compromise and acknowledge every stakeholder's contribution towards the larger goal of quality health for all. This report summarizes context, issues, and key recommendations leading to evolving trends in three areas: Primary Care, Chronic Care, and Electronic Health Records and Analytics. A review of some relevant literature along with information from the roundtable panelist discussion is presented.

The Global Healthcare Innovation Management Center was created to help in the integration and management of the innovation process in this sector through independent research, training and opportunity for multi-stakeholder dialogue and discourse. The mission of the center is to provide greater affordability and access to healthcare through an efficient management of the global innovation process in healthcare systems resulting in a reduction of disease burdens and creation of healthier lives.

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The EmblemHealth Value Initiative is a partnership between EmblemHealth Inc. and the Global Healthcare Innovation Management Center at Fordham. It seeks to provide research, multi-stakeholder dialogue and public awareness to help develop a common understanding of the value of health that goes beyond the efficiency and effectiveness of healthcare delivery. There is urgency to this work as the changes initiated by the Affordable Care Act, requiring among other things a patient centered approach, implies the creation and development of new outcome measures. Traditional measures of healthcare delivery efficiency and effectiveness may not be sufficient. Neither are the measures of disease burdens. What is needed is to change the focus from healthcare delivery to increasing the overall health. Determining the "value of health" is complicated by a number of socio-economic, cultural, informal network and individual factors. And yet, it is when innovations, interventions and changes are evaluated with this prism that the quality of care can increase while costs are kept under control.

The health value initiative involves (1) Original research and synthesis of other works, (2) Development of measures, (3) Multi-stakeholder workshops based on the research leading to white papers, (4) Communication of results at conferences, through working papers and blogs, and (5) Public event to raise awareness and communicate results. Impact of our work on policy and best practices will be an indicator of the success of our initiative.

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Executive Summary

Increased economic and social burdens on the US healthcare system have exposed the unsustainable nature of the fee-for-service, episodic, curative, acute care driven system resulting in a cry for change and innovation. This lack of sustainability coupled with a dismal satisfaction rate of 16% help to explain the inevitability of a healthcare reform (Klein, 2007). The consequent reform, the Patient Protection and Affordable Care Act (PPACA) of 2010 with its incentives and policies, has created fundamental shifts in every aspect of healthcare, especially primary care. Moreover, a myriad of innovations in terms of emphasizing quality versus quantity, general wellness versus targeting a disease, redefining the value of health, shift in behavioral education, the concept of patient empowerment, payment structures, redesigning workforce education, evolving new organizational structures, shifting organizational cultures, and the role of information and technology are occurring simultaneously, creating disruption throughout the healthcare system. In regard to primary care, this disruption has significantly challenged stakeholders and has systemically altered chronic care management, and electronic health records and analytics, which are two increasingly vital components of primary care. The objective of this report is to comprehensively evaluate direct and indirect challenges in primary care from varying perspectives. Therefore, this report juxtaposes the literature based review with anecdotal based analysis from a day long Multi-Stakeholder Roundtable *"The Growing Importance of Primary Care: Are We Ready for the Challenge"* hosted by the Center.

Key Findings

The Multi-Stakeholder Roundtable provided rich dialogue to help contextualize the current debates on primary care. As a result of this in depth discussions, there were five overarching challenges that participating stakeholders continue to grapple with. The five main issues that experts articulated throughout the roundtable were: 1) how to realistically tackle primary care physician shortage, 2) the inability to sufficiently reimburse all providers, 3) grave uncertainty with workforce transitioning, 4) inefficiencies in primary and acute care and 5) how to create the most efficient EHR system for all stakeholders.

Conclusion

As a result of synthesizing this multi-stakeholder dialogue, three main themes emerged on the evolving state of primary care, which were the importance of multilevel innovations, reimagining health care and rectifying EHR inefficiency issues. It has become evident that addressing these themes will actualize a successful health reform and create a space where the demand and supply of quality health care efficiently meets in the middle. Although the challenges posed by experts at the Roundtable have multiple levels of complexities and affect stakeholders in varying ways, those overarching themes can

guide the problem solving process. Furthermore, developing a singular notion of the value of 'good health' where adequate financial and non-financial incentives align to sufficiently promote quality care, is likely to improve patient and family engagement and seamless transition care management, utilize a patient centered approach, create highly functioning medical homes, and achieve interoperability.

I. Primary Care Landscape

1. Introduction

According to the World Health Organization (WHO) overarching goal of primary care is to improve population health (WHO, 2014). As of recently, the individual mandate to enroll in health insurance, ensures that primary care is now available to all citizens. In order to make insurance for all a reality over half of the 50 states have expanded Medicaid to allow individuals under 65 with incomes at or below 133% of federal poverty level to enroll, and (federal and/or state) health exchanges have been created to facilitate health insurance enrollment. Moreover, since nearly 60 million people were uninsured prior to 2010, expanding access to insurance is a critical first step in creating the type of high functioning primary care system envisioned by the WHO. Other elements that WHO emphasizes as key factors to a successful primary care system include: reducing social disparities, organizing health services around the patient's need, integrating health into all sectors (education, religious institutions, social work, public health, and community based organizations, etc.), encouraging collaboration, and increasing stakeholder engagement (WHO, 2014).

Beyond the increased access to health insurance due to provisions in the Affordable Care Act, the demand for primary care services has also grown as a result of population growth and the aging demographics. In the next 16 years, adults aged 65 or older will double to 71 million (CDC, 2012). Additionally, 1.1 million people have been able to receive insurance coverage through the federal website alone (Schlesinger, 2014). Moreover, the Commonwealth Fund estimates that at least 7.8 million people have gained insurance coverage sine the ACA was enacted (Schlesinger, 2014). In that same respect, due to an increase in demand, primary care is dramatically transforming into the most essential arm of the healthcare system. Likewise, in efforts to adequately handle the enlarging demand, the nature of supply is also expanding. Primary care has grown beyond general medicine, internal medicine and pediatrics to include specialist and subspecialist such as palliative and geriatrics, endocrinologist, cardiologist, obstetrics and gynecologist.

Furthermore, the skills needed to effectively manage population health through primary care has also changed and the desire for more integrated services grows increases, especially in regards to mental and behavioral health. Conjointly, care coordination is also now a more critical responsibility of primary care physicians. Because care coordination and integration is vital to chronic care management and primary care at large, transition care management and patient centered medical homes are innovative organizational programs and structures designed to meet the growing demand of care. Patient centered outcome measures (PCOM), which are outcomes that are important to patients and the improvement of their health, are also now defining effectiveness of care. Along with that, patient centered care places a great emphasis on close monitoring of adherence to therapeutic plans - something primary care physicians are not always well equipped to do.

The final aspect central to primary care that this paper reviews is Electronic Health Records (EHR). EHR is ultimately the glue that binds this evolving healthcare system. It is also the substructure of all innovations throughout the system. The responsive and efficient use of EHRs is crucial to building an operative primary care system. Unfortunately, many PCPs are ill equipped to incorporate EHR into their practices due to both technological and financial reasons.

It is increasingly apparent that the innovations emerging in healthcare bring a slew of benefits as well as challenges. This report seeks to explore the primary care environment, innovations, and real world challenges that stakeholder are encountering. The review of the day long Multi-Stakeholder Roundtable "The Growing Importance of Primary Care: Are We Ready for the Challenge" enabled the Center to examine challenges that are coming along, and discussed whether or not the support and incentives allotted by the ACA are enough to compensate for incorporating systems thinking, aligning organizational structures and cultures, overcoming political hurdles, and incorporating technological innovations.

Specifically, this report assays the evolving primary care landscape and innovations, summarizes pertinent issues stated by Multi-Stakeholder Roundtable participants, and finally offers recommendations to address those challenges. This report is broken into two sections. The first section explores the primary care landscape and highlights key innovations within primary care, chronic care management, and EHR and analytics. The second section, which pertains specifically to the Multi-Stakeholder Roundtable, recaps elements of successful innovations presented by distinguished panelists, underlines key challenges participants articulated, and recommends action items and areas for future research. Finally, the report concludes by analyzing the overarching perspectives from diverse stakeholders and provides insight on how healthcare can move forward by capitalizing on its dynamic capabilities while aligning its weakness with opportunities that the ACA now offers.

2. Chronic Care Management

Strengthening all aspects of primary care, which includes chronic care management, is essential for the survival of this health system. Life expectancy has increased seven years in the past two decades, there are high rates of preventable deaths such as the 480 thousand deaths that occur each year from cigarette smoking alone, there is a high chronic disease burden where chronic diseases like heart disease and stroke cost the US 432 billion dollars a year, and there is lack of integration and coordination of care. Moreover, previous cost structures had the US spending 75 cents of every healthcare dollar on treating chronic conditions, and only 5 cents on preventing and managing them (Thorpe, 2011). Moreover, since 80% of older adults have one chronic disease and 50% have co-morbidities, it is critical that the US health system transform into one that can adequately prevent and manage these issues in a cost effective and efficient manner (CDC, 2012). For instance, with cancer patients alone, there is a high prevalence of co-morbidity, specifically among breast cancer patients it's at 32.2%, 30.5% for Prostate cancer patient, 52.9% for lung cancer patients, and 40.7% for colorectal patients

(Edwards, 2013). It is increasingly important to understand that proper management of co-morbidities requires a collaborative team working towards a unified goal to improve health and quality of life. In particular it requires a multidisciplinary approach that harnesses the expertise from health economist, medical sociologist, social workers, public health practitioner, mental health and other specialists to find the optimal level of services and procedure utilization, cost benefit analysis, patient engagement and education, quality of life, and stress and anxiety management (Mercer, 2009).

Unfortunately, prevention and proper management of chronic disease have been quite poor in the past; despite the fact that chronic disease management includes mitigating and monitoring health risk behaviors, coordinating care between several providers, medication management, and evidenced based practices (Cartwright-Smith, 2011). As of 2010, 25.8 million people in the United States had diabetes, 1.9 million new cases of diabetes in people 20 years and older, and at least 7 million undiagnosed (CDC, 2011). Unmanaged diabetes, which can result in blindness, kidney failure and amputations of feet and legs, puts an additional and unnecessary financial strain on the health system. Furthermore, diabetes ranks nationally as the seventh leading cause of death on average, but is the 4th leading cause of death for African Americans, Native Americans, and Hispanic women (Williams, 2010).

More than that, respiratory conditions like asthma affect 370, 000 children and 1.1 million adults in New York alone (NYC, 2011). In addition, mental illness also carries a heavy burden with an estimated 43.7 million adults aged 18 or older in the US having a mental disorder (NIMH, 2014). A recent report (Milliman, 2014) claims that while only 14% of those with mental disorders were receiving treatment they accounted for around 30% of all insurance spending which includes commercial insurance, Medicare and Medicaid. Along with that, the report claims that most chronic illness cases have mental health issues, which if treated, could lead to major savings and integrating mental health with primary care can have major impact on the value of healthcare delivered. Overall, these statistics help elucidate why coordination of care is paramount. Care coordination efforts not only help the system reduce its mortality rates, but it also helps to reduce readmission rates (CMS, 2014).

3. The Evolving Primary Care and Chronic Care

Despite the critical need for change, there has been a reluctance to redesign the neglected primary care infrastructure given the incredibly complex and fragmented nature of the US healthcare system. Stakeholders however do acknowledge that the system must 'work differently' in order to improve health. They also agree that fixing the system in a way that increases quality care and decreases cost is economically, socially, morally, ethically, and politically beneficial. But that acknowledgement doesn't allay concerns about the challenges that come with each modification and regulatory change.

Notwithstanding the difficulties inherent, one of the most interesting aspects of the ACA is that it provides stakeholders with the opportunity to increase system wide innovations. In other words, changing the type of demand and supplying appropriate care while reducing cost, requires innovation and disruptive technology in healthcare every

step of the way (Wanamaker, 2013). Responding to the need to 'work differently', a systems thinking approach is embedded into the ACA. "Systems thinking" is a way to solve problem by viewing the problem as a part of the overall system. So as opposed to reacting to events, systems' thinking encourages stakeholders to understand how one issue directly or indirectly influences the other within the system (Conroy, 2013). For instance, the ACA is attempting to resolve issues like high chronic disease burdens by encouraging the coordination and integration of continuous care as opposed to constantly reacting to acute episodic events. In other words this shift is anchored in the ability to establish a primary care structure that has seamless continuum of care which spans from promotion and prevention all the way to end of the life care. Ultimately these driving factors have created the perfect time to enact a paradigm shift, which would restructure the health system to cater to the aging population, newly insured, and also invest in behavioral education, wellness, and health promotion and prevention for upcoming generations.

In particular, the ACA contains several provisions incentivizing chronic disease management by providing better reimbursement for providers, increasing federal support, and encouraging self-management of chronic disease management programs. For starters, the ACA established a list of 'essential benefits' that new health plans are required to provide. Included among the essential benefits are "prevention and wellness services and chronic disease management" (OLC, 2010). The ACA also established an early retiree reinsurance program that must cut cost for chronic diseases and high cost conditions (Cartwright-Smith, 2011). Additionally, then there is the patient navigator program, which help patients in coordinating health care services for diagnosis and treatment (Cartwright-Smith, 2011). Moreover, the ACA established a Prevention, Health Promotion, and Integrative and Public Health Council and Advisory Group that will develop policy and program recommendations and advise the Council on life-style based chronic disease prevention and management, integrative health care practices, and health promotion (OLC, 2010).

Furthermore, the Secretary of Health and Human Services is required to evaluate community-based prevention and wellness programs to ensure that they monitor level of self-management of chronic diseases and develop plans to promote healthy lifestyles for Medicare patient. There is also funding support to increase continuing education and training for health providers and direct care workers in the chronic care management field.

4. Primary Care and Chronic Care Management Innovations

Innovation in primary care and chronic care management includes: innovative thinking, organizational restructuring, care team remodeling, chronic care management initiatives, payment reforms, educational training expansion and collaborations, and health plan innovations. These reforms provide the structure needed to expand primary care clinician, improve point of care, improve quality of care, improve efficiency of care management, and realign incentives to establish a continuum of care over a life cycle. Innovative thinking is the first step on this health reform journey. It requires, stakeholders

to re-imagine how they practice healthcare, how they engage in the decision-making process, how they receive healthcare, what 'good health' is, how to maintain good health, and what leads to poor health outcomes and how to reduce those disparities. There are five major areas in primary and chronic care that are undergoing transformative innovations starting with the way we think about health and wellness.

a) Mindset Innovations

The traditional way in which medicine has been practiced is changing. At the foundation of this shift, is the transition from a traditional singular decision making process to a more plural process. Today, the expectation is that the decision makers involved in the development of a treatment plan should naturally consist of the patient, other providers (specialists, case managers, nurse practitioners, hospital navigators, facilitators, community health workers etc.), external research and the reporting physician. The most popular provision of care approach that views patients holistically and increases patient engagement is Patient Centered Care. The essential tenet behind patient centered care is that there should be a shift from the physician-centered system to placing patients at the center and elevating the importance of the doctor-patient relationship, which is key to improving patient centered outcomes (Rickert, 2012).

Patient Centered Care puts the emphasis on understanding or at best acknowledging the patients perspective and how well the physician exemplifies empathy (Rickert, 2012). Data supports the idea that the patient-doctor relationship influences every aspect of health and leads to better health outcomes. The personal relationship and communication influences initial diagnosis, follow-up, adherence to treatment, and so forth. Studies have also found that doctors who do not adopt patient centered care, tend to order more expensive diagnostic tests as a way to make up for lack of communication they have with their patient (Rickert, 2012). So in many respects patient centered care is also seen as a tool to increase individualized medicine and increase adherence to treatment issues. This approach to care does seem to be a positive shift; however it also creates increased time demands on the provider, a need for behavioral shifts for both patient and provider, and organizational restructuring for facilitating change. The main question that seems to surface due to this patient centered shift is whether the incentives that ACA provides to primary care physicians and associated teams enough to compensate for the added pressure?

Another innovation that is shifting the way physicians and insurance companies practice medicine and changing the decision-making processes at point of care is Comparative Effectiveness Research (CER) (Nass, 2014). CER is "used to describe clinical research and systematic CER reviews that compare the clinical effectiveness and safety of a treatment with at least one more alternative treatment, with the goal of determining which treatment provides the best clinical net benefit". As a way to ensure high quality medicine for all, CER and Evidence Based Patient Centered Care encourage utilizing the 'best available data', while maintaining a patient-centered focus. That is to say, with the patient's interest at the center of the decision making process, the doctor then uses evidence-based data derived from CER, as well as clinical data and the doctor's

expertise discussing with the patient various alternatives to devise the most appropriate treatment plan.

b) Organizational Structures and Systems Innovations

As mentioned before, one of the reasons healthcare costs have been rising is that chronic care management was cumbersome and poorly reimbursed in the former health care structure (Baker, 2011). Plus, research indicates that the best way to establish a continuum of care for everyone is to ensure that primary care (minimum basic care) and integrated care (continuous and coordinated care across functional specialties) become synonymous and that coordination of care is at the crux of it all. Therefore, a significant part of the ACA is dedicated to developing and promoting innovative and cost effective ways to rectify that problem -- hence the promotion of a central space for patients to receive care also known as Medical Homes, which function within a medical neighborhood. With an expanding aging population who have higher incidence of chronic illnesses and co-morbidities, finding the best processes and tools to improve coordination of care is of the highest priority.

According to SAMHSA-HRSA Center for Integrated Health Solutions, integration of healthcare is not only critical to a patient's experience of care, but overall health outcomes. Integration of care is also purported to reduce per capita healthcare cost (Heath B, 2013). The integration of mental health and primary care whether it be at a low level of integration with mere consultations or high level of integration where both services are co-located, the objective is to ensure all providers are treating the whole patient with minimal boundaries (Heath B, 2013). So ultimately, the goal as primary care expands is to integrate the provision of services like patient education, mental and behavioral health, and palliative care into one unit of measurement (Wellness/Value of health) that will determine the true health of a patient. And in order for this goal to come to fruition, the key is to develop and promote innovation that induces the optimal, yet practical level of collaboration and coordination of care among various healthcare providers on a multilevel basis.

Another key component of integrated care is transitional care management. This portion of care, which often includes a multidisciplinary team as well as the primary care physician, is vital to reducing hospital readmission rates. With that objective in mind, CMS established Transitional Care Management (TCM) that uses post-discharge transitional care services codes, to incentivize and promote successful transition of a patient from long-term care, inpatient acute care, psychiatric hospital, rehabilitation facility, or outpatient care hospital to a community based care setting (ACP, 2013). Basically, CMS now allows the reporting provider to bill all non-face-to-face service that ensures transitional care for 30 days. This should enable providers from either facility always assumes care without any gap in care accountability, all diagnostic test and treatments will be reviewed, patient's medical records will be updated based on discharge summary, plan of care will be established or adjusted accordingly, and communication between patient and/or caregiver for follow-up and patient education, occurs within a two day period (ACP, 2013). Since these services may not always occur with the physician, services provided by clinical staff, non-physician providers, and office based case

managers can also be billed. These new codes emphasize the desire to create a health network that has seamless coordination, communication, and continuity of care provided by a multi-disciplinary care team.

TCM is one of the several programs that the CMS Innovation Center promotes $1 billion yearly funded agency. CMS Innovation Center is essentially an incubator with the mandate to not only promote primary care innovations, but also provide financial and technical support to eligible professionals and hospitals that are adopting innovative payment and delivery of care reforms. The CMS innovation models include Accountable Care, Bundled Payments for Care Improvement, Primary Care Transformation, initiatives focused on the Medicaid and CHIP Population, initiatives focused on the Medicare-Medicaid enrollees, and initiatives to speed the adoption of best practices (CMS, 2014). Physicians in this type of organization can bill for telephone calls, post discharge face to face visits, reviewing of discharge plans and medication and reconciliation, making sure other caregiver support is in place including palliative/hospice assessment, in home assessment of other bio-psycho-social markers and risk factors, scheduling and coordination of follow up and subsequent appointments with PCPs.

It is important to note that organizational innovation did not start with the ACA. Prior to its enactment, some medical practices and health systems like Geisinger Health were already responding to increasing demands on the system through innovative organizational designs. However, innovations once considered to be novel, namely Patient Centered Medical Homes (PCMH) and Accountable Care Organizations (ACO), are now becoming the law of the land. Being that strengthening the primary care system is of utmost importance, the CMS Innovation Center has structured payment reforms to incentivize the adoption and implementation of primary care and care coordination. Specifically, there are seven initiatives designed to incentivize primary care and facilitate coordination of care. These are: (1) Medicare Shared Saving Program (MSSP), (2) The Pioneer ACO Model, (3) The Advance Payment ACO model, (4) The Primary Care Incentive Payment (PCIP) Program, (5) The Patient centered medical home model in the Multi-payer Advanced Primary Care Practice (MAPCP) Demonstration, (6) Federally Qualified Health Center (FQHC), (7) Advanced Primary Care Practices demonstration, and The Comprehensive Primary Care Initiative (ACP, 2013). The CMS innovation center is establishing itself as a central component to the expansion and success of the primary care system.

c) Team Based Innovations

With the mandate to increase the primary care provider pool the ACA initiated reimbursement changes. In particular they established a 10% increase in Medicare payments for primary care providers (PCPs), require that states Medicaid programs pay PCPs the same rate for primary care, pay the same for preventative service as they pay for their Medicare programs, and phase out of traditional fee-for-service payment scheme to something more effective like Patient Centered Medical Home (AAFP, 2011).

As a result of the primary care system expansion, it is clear that the supply of healthcare providers will not meet the demand and therefore there are workforce

innovations taking place to address this gap. Linda Green and colleagues have researched various organizational innovations that have proven successful like physician pooling and diversion of care (Green, 2013). Other experts, notably have not only examined how to structure a diverse primary care provider pool to address increase patient load, but also how to organize the care team once all providers are in place. That research suggested organizing the primary care unit around subgroups of patients with similar needs, having team-based services to address the needs of patients over the full care cycle, and integrate relevant specialty providers when needed. It was also suggested that outcomes and cost be measured by subgroup as opposed to measuring the individual(Porter, 2013).

d) Cultural Innovations

Whereas the organizational structures change and the care team revamps to address the increased patient pool, the workforce in inevitably changing and expanding, which has created another indirect yet substantial culture shift. The evolving system now based on collaboration and team based approach, challenges the existing traditional medical culture of individualism and autonomy. At the core of the issue, medical sociologists suggest that "social identity" of practitioners precludes acceptance of new methods. Relating and working closely with each other is a deep-seated problem. Moreover, not only are social identities within rigid hierarchal structures being altered, but more issues arise as the brunt of resistance to change tends to fall on the shoulder of administrators who are increasingly seen as unqualified interlopers. The ACA has acknowledged that workforce barriers exist and called for the establishment of the National Healthcare Workforce Commission to identify barriers limiting workforce production and encourage innovations (AAFP, 2011). However, questions remain if this agency fully appreciates the extent to which the culture shift alone could significantly drive the success or failure of this reform.

e) Innovations in Payment reform

According to the American Medical Association, the four goals of payment reform are to (1) give physicians greater accountability for the quality of care, for cost of services, (2) greater flexibility to provide the right services, (3) paying physicians adequately for delivering necessary high value services, (4) pay for sicker patients, and enabling and encouraging multiple physicians to coordinate their care for a single individual (AMA, 2013).

There are four main payment reform models that aim to pay for quality of care and outcomes of services as opposed to the service itself. These reforms are: (1) shared saving, (2) shared gaining, (3) bundled payment, and (4) global payment/capitation (CMS Innovation Center, 2014). All models come with their positives and negative attributes as well challenges with implementation. For example shared savings, gives physicians the opportunity to focus on ways to reduce unnecessary and preventable hospitalizations, but potential earnings or loss solely depends on how well the physician performs or is expected to perform (Miller, 2010). The second reform, shared gaining, promotes greater efficiency, but may not cut cost if the existing financial structures have not been removed (Miller, 2010). Similarly, bundled payment puts the power in the hands of doctors and the hospital so they can decide amongst themselves how to divide the payment, but since not

all patients require the same pre and post op or admission care, this model can get cumbersome. Finally, global payment/capitation gives providers a financial incentive to reduce unnecessary use of services and to use lower-cost services instead of the high ones, but can cause cash flow problems if payer doesn't take the 'common approach' and pay for physician services, lab and diagnostic services charges, and other outpatient services, separately from hospitals payments.

In conclusion, there are a number of areas where innovations may provide some directions for solutions. It is necessary to see how these innovations may be interrelated and how interdependencies may make the coordination of the innovations themselves a key to their success.

5. The Evolving Electronic Health Record and Analytics

It is essentially the thread that interweaves every area of the healthcare system with one another. The promise of EHR and Analytics is thus to help in providing better integration of specialties and bring down costs across the healthcare spectrum while creating opportunities to improve the quality of care. It is also expected to help in building data based performance and connect care across sectors (such as point of care and the city and public health). Additionally, creating macro trends to predict and prepare for epidemics, outbreaks and the like and plan capacity appropriately. The overarching goal is to create virtual communities of care across multiple providers and increase the ability to monitor and reduce duplication while providing targeted education programs.

EHR is not a new innovation, but up until 10 years ago uptake was incredibly slow. Through government and private sector initiatives between 2001 to 2011, physician usage has risen from 18% to about 57% (HeatlhIT, 2014). Despite this, presently, the US still lags behind other developed nation like the UK with 89% usage of EMR/EHR, 79% in Australia and 98% in the Netherlands (Thorpe, 2011). In 2004, President Bush placed the adoption of EHRs on his policy agenda through executive order and created the Office of the National Coordinator for Health Information Technology (ONC). The goal of the ONC was to provide leadership to this growing industry and provided incentives for adoption. Following Bush, the Obama Administration also acknowledged the importance of HIT and made it a major component of the economic recovery initiative. Consequently, the Health Information Technology for Economic and Clinical Health (HITECH), which is a component of the American Recovery and Reinvestment Act (ARRA) of 2009, was enacted to improve healthcare quality, safety and efficiency through the promotion of HIT and the electronic exchange of health information.

As EHR uptake increases, the challenges associated with managing the change of processes seem never-ending. There are high upfront cost, cultural shifts, turf issues, and resource concerns that keep resurfacing. It is evident that implementing EHR is not as simple as substituting a computer pad for a pen. The introduction of EHR has undoubtedly caused a culture shock and strong resistance among physicians who do not wish to change how they practice (Masspro, 2014).

Despite the challenges, there also exist pioneering organizations that can be viewed as the prototype for how to seamlessly integrate EHR into community health care. Namely, Primary Care Information Project, which was founded in 2005, is an agency within the NYC Department of Health and Mental Hygiene and has implemented prevention oriented EHR into over 2500, New York City primary care providers in low-income areas, 500 small practices, and 3 hospitals, serving about 2 million people (Summer, 2011). PCIP continuously proves how EHR can achieve data-driven improvements in community health. There are three principles that drive PCIP and can help guide other organizations. These are: gathering information at point of patient visit, integrating information into natural workflow of practices, and ensuring a feedback loop that aligns with reimbursement or incentives to improve and sustain efforts. Along with improving the day-to-day management of patients' health, PCIP can also be used to conduct syndromic surveillance for certain conditions in outpatient settings (Summer, 2011).

In the section to follow, we explore the types of innovations and their role in primary care. There are five main areas of innovation that Center for Medicaid and Medicare (CMS) encourages. CMS promotes shifts in the (a) doctor-patient relationship, (b) decision-making process, (c) organization and workforce restructuring, (d) payment reforms, and (e) reimbursement changes. The first and possibly most important shift in thinking revolves around adopting a patient centered care (PCC) approach as opposed to the previous Physician-Centered System. Following PCC, there are two main innovations in the decision making process, which include practice and Comparative Effectiveness Based Care. Organizational innovations include the promotion of Medical Homes, Accountable Care Organizations (ACO)s, Health Plan Initiatives, increasing primary care providers, increasing and changing educational training, and restructuring the care team model. Next to organizational changes, there are plenty of payment reform innovations and new and/or updated reimbursement changes that promote primary care and care coordination. Finally, since Electronic Health Records (EHR) and Health Information Technology (HIT) are threads that will ultimately hold the entire health system together, there has been a great deal of innovation and financial incentives created through Health Information Technology for Economic and Clinical Health (HITECH) Act and the Office of the National Coordinator for Health Information Technology (ONC)/ CMS to promote significant EHR uptake.

In conclusion, key challenges like interoperability, ongoing technical assistance, and privacy concerns could hinder update and system-wide diffusion making primary care even more cumbersome than it currently is. In addition, there are questions regarding small practices, what can be done to help with infrastructural and maintenance issues when their staff may be too small and unqualified to troubleshoot ever-evolving technology? It is important to understand what innovations are occurring in this area and whether or not they are adequately rectifying the challenges.

6. EHR and Analytics Innovations

a) *CMS and ONC EHRs Innovations*

ONC was granted $84 million to expand the availability of health IT professionals that would support the adoption of HIT among healthcare providers. The ONC published the Stage 2 Meaningful Use of certified EHR technology in summer of 2013 and is now focused on supporting the rapid adoption of EHRs (HITECH, 2014). Meaningful Use was specifically created to ensure that EHRs were certified and capable of improving quality, safety, and efficiency, reducing health disparities, engaging patients in healthcare, and improving care coordination. Three components of Meaningful Use are: using certified EHR in a "meaningful manner", the use of certified EHR for electronic exchange of health information to coordinate care, and the use of EHR to submit clinical quality measures (CQM) (CMS, 2010).

The CMS/ONC also has provisions to incentivize through the EHR Incentive Program. The incentive program provides payments are for eligible professionals (EP), eligible hospitals (EH), and critical access hospitals (CAHs) to help them implement, upgrade or demonstrate meaningful use of certified EHR technology. EPs (non-hospital based providers) can receive up to $44,000 through Medicare and $63,750 over the 6 years they choose to participate in the Medicaid EHR incentive Program. Eligible professionals are those that do not perform 90% or more of their services in a hospital and include: MD, DO, DDS, DDM, DP, NP, CNM, dentist, and doctor of optometry. The big concern moving forward is whether providers would accept these global or universal types of EHRs or would prefer to have their own internal ones?

The CMS/ONC initiatives seem to be paying off, being an estimated 85% of EHs and 6 out of 10 EPs have received a Medicare or Medicaid EHR incentive payment. Furthermore, nearly 80-90% of all eligible EHs and EPs have initiated steps to register for EHR incentive payments (Reider, 2013). The CMS currently has a timeline for the continued implementation of the EHR incentive Programs, which includes stage 2 to be extended through 2016 and Stage 3 will begin 2017 for those who participated in Stage 2 for two years. The phased approach to program participation helps providers move from creating information in Stage 1, to exchanging health information in Stage 2, to focusing on improved outcomes in Stage 3. This approach is supposed to support an aggressive yet needed transition for providers (Reider, 2013).

b) *Interoperability Innovations*

Additionally, issues with interoperability among EHR software have been another serious challenge. There are organizations like HIMSS, an international not-for-profit organization that acts like a resource hub focused on better health through information technology (IT). Other organizations like New York eHealth Collaborative also have an EHR/HIE Interoperability Workgroup (IWG) which they launched in 2011. This working

group is comprised of a coalition of 19 States (representing 52% of the U.S. population), 20 electronic health record (EHR) vendors, and 22 health information exchange (HIE) vendors. Most recent announcement from the workgroup was the creation of "HIE Certified" certification program for vendors to test against these specifications. The certification of vendors is a move in the right direction, but questions still remain. Despite certification, interoperability is a dream of sorts, and experts are not sure the financial resources certifying various vendors are ideal. In states like New York that have 13 vendors alone, would it be more efficient if the government promoted the use of one?

c) Health Analytics innovations

Although PCIP has shown great success showcasing EHR's capacity to not only manage patients' information, but also monitor regional and national epidemics, EHRs are not the only technological innovations being used to evaluate data. The use of technological innovations like analytics can also assist primary care practices to manage their health populations, and as well as describe, forecast, analyze and improve the practice's performance. The latter features are especially important in regards to optimizing payment innovations like shared savings payment models. In essence, analytics goes beyond CER, EBM, and EBP because it is a powerful decision making tool to increase quality evidenced based care and organizational performance. Even though analytics have great potential, questions emerge about the need for separate analytic systems along with general EHR software.

II. Roundtable Discussion, Challenges, and Recommendations

The Center conducted a day long multi-stakeholder roundtable, which provided the opportunity to harness the expertise of a wide variety of stakeholders throughout the healthcare industry including medical practitioners, payers, union executives, academics, researchers, hospital administrators, State Department of Health personnel, EHR vendors, and data analytic specialists, etc. Robust discussions respectively followed all three sections of the panel: (1) primary care and the ACA, (2) Innovating in Chronic Care, and (3) Electronic Health Records and Analytics: A facilitator? Some key topics that emerged from these dialogues were examples of best practices, concerns about the extent of primary care physician shortage, the idea of reimagining healthcare, creating adequate incentives to match new responsibilities, finding innovative ways to fill in care gaps, and initiating a serious debate on single vs multiple EHR/HIE standards. The ability to collect examples of innovations, barriers, and facilitators allowed the Center to develop a more substantive view of the issues involved and provide suggestions on how to resolve them. The Center utilized this particular roundtable discussion to gain an understanding of various stakeholder perspectives so that we could accomplish four main goals: (a) identify the main issues involved in the evolving primary care, (b) explore aspects of innovations which provide some solutions and best practices, and (c) develop ideas for policy initiatives and future research that may facilitate success moving forward.

As mentioned before, although the ACA does indicate the direction in which it would like healthcare to go, the details are still unclear. How does a physician simultaneously build and coordinate a highly functioning interactive relationship with a patient, and nurse practitioner, and cardiovascular specialist, and social worker and physiatrist in a sustainable manner is yet to be seen? What incentives and training for providers are needed to adequately promote relationship building? How can CPT codes adequately reflect and reimburse the time consuming and complex nature of this new system? Can a convoluted mix of government, market, and industry driven EHR standards sustainably function so that information can be received and shared in real-time among multiple stakeholders throughout the system in a manner that does not forego individual or organizational confidentiality? Since the answers to these questions are unfortunately not reflected in the 2000 page ACA bill, the multi-stakeholder roundtable provided some space to ask these questions and possibly discover and/or develop comprehensive and practical answers. In the following pages, we layout the major issues that emerged from the roundtable discussion In conclusion, the Center in the light of issues raised, offers broad recommendations for policies and future research that may help to successfully redesign a highly functioning primary care system.

Discussion

There's no doubt that the ACA is changing the healthcare workforce landscape. Almost one billion dollars have been allocated for training healthcare professionals including nurse practitioners, paramedics, community health navigators, and other members of the 'care team' who are now responsible for coordinating individualized road maps for each patient. At the same time, the growing healthcare workforce must also change the way they in which they provide care. Under the umbrella of reimagining healthcare, the healthcare workforce is tacking on the challenge of meeting increasing health demands by finding innovative ways to practice medicine and promote good health behaviors. For example, innovative practitioners have established toe painting parties and diabetic clubs where patients take educational classes to collectively manage their disease. As a member of this particular PCMH, patients and some staff shop for healthy food together and teach each other healthy cooking methods. Further, experts found that such innovations, which engage education and learning, have led to reduced re-admission rates. Such innovation proves how critical it is that the healthcare system be restructured in a manner where primary care is increasingly about sensing the care that is not given but should be given.

The next two innovations expert panelists discussed, which also involve reimagining care, are transitional and home based primary care. These innovations which organizations like (Essen Med) specializes in, involves home based care (house calls), where physicians can take care of homebound elderly patients providing them with personalized care in the comfort of their home irrespective of the type of insurance they may have. This enables long-term care chronically-ill house bound patients to receive a whole spectrum of primary care services, including specialty care such as podiatry, wound care, tubes changes, medication management (prescription writing and refills), diagnostic testing (x-rays, blood testing, ECGs, sonograms, and Echocardiograms) and nursing and home aide. Transitional care management is an innovation that focuses on

seamlessly transitioning a patient from in or outpatient hospitals back into the community and their primary care physician. The primary care physician in the transitional care organization fills any care gaps found between the acute or ambulatory care facility and a patients home.

Additionally, transitional care innovation also includes developing partnership with the nearby hospitals. Moreover, these types of transitional services have proven that telephone and in-home follow-up for 30 day period following discharge helps to reduce re-admission rates and length of hospital stay. It also empowers patients to self-manage disease, comply with medication and treatment plan, and maintain clinic appointments. The idea of 'let the patient help' is built into these innovations and this yields successful organizations, cost reduction, and patient engagement. Furthermore, these innovations also require health providers to give more proactive attention to the psycho-social needs of each patient. Finally it has been found that transitional and innovative home based primary care increases patient satisfaction, reduces hospital length of stay, and re-admission rates. Successful chronic care innovation can help keep patients out of acute care institutions. These innovations also push for layers of effective collaboration among hospital systems, physician practices, and payers to effectively manage population health.

Along with reimagining how health providers practice medicine and promote health, health providers must also reimagine how they work together. Moving forward primary care is about team based approaches and the concept of lone primary care physician as 'HERO' is becoming extinct. The system will no longer be about maximizing procedure but about maximizing patient care and satisfaction. That will happen when inpatient and outpatient (Primary Care) work as a team. All elements of this highly functioning primary care system in one way or another involve promoting and adequately reimbursing relationship management and communication. One thing that is clear from the research and multi-stakeholder dialogues is that relationship management is the core component of patient centered care and care coordination. Trust and relationship building and management are critical for the patient starting from the initial phone call to obtain an appointment all the way until end of life. Additionally, this skill is also essential when working with care teams, family and support systems, specialists, pharmacists, mental and behavioral health counselors, payers, and any other stakeholders in the medical neighborhood. Ultimately in order for medical neighborhoods to work, care teams must build their dynamic capabilities to acknowledge, communicate and adjust to issues as they arise.

Finally, the last innovation discussed, came in the form of analytics, which is comprehensive and integrated to leverage data and supports reporting requirements. There are several forms of analytics including: enrollment analytics, providers' analytics, financial analytics, utilization analytics, quality analytics, and readmission analytics. In addition, these analytics can have strong predictive capacity and disease identification capacity. Analytics has the ability to lower medical cost, improve data quality, and provide real time monitoring and reporting. There are however concerns about analytics regarding standardization, return on investment and the general fear of adding to existing cumbersome EHR/HIT systems. Overall, experts recognized that in regards to

technological innovation, success of such systems should be measured by whether or not they help to realign incentives, are designed to be used intuitively, and sophisticatedly garner "Big data" for actions.

Challenges

Examining barriers to building a sustainable primary care system requires an understanding of the nuanced intricacies involved in changing the current incentive structures and daily operational processes. The multi-stakeholder roundtable enabled the Center to provide a platform for stakeholders to voice their challenges and explain some of the complexities encountered in this evolving system. The five main barriers that emerged in roundtable discussions were 1) tackling the concept of the underpaid, indebted, overworked, and undervalued primary care physician, 2) finding a way for reimbursements to reasonably identify and reflect value of time intensive work over quick and simple clinical procedures, 3) deciding how to feasibly alter the workforce, update and upgrade needed skills, and adequately pay the new workforce, 4) how to re-imagine healthcare in an innovative way that combats escalating chronic disease cost in an efficient and effective way, and 5) how to reconcile the pros and cons of multiple systems versus a single EHR/HIT system? Below are detailed issues.

a) Primary Care Physician (PCP)

The first barrier mentioned and echoed throughout the conference was 1) the shortage of the supply of primary care physicians, 2) reimbursement issues, and 3) issues of high investment and little return. Being that the previous system did not place a high value on primary care, this lack of value is currently reflected in everything from low salaries, to missing CPT codes that recognize PCP activities, to reduced prestige of the PCP among the rest of the medical community, and stunted professional growth opportunities for PCPs. The notion that a physician will not be highly respected, incur a high student loan debt, receive a smaller salary, and not have the ability to bill for time consuming tasks, while they coordinate multiple intertwined relationships seems unrealistic. Although, the ACA has accounted for some of these concerns by increasing PCP salary by 10%, increasing loan forgiveness for PCP students, and providing financial incentives to coordinate care, there are career mobility gaps.

b) Reimbursement

Secondly, merely increasing the number of physicians and non-physician providers will not miraculously change the healthcare system unless there is a definitive change in the payment model where providers are adequately paid for relationship building (upstream) rather than fee for service and simply treating the disease (downstream). CPT codes must sufficiently reflect time intensive work of relationship building as opposed to simple medical procedures. One major question raised by the participants was how to deal with increased workload and pressure on primary care physicians when financial incentives are either not there or at best trivial. The incredible discrepancy in the reimbursement structure between primary care practitioners and subspecialists needs to be addressed if we want to bring primary care into the forefront of

the healthcare system. For example, the current system reimburses a "punch skin biopsy' at a much higher rate than compared to the amount of reimbursement allocated to a 45 minute visit with a patient suffering from advanced AIDS with multiple issues to be considered and numerous prescriptions to be dispensed including psychological and social counseling. The CPT codes and reimbursement rates do not account for the fact that punch skin biopsy are low-skilled procedures that take short amount of time as opposed to time intensive and complicated job of coordinating care and providing patient education. Since primary care is anchored on the ability to engage patients and manage population health, training and financial incentives must be redesigned to reflect the new skills needed. It is clearly evident that the traditional metric of measurements needs to change and reflect the complex reality of primary care. Furthermore, some stakeholders have articulated a need to strengthen contractual agreements between CMS, hospitals, and community based organizations (CBO) so that subcontracted CBOs are adequately reimbursed for their services. With the rise of patient centered outcomes, as well patient and family engagement, it is critical to capitalize on the relationship that CBOs have with the community and therefore it is critical to strengthen CBOs.

c) Workforce Transitioning

Third, in reference to healthcare workforce concerns, the redesign of primary care and care teams has created a great deal of transitional uncertainty. From a workforce perspective, the dislocation of workers, fewer jobs, fewer skilled jobs, or creation of different position like community health workers, yoga instructors, physiotherapists, and healthcare navigators poses some apprehension. These changes will require establishing a different type of career ladder. On the positive side this should result in opportunities of "up skilling" the current workforce to perform more direct care/community based services. However the Secretary at the Department of Health and Human Services (HHS) needs to better explain the comprehensive workforce strategy. In many ways, the policy sector must work better at integrating services and mandates with economic development, educational, business, and public health sectors so that information is uniformly dispersed. Furthermore, similar to physician concerns, it is critical that the time intensive non-clinical tasks conducted by all health professionals including RNs, PAs, physical therapists, nutritionists, community health, social workers, SWOT teams and health care navigators, be reimbursed sufficiently. A positive reinforcement to the changing system would inevitably include having the entire health workforce be sufficiently salaried and compensated for quality of care. It is also important to note that in order to mitigate increased cost of improving efficiencies and salaries, there may have to be significant organizational restructuring.

d) Inefficiencies

Another issue that was discussed in regards to redesigning primary care involves the monumental cost currently being spent on care, especially acute care. Some inefficiencies include: (1) limited patient engagement, (2) missed doctor appointments, and (3) unreliable adherence to treatment plan. Since patients are only captive audiences when they are in the hospitals, the issue of patient education, family engagement, and community involvement is paramount. Furthermore, according to experts, acute care alone consumes 70% of $91 billion in healthcare spending with the most expensive

illness being heart failures, COPD, and pneumonia. Moreover, the biggest drivers of healthcare spending in the high cost cohort are the unplanned admissions of disease such as myocardial infarction, cancer, sepsis, stroke, and orthopedic problems including hip and spine surgeries. Finding systemic solutions and behavioral interventions to minimize unplanned admissions and readmission, reduce sepsis and other in-hospital infections, and reduce preventable surgical procedures seems like an overwhelming and insurmountable task for some stakeholders.

e) Efficient use of EHR/HIT

The two main concerns were 1) uptake of EHR and 2) the current lack of interoperability. The reluctant uptake of EHR stems from several different factors including general resistance to change, high upfront cost, lack of back office technical support, non-cohesive addition to established processes, and lack of interoperability. The second problem of a lack of interoperability also affects uptake among other issues. The inability of IT systems and software to communicate with each often results in a loss of data as a practitioner moves from one system to another, and can increase frustration of learning one system versus another. Moreover, the patient in today's healthcare landscape is significantly driving the need for uniform data collecting, filtering, and sharing system. With the increase of personal health recording devices, patient engagement has made the need for standardization of utmost importance. The end user for EHR is not just the practitioner, hospital or payer, it is also the patient wish to see and understand their entire medical history and therefore data consolidation of health applications (Apps) with EHR software is critical. Today, this degree of data consolidation is not possible but the goal is to consolidate data in way that it tells a patient's complete story in a consistent way that can be transferred across various hardware and platforms. Conjointly, freeing the data is not only important for patients' safety, but it can also foster innovations that are not on the health systems radars as yet. For example, "crowd-sourcing" and open-sourcing data in healthcare with personal health records is already happening and might expand throughout all of eHealth. Trying to determine whether we have the time and resources to let the market standardize EHR or if government should play a larger role remains a huge question.

Recommendations

To address these five challenges, the Center proposes a few recommendations.

1. The perceived low stature and low pay that primary care physicians (PCP) encounter will hinder the success of the primary care system, and if not fully addressed, will deter initiatives to increase the primary care workforce. Although the ACA does have provisions to increase pay, it does not address the undervalued and overworked nature of PCPs work life. In response to this issue, the Center recommends further evaluation of various non-financial incentives as well and their impact on increasing PCP engagement and increasing a collaborative environment where PCPs and specialists fully appreciate the complex nature of each other's respective roles. The

Center also recommends conducting studies on the effectiveness of loan forgiveness programs on reducing primary care shortage.

2. The combination of patient centered care and medical home formation have created an environment where, NPs, PAs, DOs, and PCPs not only have larger roles and responsibilities than they did before, but the responsibilities such as care coordination and patient education are quite different from the previous procedure based fee-for-service system. These shifts not only require an expanded range of stakeholders who are represented at the decision making table, but it also requires that CPT codes reflect the changing environment. To address this issue of finding a way for reimbursements to reflect the changing needs and responsibilities of patients and practitioners, the Center recommends the possible formation of a Multidisciplinary Advisory Committee that works in conjunction with the CPT Advisory Committee to support the work of the CPT Editorial Panel. The need to address the reimbursement coding issue is essential to the success of this health reform as inadequate attention to this may retard its progress.
3. There is an uncertainty in the area of skill updating and workforce alteration. For many healthcare workers, especially among auxiliary staff such as nurse aids and medical billers, there is a fear that there will be fewer jobs or different jobs with qualifications and skills they don't have. Addressing these concerns from the onset is an essential step in mitigating some resistance to change issues. In response to this problem, the Center suggests that continuing educational programs and professional training programs create strong links with human resource departments of health facilities. As the workforce shifts there will undoubtedly be a need for people to up-skill on their own in order to be competitive in this job market. Along with that, it is paramount that there is a seamless transition from one form of work to another. Furthermore, as the shifting workforce enables workers to up skill themselves, it should also provide an avenue for low-income workers to improve their salaries and career growth options. The way in which the transition from medical biller to health navigator, for instance, operates will either boost or deter stakeholder buy-in. There is urgent need to engage the healthcare workers' unions collectively in this issue and not just in negotiations with specific providers.
4. Reducing chronic disease cost requires the merging of realistic expectations, the re-imagination of healthcare and the unyielding dedication to efficiency. Despite the challenges, innovative stakeholders like the panelists at the roundtable found that the key element to successfully reducing cost and expanding services has involved the use of their imagination to understand the motivations of the patients to stay healthy and expanding the responsibility for good health to an integrated healthcare neighborhood involving family, community and providers. The approach needs to be one of taking a healthcare "eco-system" approach to involve in health promotion and to go beyond "patient engagement" into family and community engagement. Furthermore, it is important to keep in mind that during a transitional period, focusing on reducing cost while expanding services might not be realistic. Thus providers and insurers need to take a longer approach with specified time horizons in which to achieve clearly stated "good health value" objectives measured through newly created integrative indicators. Focus on "frugal innovations" (i.e. innovations that are efficient in terms of long-term costs), is key during this period. Once incentives and

payment mechanisms are redesigned and realigned to ensure optimal utilization of health services and medical procedures, costs will begin to stabilize.

Chronic care management needs adherence on the part of the patient to therapeutic plans on a long-term basis, access to multiple specialists when needed, understanding of and access to acute and emergency care with preventive measures to reduce their occurrence. Educating the patient, family and community and health promotion are key parts of this process. So is the understanding and encouragement of the individualized motivation of the patient to stay healthy and to stay out of emergency and acute care needs. Reimagining this care lies in providing the needed level of care (which may not always involve high cost specialists or acute care), recognizing that care resources are indeed available in the family and community who need to be engaged, and integrating information and care of the likely multiple morbidities that the patient may have using EHR and other more informal communication tools. Examples of successes in doing this are being revealed.

The Center recommends the collection of cases of good practices in using the good health eco-system to provide improved and efficient chronic care and disseminating these "success factors" to the wider community.

5. Achieving the goal of HIT system-wide interoperability requires a collaborative approach with government, market leaders, and industry alliances working towards a common goal. There is an incentive to keep these systems proprietary within provider networks. Thus any attempt at common use is unlikely to happen unless there is a governmental mandate. Incentives to develop standards sponsored by industry are feasible and should be explored. There are sufficient reasons for provider networks to gain from sharing with other networks. "Meaningful Use" has succeeded in bringing some of these to light. There is research on the use of middleware as a way to increase software communication and it can become a potential solution to interoperability. Therefore, the Center recommends that further research be conducted on middleware evaluation by the various organizations working on the issue of interoperability.

Conclusion

The pressures put on the system by unsustainably high costs, the ACA's goal for higher coverage and the emphasis on greater value of healthcare will inevitably require stakeholders to fuse innovative thinking with bold action. The background note and the roundtable discussion brought out three different themes. The first theme involves reimagining health care so that patients receive holistic care and providers have the resources to provide such care. Reimagining care requires that stakeholders forgo the traditional healthcare architecture to create the ideal system.

The second theme, which also ties into reimagining care, is about the need for innovations and an understanding of their impact at multiple levels. Whether the issue is about updating CPT codes or implementing transitional care programs, decision makers must think how innovations affect stakeholders on the individual, interpersonal, societal, organizational, and policy level.

The third theme is on the efficient use of EHR. We know from the history of management that technological or cultural solutions are not mutually exclusive, rather it is a combination of the two and this is where the Center feels that the debate on efficient and effective health care should be focused. How these two elements can be combined? Can technology be the change agent and is EHR currently playing that role? At the moment what is clear is that EHR is not as efficient as it can be. However the potential that EHR has to simultaneously drive ideal organizational processes and innovation is monumental. The collaboration combined with the innovative thinking of government and market leaders can undoubtedly produce an efficient EHR system that is interoperable and has high uptake rate.

On reflection a few issues become evident and some questions come to mind. Is primary care something that can be delivered only by accredited PCPs or is it a "type of care" that a number of different healthcare workers including specialists be trained to provide? Are patient engagement leading to better adherence, care coordination and integrated therapy, the key areas that a primary care practitioner is expected to deliver? Will evidence based medicine help in non-specialists delivering basic care? Will the primary care practitioner be responsible mainly for communicating the elements of "evidence based medicine" to the patient and coordinating the care with the specialist? Will the primary care practitioner be available during emergencies to coordinate emergency and acute care? Will the primary care practitioner develop a relationship with the patient such that there is trust and compassion leading to a truthful and early communication of symptoms and thus early accurate diagnoses which empirical results show leads to lower long term costs?

Discussions seem to center around two philosophies. The "personalized" perspective (this is our term) calls for one on one relationship building and a proactive engagement of the primary care practitioner with the patient and his/her family, community and other providers. This perspective underscores the importance of understanding the motivation of each patient to maintain good health, and adhere to therapeutic plans. It then sees the primary care practitioner as having the connection with the patient and his/her ecosystem to actually influence decisions. In this perspective integration of specialties and therapeutic plans becomes the decision of the primary care practitioner and the patient. The "system efficiency" perspective (again this is our term) looks at different elements of the personalized perspective and breaks it down into action items, information flow and decision points. In this perspective, while the personalized relationship is good, it is not essential to efficient care. Panels of primary care practitioners PCPs or NPs or others can substitute for individual relationships as long as accurate and timely information on patient condition and history is available. Thus the key is to have doctors who can be available at short notice by the patient and who can access all the relevant information in a timely fashion. Mobile technology, handheld devices and the growth of personal data along with efficient EHR can facilitate this process. Integration and care coordination is about information and resources. These now have to be appropriately structured and incentive schemes introduced to ensure effective use.

As we all know, the key lies in combining these two perspectives in an operational way. This needs more dialogue between proponents of both perspectives in order to infuse the key elements of the "personalized" perspective into the "system efficient" one. Discussions on an appropriate culture of health and healthcare can provide a way in which the "system efficient" perspective is not depersonalized. It may also be possible to prioritize areas where the personalized perspective is vital to good care. By and large almost 80% of care can be standardized by some accounts with the proper use of evidence based data systems. If this is accurate, it may be possible to develop an integrated and personalized system with efficient process for the 20% who may need it most. More investigation into this issue is needed.

It is encouraging to note that providers and payers are working more closely with patients to come up with innovative ways in which patient centered care can be made more effective using primary care as a key dimension. It is apparent that we still have a long way to go to make the system work efficiently. More research is needed on the two perspectives and their integration. Innovative practices need to be monitored with process and outcome measures used over long horizons to determine whether these changes are indeed working. In some ways everyone seems to understand the potential of primary care and there is much activity in trying to come up with solutions. However, we are a long way from being really ready for the challenge.

Appendix

Agenda

8:30-9:00	Breakfast and Registration
9:00-9:05	Welcome *Fr. Joseph McShane S.J., President Fordham University*
9:05-9:15	Introduction *Frank Branchini, Chairman and CEO, EmblemHealth,Inc*
9:15-9:30	Keynote *Howard Zucker, First Deputy Commissioner, NYS Department of Health*
9:30-9:45	Discussion
9:45-11:00	Panel 1: Primary Care and the Affordable Care Act (***Moderator: Falguni Sen, Fordham)*** ***Panelists****: William A. Gillespie, MD, President, AdvantageCare Physicians; Prof. Linda V. Green, Columbia University; Dr. Sumir Sahgal, Medical Director, EssenMedical Associates; Dr. Jaime Torres, Regional Director, HHS Region II*
11:00-11:10	Coffee Break
11:10-12:25	PANEL 2: Innovating for Chronic Care **(*Moderator: Thomas D'Aunno, Columbia)*** ***Panelists****: Mitra Behroozi, Exec. Director 1199SEIU Benefit and Pension Funds; Dr. Sanjay Doddamani, System Director Geisinger; Dr. Rushika Fernandopulle, CEO Iora Health; Dr. Jagat Narula,*

	Professor of Medicine & Director Cardiovascular Imaging Program, Mount Sinai
12:25-12:30	Healthcare Management – Fordham Business Schools' Initiatives *Donna Rapaccioli, Dean of Faculty, Schools of Business*
12:30-1:00	Lunch
1:00-2:15	PANEL 3: Electronic Health Records and Analytics: A Facilitator? (***Moderator: Falguni Sen, Fordham)*** ***Panelists****: Srinivas Pendyala, CEO Hexplora; Brent Stackhouse, Exec. Dir. NYC REACH; Paul Wilder, VP Prod. Mgt. NYeHealthCollaborative*
2:15-2:30	Concluding Session *Falguni Sen, Director, GHIMC, Fordham University*

Panel Descriptions

The US primary care system is currently steering its way through mounting pressures. These new pressures emanate from several sources, including the need to improve the clinical management of chronic disease; improve the coordination of care in general; address the shortage of primary care providers; emphasize patient centered care; report outcomes measures; and meet increased demand as a result of the ACA's increased access to health insurance. These pressures create a challenging environment requiring new partnerships, process redesign and a change of culture, among other changes. This roundtable of academics and practitioners will discuss how to navigate these challenges through better communication, collaboration, and engagement bringing fresh perspectives and alternatives.

I. Primary Health Care and the Affordable Care Act (ACA)

The new demands exacerbate the current shortage of primary care providers, and also shift their obligations and responsibilities. The need for better integration of specialties and stakeholders leaves a number of questions unanswered such as its nature, its value and its outcomes. This panel will discuss what pressures the stakeholders are currently experiencing? Whether providers consider incentives to be adequate? What structures and processes could ameliorate these pressures? And whether there is a need for cultural change as well? This panel, led by practitioners and academic researchers in the field will explore successes and failures to create a sustainable and efficient system.

II. Innovating for Chronic Care

As discussed in the previous panel, one has to develop unique ways of responding to the changes in the demands on delivery system. Chronic disease burden is expected to grow at an accelerated pace. There have been a number of organizational and technological innovations in place to make chronic care management more efficient and effective. This panel will present some case studies that use innovative approaches to redesign organizational and workflow processes such as ACOs, PCMHs and Value based delivery care models. We will also highlight innovations that include alliances and network formation of community based clinics and patient advocacy groups. Additionally, a few examples of technological innovations that specifically benefit patients and/or PCP will also be presented. This panel will discuss the benefits and challenges to managing governance changes, workflow redesign, and technological adaptation.

III. Electronic Health Records: A Facilitator?

For years, EHR has been lauded as one the most efficient technological investments a healthcare institution could make due to its ability to reduce paper work, save time, eliminate errors, access patient history remotely, and improve care coordination at all levels of healthcare delivery. Despite the benefits, however, concerns remain regarding lack of interoperability and adjustment of organizational cultures. Experts on this panel will discuss whether or not there is a need for culture change along with technological changes? Furthermore, as EHRs increase collaboration between specializations, does it also create unanticipated consequences such as new hierarchies among providers?

Panelist and Speakers

Reverend Joseph M. McShane SJ
President, Fordham University

Frank J. Branchini
Chairman and Chief Executive Officer, EmblemHealth, Inc.

Howard Zucker MD JD
First Deputy Commissioner of Health, New York State Department of Health
Keynote

Falguni K. Sen, PhD
Director, Global Healthcare Innovation Management Center, Fordham University
Moderator, Panels 1 and 3

William A. Gillespie, MD
President and CEO, AdvantageCare Physicians, P.C.
CMO, EmblemHealth
Panel 1

Linda Green, PhD
Columbia Business School, Armand G. Erpf Professor
Panel 1

Sumir P. Sahgal, M.D.
Chief Medical Officer, Essen Medical Associates, P.C.
Panel 1

Jaime R. Torres DPM MS
Regional Director, New York Regional Office for HHS
Panel 1

Thomas D'Aunno, PhD
Professor, Health Policy and Management, Mailman School of Public Health, Columbia University
Faculty Director, Executive Master's Program, Healthcare Management
Moderator, Panel 2

Mitra Behroozi, JD

Executive Director, 1199SEIU Benefit and Pension Funds
Panel 2

Sanjay Doddamani, MD

System Director, Geisinger Health Systems
Panel 2

Rushika Fernandopulle, MD
Co-founder and CEO, Iora Health
Panel 2

Jagat Narula MD PhD MACC FRCP
Associate Dean for Global Health, Professor of Medicine, Director of Cardiovascular Imaging Program,
Mount Sinai School of Medicine, Mount Sinai Hospital
Panel 2

Donna M. Rapaccioli, PhD
Dean of Business Faculty and Dean of the Gabelli School of Business, Fordham University
Speaker

Srinivas Pendyala
Cofounder and CEO, Hexplora
Panel 3

Brent Stackhouse
Executive Director of Strategy, NYC Reach
Panel 3

Paul Wilder
Vice President of Product Management, New York eHealth Collaborative (NYeC)
Program Director, NYeC Regional Extension Center
Panel 3

ROUNDTABLE PARTICIPANTS

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