Using Open Innovation to Reinvent Primary Care
From the President and Chief Executive Officer

It’s time for a comprehensive U.S. strategy for reinventing primary care. It’s time to philosophically, fundamentally, and structurally reorient care toward prevention, wellness, and active disease management. Reinventing primary care offers our nation one of the best possible levers to advance economic opportunity for all Americans. That is the overarching premise of this endeavor. It has been one of the most important and challenging projects that I have been involved with and a great opportunity for learning.

The following pages don’t make the case for primary care in a theoretical sense. The document provides five categories of compelling recommendations, immensely practical and actionable, with examples of action taking place today, to collectively spark systemic change. There are recommendations for every stakeholder category across the health care ecosystem—providers, charitable foundations, the private sector, academia, policymakers, and more.

Among the highlights, this report calls for far more tests of innovative practice and payment models and structures—think creative “Race to the Top”–style programs. It calls for training the health care workforce of the future, investing more in cost-effective front-line providers such as nurse practitioners, physician’s assistants, and community health workers. It calls for transitioning to delivering preventive and chronic care in places and at times that are convenient for patients and not only for providers. It calls for investing far more in systems to allow consumers to interact directly with their providers, dynamically and more efficiently. And it calls for experiments with creative financial incentives for people who exhibit willingness to take charge of their health.

I’m grateful to the more than 100 clinicians, policymakers, researchers, economists, business professionals, entrepreneurs, insurance industry representatives and health policy leaders—a veritable “who’s who” of exceptional thinkers—who volunteered their precious time to join us in this endeavor. They didn’t always agree. Those who advocated for incremental change, and those who called for solution through disruption, all made passionate cases. But, at the end of the day, all agreed that our diverse health care system can be the perfect incubator for the kinds of innovations captured in these pages, if only we are willing to challenge conventional thinking and make it so.

So let’s make it happen. Everyone who was involved in this process, the stakeholder communities you represent, and the entire health care ecosystem: join us in learning from the exciting experiments already underway and work together to turn those examples into the system-wide change that is desperately needed for the health and well-being of our people.

Our community worked tirelessly on this project with our dedicated and talented Hope Street Group staff, including Anne Champlin, Diana Harris, Stephen Rockwell, and Joy Twesigye. I would like to sincerely thank our participants (http://www.hopestreetgroup.org/docs/DOC-2338), advisors (http://www.hopestreetgroup.org/docs/DOC-2337), Bianca Frogner, Ph.D., and our board (http://www.hopestreetgroup.org/content/index.php/the-people/board.html).

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Hope Street Group exists to bring together highly diverse stakeholders to uncover broad areas of concurrence and forge creative, pragmatic policy solutions on issues that matter most to people’s everyday lives. This is a fine example of that mission in action. Please join us in continuing the discussion around this critical work on our online policy development platform, www.hopestreetgroup.org.

Monique Nadeau
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Primary Care

BACKGROUND

Good health enables Americans to live longer, lead more active lives and improve their economic potential. Access to high quality and cost-effective medical services is critical to maintaining wellness and driving economic opportunity. Though the United States has strengths in research and innovation, its current health care system remains too expensive, overly complicated, and often inequitable; and it does not produce better outcomes than systems in competing countries.

For average health outcomes, Americans spend extraordinary amounts of money on health care and do not receive full value for their expenditure. Current estimates suggest that medical costs consume 17 percent of our Gross Domestic Product (GDP). By 2025, these costs are anticipated to account for 25 percent of the nation’s total economic output. The rising cost of care is one of the biggest factors suppressing the take-home pay of American workers, particularly for moderate-income families. And currently, 10 percent of the population accounts for the majority of health care costs, further reducing the value derived from health care for most Americans. Not only is this high level of personal expenditure a poor value to the average American, a high level of spending on medical care creates unsustainable cost pressures on U.S. businesses that inhibit their ability to bring competitive products and services to market and jeopardizes our country’s global competitiveness.

A predominant issue in the supply of health services in the United States is cost, and though other factors such as regulation and market dynamics generate complexity in the provision of health care, the main consequence of this complexity is that the supply-side of health care in the United States is unlikely to improve on its own.

Demand for U.S. health services will also increase in volume and complexity, in part as a result of the expected shifts in demographics and population growth. Provisions in the Patient Protection and Affordable Care Act (PPACA) are estimated to add 32 million more Americans to health insurance rolls in 2014. In addition, according to the most recent U.S. Census projections, as the population approaches 341 million by 2020, the demographics of those seeking care will shift to an older, more ethnically diverse, and more infirm mix of consumers with wider gaps in education and income.

Within this growing and diversifying demand, societal factors—such as food supply, educational attainment, income inequality, and personal lifestyle—will likely remain as persistent as they are complicated. Chronic diseases, such as heart disease, hypertension, and diabetes, cause the majority of visits to physician offices and are five of the top 10 leading causes of death. And the substantial impact of these factors on demand for health services occurs despite the fact that these diseases can be prevented or that their complications can be mitigated by lifestyle changes and other interventions. Even if the United States finds ways to care for more people, it will likely continue to fall further behind by international standards if the root causes of poor health and the resulting increased demand for medical services are not tackled. The growing number of those seeking health care, coupled with the obesity crisis and the rise in chronic disease rates, will likely cause more people to need medical care; and those doing so will be in poorer health and will present an enormous diversity of need to the system.

Against the changes in growing and broadening demand for health care services we face a projected shortage of around 96,000 physicians of which we estimate 45 percent is for primary care and 148,000 nurses by 2020, with that shortfall set to exceed 260,000 nurses by 2025, of which we estimate 85 percent is for primary care. With current training requirements—physicians require seven to 10 years of training and nurses require one to four—filling this gap would require the tripling of current medical school capacity in the next three years and a 30 percent increase in nursing school capacity over the next six years in order to mitigate the imbalance between the supply of providers and the demand for care.

Expanding medical school capacity to this extent is unrealistic, because of both the time needed to accredit medical training programs and the cost of increasing capacity.
Nursing schools already face over 800 faculty vacancies in nursing programs and over 50,000 qualified applicants were denied admission from nursing schools in 2009 due to faculty shortages.\textsuperscript{15}

There is no single solution to the growing shortage of health care professionals. And, without doubt, solutions to filling the workforce gap while also taming an unsustainable cost trajectory will require creativity and an entrepreneurial spirit. A more innovative and varied set of strategies will be required to meet our country’s needs. Fortunately, this is an area in which the United States excels.

**The Opportunity**

At first glance, the systemic heterogeneity of health care delivery in the United States seems foremost to present a difficult environment for substantial system-wide improvement. Our health care system comprises a wide variety of institutions and stakeholders operating independently, with complicated relationships among themselves, without effective coordination, and often at odds with each other. However, this complex structure provides the opportunity to develop and test numerous health care solutions—pilot projects to resolve our health care issues. The fragmentation of our current health care system creates numerous isolated microcosms within which to innovate and pilot the potentially successful ideas needed by our health care system, and which our nation is capable of creating. These health care policy test markets are laboratories, offering small, diverse, independent health care ecosystems in which to test many potentially successful ideas concurrently and competitively. This in turn accelerates the process of proving the best models, and supports adoption at the national level. The opportunity to innovate in health care is one of our global comparative advantages. Through innovation and pilot projects, and then making use of smart public policy that allows these innovations to be expanded, the United States can tackle the edifice of modern health care reform.

Although primary care\textsuperscript{16} is only six to eight percent of annual health care spending, its role within the health care system—as often the first and most frequent point of patient contact and its effect on downstream costs—make it a point of high leverage.\textsuperscript{17} This leverage has the potential to drive system-wide change and fundamentally improve cost and quality by changing both the nature of demand for health care services and how the supply from health care providers responds to that demand. Data show that when primary-care physician density increases, hospital admissions for conditions that could be managed in an outpatient setting decrease.\textsuperscript{18} This decrease is due to an emphasis on prevention, wellness, and active disease management. Conversely, but equally supportive, from 2003–2004, slightly more than 50 percent of Medicare recipients who were re-hospitalized did not have an outpatient provider visit prior to being re-admitted to the hospital.\textsuperscript{19} Lastly, through investments in enhanced primary care, some employers claim net cost savings of up to 20 percent for their employees with chronic diseases.\textsuperscript{20} Through access to and reinvention of primary care, the United States gains a tool that can both impact the whole health care system and specifically address some of the issues that compound its endemic expense, complexity, and inequality.

In addressing primary care, our country has a unique opportunity to address a specific component of the health care system that is ripe for focus and that, if improved, can help solve many of our capacity and cost problems. Despite varying opinions, the PPACA, because of its broad reach, has the potential to be an impetus for change in how medical care is delivered in the United States. For example, the PPACA paves the way for evaluation of new payment models such as bundled payments, patient-centered medical homes (PCMHs), and Accountable Care Organizations (ACOs). Reflecting a trend toward consolidation, as health systems re-organize into PCMHs and ACOs, we believe that physicians are likely to shift away from “small-group” private practice in order to join large group delivery systems often as salaried employees.\textsuperscript{21} Already, the percentage of active physicians employed by a hospital is projected to rise from 18 percent in 2000 to 40 percent in 2012.\textsuperscript{22} Emphasis on new innovation in risk-based reimbursement suggests that the health care payment system is more likely to move away from a fee-for-service model to a system that could, in some form, ultimately pay for outcomes. The opportunity is to evaluate such movements as pilot projects within the micro-environments of our health service ecosystem and assess their fitness for nationwide implementation.

**The Solution**

The animating goal of any health care reform has not changed. Ensuring that Americans have accessible, patient-centered, comprehensive care when they need it and that this care is coordinated with all other parts of the health care system is still the imperative.\textsuperscript{23} Elevating primary care makes it possible to maintain this focus while tackling issues of cost and capacity, by shifting the emphasis away from expensive, later-stage medical care to prevention,
wellness, and earlier detection and treatment. In the future, the United States needs to realize these opportunities within primary care to deliver the health services our country needs, at the scale demanded, and within an environment of seriously constrained resources.

Reinvention is necessary, as the United States cannot fill its provider gap with current human-capital and care-delivery models. By deconstructing primary care into its components—wellness, prevention (primary and secondary), triage, navigation, chronic disease management, and transitioning from sick to palliative end-of-life care—we can innovate appropriately within each of these domains. Even though the most complex diagnosis and treatment should remain with the physician in the traditional role as diagnostician and clinical problem-solver for the patient, many aspects of care delivery, such as prevention and chronic disease management, may lend themselves to non-traditional and entrepreneurial solutions that tap into new technologies and team-based care delivery. This type of deconstruction has the potential to provide a more robust front-end for health care that could enable the system to serve more people in a cost-effective way.24

We are proposing a conceptual framework to generate policy solutions for using primary care to address the shortage of resources in U.S. health care. This framework will standardize primary care policy options so that we can evaluate them consistently within the opportunity of the microcosms that exist in our health care system. Our framework is built on several principles. First, we need to learn through research and development by finding creative solutions that are better, faster, and scalable. In its simplest form, part of the answer is to drive a top-line increase in capacity by finding new ways to create health care workers. However, because there is not nearly enough time even if we had unlimited financial resources, we also need to substitute traditional methods with alternatives. Then, we need to amplify the entire resource pool through increased productivity. Lastly, this process will be most successful if we are able to modify consumer behaviors that lead to poor health. Clear incentives should be structured to support each of these activities.

Based on projected capacity requirements, we know that there is a large provider gap, but we do not know to what extent each of the levers—LEARN, CREATE, SUBSTITUTE, AMPLIFY, or MODIFY—can contribute to an overall solution. We do know there are compelling examples of progress and innovation across all five levers in the U.S. health care system today. We believe some combination of these five levers could be pulled to achieve large-scale innovation in primary care that meets our needs as a country.
To fulfill a vision of accessible, patient-centered, comprehensive care that is coordinated with all other parts of the health care system, we believe the following policy options should be implemented across the entire system:

1. **LEARN through research and development:** Foster an environment in which innovative practice models, payment structures, and advances in technology can be tested, measured, and diffused more rapidly.

2. **CREATE the health care team of the future:** Recruit, train, and retain the optimal health care workforce.

3. **SUBSTITUTE with alternatives:** Use new people, places, and tools to achieve greater capacity at lower cost.

4. **AMPLIFY our productivity:** Leverage technology, patient engagement, population management, and payment reform to accelerate smart processes.

5. **MODIFY consumer behavior to decrease demand:** Empower consumers to take personal responsibility for improving their health through education, interactive tools, and incentives.

### Policy Design: Learn, Create, Substitute, Amplify, and Modify

Our ultimate goal is to ensure that all Americans have affordable care when they need it, experience positive health outcomes, and that they participate actively, not passively, in their care. The aim of this paper is two-fold:

1. To present a conceptual framework for understanding the potential areas of greatest policy leverage (showing current examples of innovation).

2. To highlight recommendations to increase the capacity to deliver appropriate care while maximizing value.

### LEARN through research and development:

The United States is known for its ingenuity, and we should embrace our resourcefulness as we approach improving our health care system. Innovations have developed rapidly in the biotechnology industry, but innovations for health service delivery and payment models have been slow to gain widespread adoption and remain small-scale. Often, government policy has been one of the key obstacles to innovation through cumbersome or outdated regulation.

The new Center of Medicare and Medicaid Innovation (CMMI), with a budget of $10 billion over the next 10 years, has the potential to spread innovative payment and delivery models to a wider audience faster than under the current demonstration projects at the Center for Medicare and Medicaid Services (CMS). Under the CMMI authority, the Secretary of the Department of Health and Human Services (HHS) can provide leadership by selecting pilots to nurture and fund over the next 10 years without year-to-year Congressional approval and appropriation, which previously...
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Recommendation 1: Foster an environment in which innovative practice models, payment structures, and advances in technology can be tested, measured, and diffused more rapidly.

Accordingly, we make the following sub-recommendations:

a. Create a “Race to the Top” program to enable HHS to fund states, on a competitive basis, to test pilots for developing more efficient and creative methods of serving their burgeoning Medicaid population. The federal government should be a catalyst for innovation by providing “venture capital” for states to explore new models of care delivery. The Department of Health and Human Services should set broad parameters for cost, quality, and access for the selection process, while also governing on principles of strong accountability and transparency. Grants from such a fund would not be an entitlement spread thinly among states. Rather, the federal government would solicit proposals that would be based on commitment to new and innovative reforms. As part of the competition, states would be required to demonstrate that they have developed a strategic workforce plan and amended its scope-of-practice laws, if necessary, to support the implementation of their strategy. In the case of the Race to the Top program in education, 23 states have changed their laws to remove legal barriers to connect teacher effectiveness and student achievement. Such a dramatic and rapid result would have been inconceivable even a year before the competition.

b. Develop a proactive strategy for CMMI within CMS to develop pilot payment programs that reduce costs and improve quality of care. CMMI should put a strategy in place to help it prioritize the types of care models that may have the best chance for enhancing large, system-wide improvement. There may be a temptation to focus on ready-to-scale-up models but, based on future estimated panels, we believe it is critical to nurture many creative ideas. The findings from smaller-scale programs could shape and inform models adopted by other public or private payers and delivery centers (e.g., community health centers, employer facilities, and entrepreneurial ventures). We recommend that priority be placed on clinical outcome-based reimbursement for chronic care management as well as access-based reimbursement.

CMMI should establish a set of coordinators who are vested with the responsibility to publish white papers, potentially in partnership with the Agency for Health Research and Quality (AHRQ), on the opportunity for improvements in their area, track projects within their areas partially funded by CMMI, and project potential savings and health improvements that may result from successful tests and implementations. In addition, CMMI
coordinators should serve as a clearinghouse of regulatory-related information for entrepreneurs who wish to solve problems within the coordinators’ domain. And, perhaps most importantly, CMMI coordinators should work across CMS and other federal agencies to clear regulatory obstacles to small-scale trials and help to set appropriate requirements that must be met by small-scale efforts in order to remove regulatory barriers to broader adoption. The coordinator role is an executive one, and coordinators would ideally possess experience in venture capital and health care businesses.

c Test new compensation models that incentivize primary care physicians to perform activities most likely to reduce unnecessary costs, such as patient monitoring after discharge from the hospital, thoughtful end-of-life discussions, and referrals to non-interventional options. This includes a system that limits payment of unwarranted variation from evidence-based care without justification and a system that increases reimbursement for preventive and cognitive services. Models can test whether and at what level payment differentials can incentivize health care workers to settle in underserved areas. Additional models can test whether paying more for services performed in the evenings or weekends would lead to expanded office hours affording patients convenience and reducing unnecessary usage of hospital emergency rooms, the most expensive setting for primary care. Amid the evolving interest among some physicians to be salaried rather than self-employed, this is an ideal time to test whether realigning remuneration can alter career choices and help to produce a primary care workforce, at all levels of training, that meets the nation’s needs.

d Create health care incubators in research settings, foundations, or private industry to accelerate the growth of small, entrepreneurial individuals and firms that have new health solutions. We should support start-up entrepreneurs who have traditionally faced significant barriers to market entry, yet have the willingness to try creative solutions and have a good understanding of their market. Incubators provide a location and tools where entrepreneurs can be trained and mentored in strategic business practices, connect with sources of capital (such as angel networks, other venture capitalists, and foundations) and build a network of leaders, service providers, and other entrepreneurs. Incubators have had many success stories outside the health industry, but have rarely been adopted as an approach to develop innovations within health care. According to the National Business Incubators Association, companies that are nurtured within incubators have an 87 percent chance of survival after leaving the incubator, which is in large contrast to the failure rate if the entrepreneurial company was on their own. For every dollar in public subsidy to operate an incubator and participants, the local economy receives $30 in local tax revenue.

e Expand platforms to disseminate and promote innovative practices across the country. Encourage submissions to and use of the Agency for Health Research and Quality (AHRQ) Innovations Exchange, a new and unique venue of peer-reviewed models that promotes innovations and tools to improve quality and reduce disparities in outcomes and variations in practice pattern. Currently, nurses are the largest users of this forum. AHRQ efforts should be coordinated with CMMI. Government efforts should partner with private foundations that also test innovations to create easy-to-access knowledge hubs. Any database that develops these should include both successful and unsuccessful innovations, with explanations in the case of the unsuccessful ones.

Emerging Health Care Delivery Incubator

This autumn, the California HealthCare Foundation (CHCF) launched its $10-million Health Innovation Fund with the goal of engaging a broad range of entrepreneurs and providing capital to for-profit companies and non-profit organizations to help them finance, sustain, and grow initiatives that are geared toward lowering health care system costs and improving access for the underserved. CHCF will provide investments that take the form of low-cost loans, loan guarantees, or equity, as opposed to grants. The fund will invest in organizations during all stages of growth with a primary focus on early-stage development.
CREATE the health care team of the future:

The future U.S. workforce should reflect the re-orientation toward national health outcomes over delivery and identify ways to optimize each health worker’s role to achieve better results. We should provide renewed support for the “highest and best” use of each health care professional’s skill set so that providers are using their training to its maximum value to the health system. While the role of the physician remains vital, his or her time and skills should be used to care for the sickest patients among us, whose numbers we know to be increasing at high rates. Lower-acuity patients can safely and effectively be managed by properly trained nurse practitioners, physician’s assistants, and other providers. This more effective division of labor frees physicians to manage higher-acuity patients, capitalizing on the distinct differences in training while safely and effectively delivering care through an interdisciplinary team-based approach.

To implement this approach, we should develop a national strategy that identifies our future workforce needs by skill and function. Professional regulation policies, including state-level license requirements and scope of practice, should be carefully evaluated and standardized to ensure that they support the goals of the national strategy and enable care to be delivered most efficiently. Using public–private partnerships, we should introduce long-term financial incentives to encourage students to pursue careers in primary care and for providers to serve in underserved communities. Additionally, reimbursement should be given for the work that the entire team accomplishes rather than the current practice of only reimbursing physician services. Without reimbursement for services delivered by non-physicians, the notion of “working to the top of the license” is financially unsustainable. Lastly, it is highly unlikely that we will be able to train health care workers using the same methods employed for the last century and deliver different results. Thus, it is essential that we equip future providers with the necessary skills and experiences during their academic preparation and training to be effective partners in a new health care delivery paradigm.

Recommendation 2: Recruit, train, and retain the optimal health care workforce.

Accordingly, we make the following sub-recommendations:

Fund and support the mandate of the National Health Workforce Commission (NHWC) to recommend a national health workforce strategy that includes an evaluation of the scope of practice at all levels. The NHWC has been assigned the role of serving as a national resource to facilitate the examination of health care workforce issues among national departments such as Health and Human Services and Homeland Security. We recommend that this work be fully funded in order to apply a cohesive national lens when viewing supply and demand, regulatory, and other issues. Without a unified approach, we will not be able to use the workforce of the future as efficiently as possible. The multi-stakeholder NHWC should be free to tackle longstanding issues, such as scope-of-practice laws and loan repayment programs. Furthermore, the NHWC should recommend ways to better align Medicare and Medicaid graduate medical education policies with national workforce goals. The NHWC should explore other important aspects of health care, such as patient education, primary prevention, and managing transitions of care. These functions might be rendered better and more affordably by non-physician providers and/or a team-based approach. The evaluations stemming from the Commission’s work should be used to determine whether the demand for health care workers is being met, improve workforce functionality at all levels of training, and encourage innovation to address population needs.
Develop long-term incentives for health workers to enter primary care or practice in underserved areas. Most incentives to direct health care providers into underserved areas are one-time (a single year of scholarship for choosing primary care) or short-term (three years of loan repayment for working in an underserved area). These retention methods are widely ineffective because more than one third of rural Americans live in Health Professional Shortage Areas and only nine percent of America's physicians practice in rural areas. We should invest in longer-term incentives such as rebalancing the payment discrepancy or the cost-of-living payment between services provided in rural versus urban areas. In addition, we should look to reduce the cost of health care workers’ education by investigating accelerated preparatory programs for future primary care providers.

Create incentives for schools to increase primary care enrollments rather than replace existing budgets. Past financial efforts to increase the number of health workers have generally displaced other forms of funding and have not increased the actual number of workers produced. Results-based financing (i.e., paying schools upon the graduation of additional students) or incentives to start new branch campuses should be considered. These incentives should focus on the most cost-effective front-line providers such as community health workers, diabetes educators, nurse practitioners, physician’s assistants, and social workers.

Equip health care providers with necessary skills and training during academic preparation and in the workplace. The health care workforce will continue to need different types of training to perform their jobs effectively in a changing world. Such training would include team based collaboration, foreign-language and management instruction, meaningful utilization of electronic health records, and principles of patient safety in the information age. For example, all clinicians should be trained in patient activation and self-management, and provided with incentives to support patient engagement in their care. Existing curricula for delivering patient-managed care should be updated and new programs of instruction created.

Fast Track to M.D.

Texas Tech has a program where students graduate in three rather than four years and the training is geared toward entering family practice. One year is eliminated from the program by removing summer breaks and starting clinical rotations earlier. Using a combination of forgiveness of one year of tuition as well as awarding scholarships, students graduate with half of the expected debt. This further enables these students to enter the often lower-paying field of family medicine.

SUBSTITUTE with alternatives: Because the projected shortage for the health care workforce is large, even with smart policy choices intended to avoid the shortfall, alternatives will be required. We believe that we are unable to provide enough incentives and do not have enough time to educate our way out of the gap through total reliance on the traditional workforce or worksite. The health care delivery system needs to meet people where they are, both literally and figuratively, with their current lifestyles and cultural sensitivities. The goal of substitution is to provide increased access and choice by shifting to lower-cost settings with lower-cost providers. In addition, technology, and particularly information technology, should be better utilized to help deliver better (and more) care at lower costs. Several components of comprehensive electronic health records offer opportunities to drive one or both sides of the care-improvement/cost-reduction equation. But, as part of this, electronic health records should be streamlined and harmonized so that patients’ information can be accessed wherever they receive care within the system.

To implement this approach, we recommend a series of substitutions that fall into three categories. The goal of substitution is to provide increased access and choice by shifting to lower-cost settings with lower-cost providers. First, substitute one type of health care worker for another. To enhance capacity, every level of the primary care team should work to the highest level of its skills. To achieve efficiency, however, each level of the team should not work
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below its skills when those tasks can be performed just as effectively and less expensively by others on the team with lower levels of training. Second, in terms of venue, new and better locations should be used to provide alternatives. Finally, substitute traditional forms of communications with new methods. In addition, patients should be encouraged to take greater responsibility for disease management and personal wellness through enhanced patient-to-patient (or family-to-family) communications. For example, the rise in the number of virtual communities enables patients with similar illnesses to connect with each other across geographies and share experiences for both education and support.36

Recommendation 3: Use new people, places, and tools to achieve greater capacity at lower cost.

Accordingly, we make the following sub-recommendations:

a Create community-college or vocational-level educational opportunities. The medical system is complex and requires a minimum level of health literacy to navigate successfully.37 Communication between providers and their patients (including patients’ families) is often ineffective.38 Consider, for instance, the reality that a patient’s first experience with the system is often precipitated by a new illness for which he or she has sought treatment. Information asymmetries between providers and patients, as well as deficiencies in providers’ cultural competency, very often lead to misunderstandings. These misunderstandings exert a negative influence as both chronically and critically ill patients attempt to regain health, often with limited information provided in their primary language. More importantly, what information is provided may be inadequately graded for patients’ literacy levels or educational backgrounds.

Non-physician providers can be better deployed for providing many services. Physicians and other clinicians simply do not have the time to discuss with each patient the U.S. Preventive Services Taskforce recommendations, verify patient understanding and compliance with protocol-based disease management, and follow up with transition of care. In contrast, “navigators” and “health educators” could be trained and deployed to provide cognitive services that do not require a traditional hands-on history and physical examination. In addition, these health care professionals should be people who are culturally connected to the population in order to help patients understand their medical conditions within their own cultural context, learn optimal self-management strategies, evaluate potential treatment options, and assist in the coordination of transitions of care across providers and institutions. These individuals will be needed for population-management services delivered at the primary care practice level, whether within ACOs, PCMHs, or other organizations, and paid for within different payment models. They will complement the services rendered by physicians, nurse practitioners, and physician assistants at a lower cost, providing education assistance that the other professionals may not have time to provide.

Leveraging Community Health Workers

Promotoras de Salud is a promising practice in Fresno County, California, that has been recognized on AHRQ’s Health Care Innovation Exchange. This program trains bilingual/bicultural community health workers to help connect low-income Latino families to insurance and affordable health care services by delivering personalized education and assistance designed to improve participants’ knowledge and attitudes about health insurance, health care access, and preventive services. The program increased health insurance enrollment, use of preventive care services, usual source of care, and self-efficacy among participants.39
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b Use non-traditional sites for health care delivery in order to create low-cost, convenient, and coordinated access points for prompt care. Preventive and chronic care should be delivered in places and at times that are convenient to patients rather than strictly convenient for providers. While the primary care physician’s office space is a traditional location for much of the care performed, it is possible that the amount of available physical space in urban areas will not scale to meet the demands of the growing and newly insured population. Use of non-traditional sites for the delivery of various services—such as group teaching, evaluation of simple upper-respiratory infections, or immunization—could be a solution to this problem and would include venues such as schools, community hospital meeting spaces, drug stores, places of worship, retail clinics, exercise facilities, or employer sites. These sites could be connected to the patient’s electronic health record, ensuring that the patients who develop complications or require follow-up care could have all their medical information archived and readily available for his or her primary care physician when needed. While this is beginning to happen in some communities, we should encourage further evaluations to determine the right mix of services combined with assessments of the impact on overall consumer demand. Still, as we transition care to new venues, we need to ensure that these new settings are held to the same high-quality standards as traditional venues.

Accessible Health for Children

The 1,700 School-Based Health Centers (SBHC) operate in over 43 states and provide services to children and adolescents. Research and evaluations indicate that school-based health centers greatly enhance children’s access to health care, in some cases as much as 10 percent. These studies have found that adolescents are 10–21 times more likely to come to a SBHC for mental health services than a community health center network or health maintenance organization (HMO). Additionally, SBHCs are credited with decreasing absenteeism and tardiness as was widely reported amongst adolescents who received counseling services in a school-based health center.

Texting for Healthy Moms and Babies

Text4baby is a free mobile information service designed to promote maternal and child health. Its lead sponsor is National Healthy Mothers, Healthy Babies Coalition (HMHB). The program provides pregnant women and new moms with weekly information timed to their due date or baby’s date of birth. While it is just being rolled out in some states, text4baby has more than 18,000 women signed up for what is expected to be the largest nationwide health initiative using mobile phones.
**AMPLIFY our productivity:**

Amplification revolves around the idea that it is necessary to take the resources that we have and make them more efficient through enhanced productivity. Productivity can be improved through both innovative use of technology and thoughtful redesign of the current system. According to one study, technology has been estimated to increase provider productivity by as much as 20 percent.\(^4^3\) We believe that creating more health care workers and finding substitute labor that generates greater capacity at lower costs will not be sufficient to address our current workforce shortage. One estimate predicts that even if all new nurse practitioners worked in primary care, this would be equivalent to 25,000 additional primary care physicians.\(^4^4\) If all new physician assistants practiced primary care, this would add a similarly equivalent number of primary care physicians.\(^4^5\) In all, substitution of workers may, at best, reduce the gap only by half. Thus, we should also help our primary care workforce become more productive. Improving productivity will be instrumental to successfully providing health care in a financially and labor-constrained environment.

To implement this approach, we focus on exploring, testing, and, where successful, implementing initiatives to leverage technology that drives productivity, improves coordination, and lowers costs. In this way good health can be maintained and escalation of minor health problems can be prevented. Options include interacting with the provider via dynamic interfaces, workflow management, and evidence-based decision support. Restructuring delivery yields improved productivity because time is used more efficiently. This includes compliance support via a variety of methods combined with telemedicine to enhance communications between health care workers and their patients or between patients and each other. In addition, productivity gains come from improvements between types of care. Finally, encouraging a reduction in waste through increased cost transparency can lead to productivity gains through savings.

### Recommendation 4: Leverage technology, patient engagement, population management, and payment reform to accelerate smart processes.

Accordingly, we make the following sub-recommendations:

**Create a dynamic interface with provider systems so that consumers can interact directly with their providers.** Consumers are increasingly seeking automation and online services in their daily lives. As increasing numbers of providers implement electronic health records, they will be able to offer patients more efficient ways to interact with their providers at lower cost. Using dynamic interfaces to schedule appointments is an immediately available, and especially useful, application of this patient-facing technology. Additionally, there are many other technologies that can help providers and patients interact. Areas that show the most promise include tools that help providers and patients work together to manage preventive medicine, address the needs of chronic conditions such as diabetes and hypertension, and facilitate coordination between providers in various disciplines. We should foster a feedback loop that includes asking all consumers about their experience of care and supporting providers in using the results to improve. Here, HHS should revisit its current regulations on patient and medical information privacy to promote use of new automated tools to manage chronic conditions and coordinate care.

Health Communications for Veterans

HealtheVet is a large-scale example of a dynamic interface, which gives veterans, active-duty service members, and their dependents and caregivers internet access to Veteran Affairs (VA) health care information and services. When logged into HealtheVet, consumers may refill VA prescriptions online, get VA wellness reminders and, when available, participate in secure messaging with their health care team.\(^4^6\)
Transition from focusing on an “acute visit–based” model for primary care practice to a model that incorporates population management. Instead of managing a daily workflow that is limited to the patients who are physically present or require standard follow-up, proactive patient contact should be implemented to triage patients into appropriate screening and prevention programs. Such proactive outreach could be systematically conducted via a dashboard or some other automated process, both within a practice site and at non-traditional sites. This transition to proactive engagement will require implementation of technologies that can measure and report population health as well as changes to our current reimbursement system.

Develop evidence-based decision support tools accessible to both provider and patient to base screening and treatment recommendations on individualized patient risk. While patients are interacting with their provider, they often have a variety of questions about their treatment. Effectively answering these questions and helping the patient navigate the complexities of the choices is important for medical and emotional reasons, but also time-consuming regardless of who provides that type of navigation. While we can debate which health care professional should provide this navigation, tools that help the patient to make shared medical decisions should be employed. Health care providers should be able to communicate personalized information to their patients about the outcomes, probabilities, and scientific uncertainties of available treatment options. Further, the patient should be able to communicate his or her values and the relative importance he or she places on benefits and harms. Both patients and providers benefit when patients are well informed about, and feel ownership over, their health plans. Decisions are more likely to match their preferences, values and concerns.

Intensive Caring

The Special Care Center (SCC), a partnership in Atlantic City, New Jersey, is using the Ambulatory Intensive Care Unit model to deliver coordinated care management to 1,200 patients with multiple chronic illnesses. The center recruits and trains frontline health workers to serve the functions of both health coaches and medical assistants. The center has recently also expanded the use of home visits by health coaches. Health coaches engage patients in their chronic care management by helping to make a shared care plan and through education, motivational interviewing, tracking, and coaching. The center has made extensive use of community health workers in this role, people drawn from the same community as the patients, with excellent interpersonal skills, but lacking formal health care training. Other innovative features of the practice include the tracking of patients’ biometrics—blood pressure, blood sugar, and weight—at home, and the use of these values to trigger interventions. The center also uses registries to track patients’ progress and targets those who need further attention. Patients with high health spending and manageable but severe chronic illness are recruited from partnering insurance companies, hospitals, and unions.

Make Everyone an Expert

MedExpert’s individual medical decision systems (IMDS) have, in two years, reduced health care costs by more than 15 percent, or $88.2 million, based on a member population of 130,000. IMDS achieves these results by combining a unique artificial-intelligence technology with on-staff physicians, allowing providers to transition from an acute visit–based model and redesign the daily workflow of providers’ offices to proactively contact patients and triage them into appropriate screening and prevention programs. This information can also be accessed by consumers. MedExpert’s technology is powerful enough to resolve issues for more than 22,000 medical circumstances and, as a result, is used by companies, schools, and the government to improve health outcomes.
Address issues related to adherence at the source. Variability in patient adherence to treatment instructions, such as for prescription medication—including simply filling the prescription—can result in much more serious and expensive medical problems. This behavior has been reported to contribute to 125,000 premature deaths each year in the United States and $100 billion in increased health care costs and lost productivity.49 If pharmacies or pharmacy benefits managers (PBMs) could give real-time alerts to primary care physicians or other health workers that their patients have not filled their prescription, it would allow the office to effectively intervene to address the situation. Better patient adherence has been shown to improve outcomes. Providers could be spared from chasing the patient with a second or third drug when the patient may not be compliant with the first drug.

Leverage the functionality of Telemedicine. Telemedicine takes the form of an email, phone call, video computer interchange, or remote monitoring in the patient’s home. It can expand access to care, improve coordination, prevent unnecessary hospitalizations, control costs, and increase patient satisfaction. The 3.3 million members of the Permanente Medical Group are estimated to have sent five million secure emails directly to their physicians in 2010.51 According to estimates, one in five of these emails prevented a visit to a physician’s office.52 The use of this technology does not replace the health care team with a different resource. Rather, telemedicine extends provider capacity by increasing patient access that might have been previously unavailable due to geography or time. Hence, telemedicine should be considered when developing initiatives around rural health care. From a baseline of 2.2 million patients transported each year between emergency departments at a cost of $1.39 billion in transportation costs, telemedicine could avoid as many as 850,000 transports with a cost savings of $537 million a year.53 Further, there would be a gain of $1.7 billion in productivity from avoiding missed hours or days of work.54 Standardizing reimbursements for the various types of telemedicine options across payers would also be helpful.55 Moreover, increases in reimbursements for home monitoring devices for high-cost conditions, such as diabetes, are likely to be necessary to spur widespread adoption.56

Follow-up is the Best Medicine

Jordan Shlain, M.D., cofounder and president of Health-Loop, in San Francisco, believes that follow-up is the best medicine. By creating a clinical online communication platform, providers and patients have a way to ensure that information does not “fall through the cracks” between appointments. Providers get patient feedback about symptoms and conditions and improve compliance with care plans, while patients can simultaneously view data about their conditions and communicate with doctors about how they are feeling. In effect, it enables doctors to manage their entire patient populations within a single dashboard.50

Teach Fishing and Improve Health Simultaneously

Housed in the University of New Mexico, Project ECHO (Extension for Community Healthcare Outcomes) was founded by Sanjeev Aurora, M.D. The service has provided more than 4,000 consultations for patients with Hepatitis C and given clinicians in rural areas 3,500 hours of continuing medical education credit. Project ECHO leverages technology by using a secure, Internet-based audio-visual network to increase access to care and increase the skill level of rural clinicians in New Mexico. The program trains doctors, nurses, physician’s assistants, and other clinicians in rural and underserved areas to collaboratively manage patients, expanding the health system’s capacity to deliver high-quality chronic care to those most in need. Outcome studies show that treatment of Hepatitis C in rural areas using the ECHO model is as safe and effective as in a university-based clinic.57
Using Open Innovation to Reinvent Primary Care

Improve the quality and cost of transitions between acute and other types of care. Considerable literature supports the reality that patients are most vulnerable at the times they experience care transitions, such as when they are discharged to the community or post-acute care. Handoffs between providers can be difficult when care needs to be coordinated across institutions. Many patients who are discharged from a hospital are quickly readmitted because often, there is inadequate follow-up from their provider after they are discharged. Transitional-care visits should be encouraged in order to decrease preventable readmissions, medication errors, and costs associated with these and other related poor outcomes. In order for better care transitions to become routine, cognitive and other tasks associated with follow-up and care coordination need to be specifically reimbursed.

Possible Lessons for ACOs

ChenMed, the largest primary and multi-specialty physician group in northeast Miami, is taking an approach to quality care that may have many lessons for future ACOs. Unlike some of the managed care organizations of the past, ChenMed highly prioritizes keeping patients out of the hospital through prevention, wellness, and access. In addition, it is one of the few providers in the area that provides transportation and onsite specialists and whose practitioners visit hospitalized patients. All care is then coordinated by a single unified electronic platform uniquely designed to reduce admissions and maximize preventive care. Through the gain sharing of Medicare Advantage, ChenMed profits from lower hospitalizations and re-admissions. Dr. Chris Chen believes that everyone wins when incentives are aligned between the patient, provider, and payer. Recently, in an effort to improve medication adherence in the management of chronic diseases, ChenMed introduced a Digital Pharmacy Replacement service that enables patients to receive 30- or 90-day prescriptions from their doctors in less than five minutes at the practice. This eliminates the need to go to the pharmacy for more than 85 percent of prescriptions. Patients enjoy the added convenience, ChenMed saves approximately $25 per Medicare patient per month, while health plans experience lower costs due to an increase in generic utilization when compared to patients going to pharmacy. According to ChenMed, the practice has received grants from large non-profit organizations to publish what they believe will be dramatically improved health outcomes.

Maximizing the Systems Approach

Integrated delivery systems such as Group Health, InterMountain Health and Geisinger have shown value in health care delivery through organized-care delivery systems that maximize systems approaches and strong primary care delivery. Our challenge in innovation is to extend the components of these models to frontier and rural areas in a virtually integrated model. The lessons learned from North Carolina’s Community Care Network and Grand Junction, Colorado, can serve as models to continue to learn how to develop virtually integrated delivery systems.
Reduce unnecessary costs through greater transparency. New tools should also be used to help primary care doctors understand the differences in the prices of where they refer patients, particularly if the primary doctor has some “gain-sharing” or upside for more efficient use of resources. This will drive cost competition in the market. Efforts could start with a focus on “commodity” items like radiology, gall-bladder surgery or breast biopsies. Over time, as hospitals learn to compete and demonstrate cost and quality, expectations can expand for the “efficient” choices primary care doctors should be making.

MODIFY consumer behavior to decrease demand:

Personal behavior change is often a “heavy lift,” but even small changes in behavior and lifestyle can have dramatic effects. Even when a person wants to change his or her behavior—lose weight, exercise, quit smoking—marshaling the personal motivation and societal support to change behavior can seem impossible, especially when commercial and other social forces have influences that are counterproductive to health. While there are many external forces impacting health over which an individual has no control, unless everyone takes some responsibility for his or her own health and well-being, the health care system will not, on its own, be able to address the volume and complexity of many diseases. For example, the cost of diabetes is enormous. The total direct and indirect costs exceed $170 billion per year and, after adjusting for population age and sex differences, average medical expenditures among people with diagnosed diabetes were 2.3 times higher than what expenditures would be in the absence of diabetes.

To implement this approach, we recommend focusing on methods for meaningful behavior modification. We would like to promote the introduction of financial incentives, where possible, to increase the likelihood that preventive care will occur. But we would also like to provide the tools that help consumers manage their own health and would like those tools informed by the people who use them. In addition, we recognize that good nutrition and lifestyle are not always obvious so we believe that nutrition information combined with affordable nutrition should be pursued. Finally, access to relevant information has to be creative, interesting, and tailored to the audience.

Recommendation 5: Empower consumers to take personal responsibility for improving their health through education, interactive tools, and incentives.

Accordingly, we make the following sub-recommendations:

Continue to promote financial incentives to seek preventive care by encouraging health insurance companies, employers, and government payment programs—Medicare and Medicaid—to institute lower co-payments, deductibles, and premium reductions or rebates for patients seeking preventive and chronic-care services. We believe that financial incentives can encourage changes in behavior. Some research suggests that this may be the case in health care as well. The total cost to the system is less if individuals seek care at earlier stages when that care costs less. Involve consumers and families in the design of incentives, tools, and resources for health improvement.
b Support technologies that enable consumers to do more themselves in prevention wellness, navigation, and disease management. Promote preventive and self-care through relevant, accessible information and education by routinely reminding patients of where they stand with each component of their own U.S. Preventive Services Task Force program and develop follow-up plans. Where possible, patients should be able to see their own relevant disease metrics compared to aggregate benchmarks for others. Depicting outcomes graphically improves understanding for patients of all educational levels. In part, this would be used to motivate those falling below average to understand how their health performs against the wider population, including within their own practice.

Virtual communities provide accessible, eye catching, and relevant health information to people with a variety of health conditions. Employers can either provide or promote virtual communities as a way to support health promotion and engagement.61

C Provide personal behavior choices in nutrition that would reduce incidences of obesity and associated medical conditions by providing incentives to increase the intake of healthy foods and disincentives to consume unhealthy food. Promoting healthy eating will require interventions at multiple levels (i.e., home, neighborhood, community, and local, state, and federal governments). One of the many things that the federal government can do is condense the widely dispersed information on nutrition into one organization, similar to the United Kingdom’s Food Commission, so that cohesive food policy can be efficiently created and implemented.64 One benefit of having cohesive food policy is that the United Kingdom has accepted standards to judge food “healthfulness.” As a result, Tesco, a large grocery chain, placed “stop-

Beyond Typical Social Networking

Howard Steinberg and Geisinger Health Systems created dLifeTV, which engages consumers around issues of increasing wellness and disease management. dLifeTV addresses the reality that consumers manage their diabetes around the clock and provides a platform to inform, educate, and connect millions of diabetic patients, consumers, and caregivers via a web portal, mobile service, direct mail, television programs, and professional programs, as well as an emerging health care services division.62

Self-Care and Patient Engagement Meet

Dr. Sam Pejham developed AsthmaMD, an iPhone application that allows patients to easily track their asthma activity, medications, and triggers through a diary and color graphs that can be sent directly to their personal physician as well as to researchers. Programs such as AsthmaMD provide an unprecedented ability to easily gain and share large amounts of accurate and real-time data about asthma and other health-related issues at the population level.63

Real Food for Everyone

Senior Farmers’ Market Nutrition Program (SFMNP) provides incentives to seniors in the form of benefits that can be used by eligible seniors to purchase fresh, nutritious, unprepared, locally grown fruits, vegetables, honey, and herbs at authorized farmers’ markets, roadside stands, and community supported agriculture programs.67 During fiscal year 2009, 17,543 farmers, 3,635 farmers’ markets, and 2,662 roadside stands were authorized to accept farmers’ market nutrition program (FMNP) coupons. Coupons redeemed through the entire FMNP resulted in over $20 million in revenue to farmers for fiscal year 2009.68
sign” decals on less-healthy food and sales for those items dropped by 41 percent. The U.S. Department of Agriculture (USDA) should follow suit by restricting the use of federal food assistance for the purchase of unhealthy foods. Additionally, as part of creating a cohesive food policy, the Child Nutrition Act could be used as a mechanism to codify nutrition standards into programs such as the National School Lunch and Breakfast Programs where the food supplied frequently fails to conform to the USDA’s own dietary guidelines for healthy eating.

Other state or local governments should consider implementing sales or excise taxes on non-nutritional food and dedicating all associated revenue raised to extending primary care programs. Consideration would need to be given to ensuring that any taxes would not inequitably burden lower-income individuals and families.

Educate consumers about health and healthy life choices using innovative means such as games and classes within the community and in schools. While it is important to educate consumers about healthy life choices, it is equally important to motivate them to make those healthy choices once they have learned about them. One way to do this would be to provide an online scorecard where patients could obtain information about how they are performing compared to other members of their demographic group. To generate interest and increase participation, patients could be assessed through a competitive program with awards (such as sweepstakes given to those who are doing relatively well). Creating “best-in-class” educational materials and dynamic self-help tracking tools and behavioral change modules could also be beneficial to patients. The materials would be shared broadly so that a wide variety of providers have access to them and could distribute them to their patients without having to create them on their own.

This Isn’t Your Parent’s Video Game

The Super Nintendo diabetes self-management game, Packy & Marlon, was tested in a six-month clinical trial which found that diabetic children and adolescents who were randomly assigned to take home and play the diabetes game reduced their diabetes-related urgent-care and emergency-room visits by 77 percent, compared to no change in the group randomly assigned to take home an entertainment video game that had no health content.
# Hope Street Group Stakeholder Map

## Recommendation 1: Foster an environment in which innovative practice models, payment structures, and advances in technology can be tested, measured, and diffused more rapidly.

- Create a “Race to the Top” program to enable HHS to fund states, on a competitive basis, to test pilots for developing more efficient and creative methods of serving their burgeoning Medicaid population.
- Develop a proactive strategy for CMMI within CMS to develop pilot payment programs that reduce costs and improve quality of care.
- Test new compensation models that incentivize primary care physicians to perform activities most likely to reduce unnecessary costs, such as patient monitoring after discharge from the hospital, thoughtful end-of-life discussions, and referrals to non-interventional options.
- Create health care incubators in research settings, foundations, or private industry to accelerate the growth of small, entrepreneurial individuals and firms that have new health solutions.
- Expand platforms to disseminate and promote innovative practices across the country.

## Recommendation 2: Recruit, train, and retain the optimal health care workforce.

- Fund and support the mandate of the National Health Workforce Commission (NHWCo) to recommend a national health workforce strategy that includes an evaluation of the scope-of-practice at all levels.
- Develop long-term incentives for health workers to enter primary care or practice in underserved areas.
- Create incentives for schools to increase primary care enrollments rather than replace existing budgets.
- Equip health care providers with necessary skills and training during academic preparation and in the workplace.

## Recommendation 3: Use new people, places, and tools to achieve greater capacity at lower cost.

- Create community-college or vocational-level educational opportunities.
- Use non-traditional sites for health care delivery in order to create low-cost, convenient, and coordinated access points for prompt care.
- Use multiple methods of communication.

## Recommendation 4: Leverage technology, patient engagement, population management, and payment reform to accelerate smart processes.

- Create a dynamic interface with provider systems so that consumers can interact directly with their providers.
- Transition from focusing on an “acute visit-based” model for primary care practice to a model that incorporates population management.
- Develop evidence-based decision support tools accessible to both provider and patient to base screening and treatment recommendations on individualized patient risk.
- Address issues related to adherence at the source.
- Leverage the functionality of Telemedicine.
- Improve the quality and cost of transitions between acute and other types of care.
- Reduce unnecessary costs through greater transparency.

## Recommendation 5: Empower consumers to take personal responsibility for improving their health through education, interactive tools, and incentives.

- Continue to promote financial incentives to seek preventive care by encouraging health insurance companies, employers and government payment programs—Medicare and Medicaid—to institute lower co-payments, deductibles, and premium reductions or rebates for patients seeking preventive and chronic-care services.
- Support technologies that enable consumers to do more themselves in prevention wellness, navigation, and disease management.
- Provide personal behavior choices in nutrition that would reduce incidences of obesity and associated medical conditions by providing incentives to increase the intake of healthy foods and disincentives to consume unhealthy food.
- Educate consumers about health and healthy life choices using innovative means such as games and classes within the community and in schools.
Hope Street Group’s Approach

Truly transformative change through policy is difficult and requires a revolutionary approach to solution development. Hope Street Group brought together over 100 leading clinicians, policymakers, elected officials, health services researchers, economists, business professionals and entrepreneurs, insurance industry representatives, and health care leaders to build consensus on recommendations to improve the primary care system. Each person contributed and, in addition to his or her expertise, all at one time or another has been a patient.

Leveraging a collaborative method that is facilitated by cutting-edge online technology and fused with the energy of multiple threads of conversation is only now possible. One of Hope Street Group’s innovations is our custom online platform. The Policy 2.0 Web platform provides an engaging online workspace for reform-minded stakeholders. Using this virtual work environment, where barriers to participation are low, participants can engage in dynamic and meaningful conversations about reforms to local and national policy.

We solicited ideas through several rounds of creative ideation from experts in the health care industry. We identified team leaders—primarily clinicians in the field—to help develop three realistic scenarios for each area of acute care, chronic disease, preventive care, and health care workforce. A wider set of clinicians, researchers, and health policy makers varying in age, experience, location, and interests were recruited and separated into the four areas. Each team would discuss three scenarios moderated by the team leaders. The discussions revolved around a set of thought provoking questions created by the team leaders. The questions were fairly uniform across scenarios and topics to facilitate group ideation. Using their expert opinion coupled with evidence, the participants commented on how payment reform, practice reform, technology, and workforce changes could improve the scenarios immediately and in the long-term. Hope Street Group summarized the discussion points, next steps and areas for further research weekly to ensure all participants felt heard.

After three rounds of discussion of the scenarios, we extracted a list of approximately 50 specific policy recommendations, which we called “policy pearls.” The pearls were presented to the team leaders who narrowed the list even further based on the expert opinions having the most traction. We invited over 60 thought leaders on health care to have working sessions with the team leaders to further polish the pearls. From this process, we developed the final recommendations included in this paper.
Endnotes


13. Physician shortage number assumes a continuation of the medical graduate rate from allopathic, osteopathic, and international medical graduates entrants; a growth in the number of women in the medical workforce; an increase in the retirement rate of physicians; the current activity mix of physicians; the current insurance mix and utilization rates by gender, age, and region of patients; an increase in supply of physicians due to technologies making physicians 20 percent more productive; an increase in demand by 0.75 percent for every 1.00 percent of GDP; an increase in demand due to all uninsured becoming insured; an increase in demand due to an additional 50 million people by 2020 and their resulting increase in use of services; a decrease in demand due to a 26.5 percent reduction in unnecessary services through improved utilization review. Nursing shortage is expected to begin in 2018 and escalate to 260,000 by 2025. By 2020, we assume that the shortage is 37,000 nurses/year * 4 years = 148,000.

14. If a shortage starts in 10 years and it takes seven years to train a doctor, then a conservative estimate would say that in the next three years (=10–7) we need train all the “extra” doctors to prevent a shortage (hence why the physician shortage number is divided by 3). For medical school, 96,000 physicians / 3 years = 32,000 additional physicians to be trained per year versus 16,000 current graduation rate per year. If a shortage starts in 10 years and it takes three years to train a nurses, then a conservative estimate would say that in the next seven (10–4) years we need to train all the “extra” nurses to prevent a shortage (hence why the nursing shortage number is divided by 6). For nursing, 148,000 / 6 years = 24,667 additional nurses to be trained per year versus 71,000 current graduate rate per year; “What is Behind HRSA’s Projected Supply, Demand, and Shortage of Registered Nurses?” Health Resources and Services Administration, last modified 2004. Accessed November 22, 2010, ftp://ftp.hrsa.gov/bhpr/workforce/behindshortage.pdf.


16. Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community; Institute of Medicine, *Defining Primary Care: An Interim Report* (Washington, D.C.: Institute of Medicine, 1994).


21. Findings derived from historical data reported by American Medical Association in the “Physician Characteristics and Distribution in the U.S.” and with special thanks to the Advisory Board Company for being so generous with their research

22. Findings derived from historical data reported by American Medical Association in the “Physician Characteristics and Distribution in the U.S.” and with special thanks to the Advisory Board Company.

23. Special thanks to Barbara Starfield, M.D., MPH, Professor, Johns Hopkins University.


51. Special thanks to Robert Pearl, M.D., CEO and Executive Director, Permanente Medical Group.

52. Special thanks to Robert Pearl, M.D., CEO and Executive Director, Permanente Medical Group.


54. Based on the average salary per worker (a decent proxy is GDP per capita ~ $48,000). CITL estimated that the savings in travel time, based on telehealth technologies, would equate to 70 million hours, or 36,000 full-time equivalent employees, per year. Thirty-six thousand extra FTE employees per year would gain us $1.7 billion in savings. “The Value of Provider to Provider Technologies,” Center for Information for Technology Leadership, last modified 2007. Accessed November 24, 2010, www.citl.org/_pdf/CITL_Telehealth_Report.pdf.


56. Special thanks to Jay H. Sanders, M.D., FACP, FACAAI, President/CEO, The Global Telemedicine Group.


