

Maryland Health Quality and Cost Council

Report to the Governor and General Assembly

January 2012

The Honorable Anthony G. Brown, Lieutenant Governor
State of Maryland

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Secretary

Maryland Department of Health and Mental Hygiene

Maryland Health Quality and Cost Council

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Maryland Health Quality & Cost Council

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I. Executive Summary

In October 2007, Governor Martin O'Malley established the Maryland Health Quality and Cost Council (Council). The Council is tasked with providing the leadership, innovation, and coordination of multiple stakeholders within our health system—payers, institutional providers, physicians, government, patients, and citizens—in an effort to improve the health of Maryland's citizens, maximize the quality of health care services, and contain health care costs. Over the past four years, the Council has implemented numerous initiatives that are saving lives, improving quality and reducing health care costs.

Maryland is home to a number of world class medical resources, including its renowned hospitals, medical and public health teaching institutions and superbly trained health professionals. We have made substantial investments in our growing innovation economy and have tremendous assets in our life sciences, biotechnology and other health-related industries. The Council is working to harness these strengths and make Maryland one of the healthiest states in the nation.

To improve the health of all Marylanders, the O'Malley-Brown Administration has established the Council, the Maryland Health Care Reform Coordinating Council and established four strategic health goals, End Childhood Hunger by 2015, Establish Best in the Nation Statewide Health Information Exchange and Electronic Health Records Adoption by the end of 2012, Reduce Infant Mortality by 10% in 2012, and Expand Access to Substance Abuse Services by 25% in 2012. These actions recognize that expanding access to quality care and reducing the incidence of chronic disease is necessary to contain health care costs and strengthen Maryland's economy.

During the past year, the Council's workgroups have made significant progress in implementing key strategies to improve health care in Maryland. In addition, each workgroup has been charged with incorporating strategies to address health disparities into every initiative.

Wellness and Prevention. The Wellness and Prevention workgroup made substantial progress in fulfilling its mission of developing actionable wellness and prevention strategies to achieve the goal of a *Healthiest Maryland*. Healthiest Maryland is a grassroots social marketing campaign that encourages leaders to promote wellness within their sphere of influence. In 2011, Maryland received the Community Transformation Grant to expand Healthiest Maryland. Specifically, the Healthiest Maryland Businesses (HMB) initiative was launched as the cornerstone of the Healthiest Maryland campaign in May 2010. Since then, over 150 companies have enrolled, representing 200,000 Maryland employees. By the end of 2012, Healthiest Maryland Businesses aims to enroll at least 225 participant businesses and provide enhanced technical assistance to companies focused on tobacco, nutrition, physical activity, breastfeeding, hypertension, high cholesterol, diabetes, arthritis, asthma and chronic lung disease, and preventive services (i.e., cancer screening and immunizations). Additionally, the Workgroup also championed a recommendation that the State of Maryland establish an Interagency Health and Wellness Task Force to implement statewide comprehensive wellness policies, which was elevated to a Governor's initiative.

Evidence-based Medicine. The Evidence-based Medicine Workgroup is charged with the widespread implementation of a discrete set of practices that have been shown to improve healthcare quality and decrease cost and can be instituted on a large scale relatively quickly. Initiatives to date include the Maryland Hospital Hand Hygiene Collaborative, the Statewide Reduction of Blood Wastage Reduction Collaborative, Maryland Regulated Medical Waste Collaborative, and the Telemedicine Task Force.

In 2009 the Council endorsed a statewide hand hygiene campaign that aimed to significantly reduce the number of healthcare-associated infections (HAI) in Maryland. The Council believed that a coordinated, statewide effort was the most effective approach to reducing infections. Currently, 31 of Maryland's 46 hospitals are participating in the campaign. In 2011, the Collaborative will go through a robust evaluation and will also consider adding new hospital members and the possible expansion to non-hospital settings such as nursing homes, dialysis centers or ambulatory surgery centers.

The second initiative was the Statewide Reduction of Blood Wastage Collaborative. The initiative was implemented to reduce hospital blood wastage, ensure that ample blood supplies are available and curb the expenses associated with wasted blood products. All 44 Maryland hospital blood banks voluntarily participated in this Collaborative, which to date has saved 1,663 combined units and \$558,833. The Collaborative developed a "Craig's List" (now formally called the Inventory Visibility System) on which hospitals can list short-dated products so that other institutions can use them in emergent situations. The system was launched statewide in December and has received national attention due to the immense life-saving potential.

The workgroup identified two other areas for study in 2011. One focused on addressing health disparities, under the leadership of the University of Maryland School of Medicine. The second initiative, overseen jointly by the Maryland Institute for Emergency Medical Services Systems (MIEMSS), and the Maryland Health Care Commission explored the feasibility of coordinating and developing a statewide telemedicine system. Both of these groups will present their recommendations to the Governor through the Council in January, 2012.

Patient Centered Medical Home. The Patient Centered Medical Home Workgroup was tasked with developing recommendations to strengthen primary care and promote the adoption of the medical home model, which is vital to improving patient care, achieving good outcomes and lowering costs. In 2010, the workgroup worked with the Administration to pass legislation that establishes a multi-payer Patient Centered Medical Home (PCMH) program that seeks to improve primary care delivery through incentives to practitioners to better coordinate care and manage chronic disease. This model has also been cited as a strategy to make primary care more attractive as a medical specialty. The pilot program launched in January, 2011, with 52 practices, covering over 350,000 Marylanders.

In light of these accomplishments, the Council will continue to set priorities and propose recommendations to sustain successful initiatives while championing new areas of focus aimed at addressing disparities, broadening the scope of projects into additional healthcare settings and leveraging the many opportunities provided under federal health reform.

Health Disparities. In 2011, the Council created a Health Disparities Workgroup with the mission to explore and develop health care strategies and initiatives, including financial, performance based incentives to reduce and eliminate health disparities. The Workgroup has reviewed data at the national, state and local levels, identified health care, community and individual factors that influence disparities in health status and care. The workgroup formulated three suggested strategies to reduce health care disparities: Health Empowerment Zones - areas that meet criteria demonstrated disparities that make them eligible for incentives and funding opportunities to address needs; a Maryland Health Innovation Prize to stimulate novel avenues for improving access and care, and reducing health care costs; and Racial and Ethnic Tracking of Performance Incentive Data leading to incentives or potential penalties for hospitals and primary care providers.

Telemedicine. The Council built on the recommendations of the 2010 Telemedicine Taskforce, forming a second taskforce to further identify challenges and opportunities for expanding telemedicine in Maryland. Under joint leadership from the Maryland Institute for MIEMSS and the Maryland Health Care Commission, the taskforce began work in July, 2011, and submitted its final report to the Council in December, 2011.

Three advisory groups – clinical, financial and business model, and technology solutions and standards - benefited from participation from academic medicine, community providers, payors, and government representatives. The taskforce studied telemedicine legislation, care delivery and reimbursement models, and licensing issues in other states with existing programs, and formulated recommendations for increasing the use of telemedicine in Maryland.

II. Introduction and Background

A. COUNCIL'S ESTABLISHMENT AND PURPOSE

In October 2007, Governor Martin O'Malley established by executive order the Maryland Health Quality and Cost Council (Council).

The Council is tasked with providing the leadership, innovation, and coordination of multiple stakeholders within our health system—payers, institutional providers, physicians, government, patients, and citizens—in an effort to improve the health of Maryland's citizens, maximize the quality of health care services, and contain health care costs.

The Governor's executive order suggests the promotion of wellness, the adoption of advancements in disease prevention and chronic care management, the increased diffusion of health information technology (HIT), and the development of a chronic care plan as important strategies for the Council to consider.

To further define and guide its work, the Council has articulated the vision and mission statements listed below.

Vision Statement: The State of Maryland is a demonstrated national leader in the implementation of innovative, effective cost containment strategies and the attainment of health and high quality health care. The State's efforts are guided by a commitment to ensuring that care is safe, effective, patient-centered, timely, efficient, equitable, integrated, and affordable.

Mission Statement: To maximize the health of the citizens of Maryland through strategic planning, coordination of public and private resources, and evaluation that leads to: effective, appropriate, and efficient policies; health promotion and disease prevention initiatives; high quality care delivery; and reductions in disparities in healthcare outcomes.

B. COUNCIL MEMBERSHIP

In addition to the Lieutenant Governor and the Department of Health and Mental Hygiene Secretary, who serve as the Council's Chair and Vice Chair respectively, the Council consists of twelve other members, each appointed by the Governor for a three-year term. In accordance with the executive order, the Council has at least one representative each drawn from the ranks of the health insurance industry, employers, health care providers, health care consumers, and health care quality experts.

Three of the Council's members represent provider organizations. James Chesley, Jr., M.D. is a practicing gastroenterologist with offices in Prince George's County. Barbara Epke is Vice President at LifeBridge Health System, which consists largely of Sinai Hospital, Northwest

Hospital, Levindale Hebrew Geriatric Center and Hospital, and the Jewish Convalescent & Nursing Home, in Baltimore City and Baltimore County. Christine R. Wray, F.A.C.H.E. is President of MedStar St. Mary's Hospital in Leonardtown, Maryland, and Senior Vice President, MedStar Health, Inc.

Two of the Council's members are drawn from the ranks of the State's teaching institutions and represent, respectively, medicine and nursing. E. Albert Reece, M.D., Ph.D., M.B.A. is the Dean of the University of Maryland School of Medicine, located in Baltimore City, and also Vice President of Medical Affairs for the University of Maryland System. Kathleen White, Ph.D., R.N. is an Associate Professor and Director of the Masters Program at the Johns Hopkins School of Nursing, also in Baltimore City.

Two Council members represent large employer groups. Jill Berger is Vice President for Health and Welfare Plan Management and Design for Marriott International, headquartered in Montgomery County, and Roger Merrill, M.D. is Chief Medical Officer for Perdue Farms Incorporated, based in Wicomico County on the Eastern Shore.

Jon Shematek, M.D., and Debbie Chang, M.P.H., represent, respectively, the voices of health insurers and consumers on the Council. Dr. Shematek serves as Senior Vice President and Chief Medical Officer for CareFirst BlueCross BlueShield. Ms. Chang, who is a Maryland resident, is the Senior Vice Present and Executive Director of Nemours Health and Prevention Services in Wilmington, Delaware.

Finally, four of the Council's members are nationally recognized experts on three different facets of health care quality, namely managed care, inpatient care, and health disparities. Peggy O'Kane, who is a Maryland resident, is the President of the National Committee for Quality Assurance (NCQA), a leading developer of quality and performance measures for managed care organizations located in Washington, DC. Richard (Chip) Davis, Ph.D., is the Vice President for Innovation and Patient Safety at Johns Hopkins Medicine in Baltimore City, Lisa A. Cooper, M.D., M.P.H, F.A.C.P., is a Professor of Medicine and Director of the Center to Eliminate Cardiovascular Disparities at the Johns Hopkins School of Medicine, and Marcos Pesquera is Executive Director of the Center on Health Disparities for Adventist HealthCare, Inc.

C. MARYLAND BASELINE

Maryland is home to a number of medical resources, including world-renowned hospitals, medical and public health teaching institutions and superbly trained professionals. Its health care system serves its diverse and relatively affluent population within Maryland, as well as patients from other states and across the world. Despite our many assets and advances, by most objective measures Maryland continues to be rated as average in terms of the quality of its health care system, the health of its population and the cost of its care.

United Health Foundation, which compiles an annual ranking of the health of state populations based on personal behaviors, community and environmental factors, public and health policies, as well as clinical care, placed Maryland in the middle relative to its peers based on a weighted ranking of these elements.¹ The report noted strengths as ready access to primary care, lower percentage of children in poverty, high immunization coverage and strong per capita public health funding while citing a high incidence of infectious disease and a high violent crime rate as challenges. In the past year, immunization coverage decreased from 93.2 percent to 92.3 percent of children ages 19 to 35 months receiving complete immunizations. In the past five years, the prevalence of smoking decreased from 19.5 percent to 15.1 percent of the population, a slight increase from last year's 14.9 percent. In the past ten years, the rate of cancer deaths decreased from 221.1 to 197.5 deaths per 100,000 population. In the past year, the prevalence of obesity has remained relatively unchanged from 26.6 percent to 26.7 percent of the population.

The report notes health disparities in the State where obesity is more prevalent among non-Hispanic blacks at 36.3 percent than non-Hispanic whites at 23.9 percent. The prevalence of diabetes also varies by race and ethnicity in the state; 12.7 percent of non-Hispanic blacks have diabetes compared to 7.7 percent of non-Hispanic whites. In addition, mortality rates vary in Maryland, with 896.6 deaths per 100,000 population among blacks compared to whites, who experienced 730.1 deaths per 100,000 population in 2009.²

Lackluster results were also reported in the most recent edition of the Commonwealth Fund's State Scorecard on Health System Performance, where Maryland ranks only slightly above the middle on an aggregate indicator of health system performance.³ Although the state performed somewhat better on measures of health care access, equity, and quality than most states, Maryland was below average on key indicators of avoidable hospitalizations and costs of care. On measures of mortality amenable to health care, Maryland falls in the lowest quartile.

¹ United Health Foundation. (2010). *America's Health Rankings: A Call to Action for Individuals & Their Communities*, 2010 Edition. Retrieved November 17, 2011, from United Health Foundation Website: <http://www.americashealthrankings.org/yearcompare/2009/2010/MD.aspx>

² Maryland Vital Statistics Administration. *Maryland Vital Statistics Annual Report 2009*, page 20. Retrieved from Maryland Vital Statistics Administration Website: <http://vsa.maryland.gov/doc/09annual.pdf>

³ Commonwealth Fund Commission on a High Performance Health System. (2009). *Aiming Higher: Results from a State Scorecard on Health System Performance, 2009*. New York: The Commonwealth Fund.

Adverse events in health care settings, such as healthcare-associated infections put patient safety at risk and generate unnecessary and expensive costs to the system. Healthcare-associated infections (HAI) are infections that patients acquire during the course of receiving medical treatment for other conditions. HAIs are the most common complication affecting hospitalized patients, with between 5 and 10 percent of patients acquiring one or more infections during their hospitalization. In addition to the substantial human suffering exacted by HAIs the financial burden attributable to these infections is staggering. It is estimated that HAIs incur an estimated \$28 to \$33 billion in excess healthcare costs each year.⁴

The Maryland Health Care Commission's most recent update to the Maryland Hospital Performance Evaluation Guide shows that Maryland hospitals have made significant progress in reducing serious but preventable infections that occur in Intensive Care Units. Central line associated bloodstream infections, or CLABSIs, occur in patients who have an intravenous central line catheter in place. These potentially devastating infections can largely be prevented by proper insertion and care of the catheter. One year ago, in October 2010, the Commission first reported on CLABSIs for the 12-month period from July 1, 2009 through June 30, 2010. During that period, Maryland acute care hospitals reported 424 CLABSIs in adult ICUs and 48 CLABSIs in Neonatal ICUs (NICUs). The more current data for the 12-month period, July 1, 2010 through June 30, 2011, shows a 37% reduction in CLABSIs in Maryland hospitals, with 262 CLABSIs in adult ICUs and 34 CLABSIs in NICUs.⁵

On December 6, 2010, the Maryland Hospital Association kicked off the *On The CUSP: Stop BSI* patient safety initiative, of which 89 percent of Maryland acute general hospitals are participating.⁶

Preventable hospitalizations in Maryland are slightly below the national average of 70.58, at 67.97 per 1,000 Medicare enrollees in 2010, an improvement from 72.6 per 1000 Medicare enrollees in 2009, moving from above national average to below national average.⁷ The HSCRC estimated \$700 million in charges for potentially preventable readmissions within 30 days in 2009. For Medicare patients, Maryland has the second highest readmission rate in the country at 21%. To target unnecessary readmission, HSCRC has implemented a voluntary hospital payment bundling program called the Admission Readmission Payment Constraint Program (ARR). For the ARR program hospital rates are set on a charge per episode basis where the rate for each ARR DRG and severity level is calculated for each hospital based on the previous year's experience for an initial admission and all subsequent readmissions within 30 days. Hospitals that

⁴ Scott Rd. The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention, 2009. Division of Healthcare Quality Promotion, National Center for Preparedness, Detection, and Control of Infectious Diseases, Coordinating Center for Infectious Diseases, Centers for Disease Control and Prevention, February 2009.

⁵ in Intensive Care Units and Neonatal Intensive Care Units. Press Release. October 20, 2011. Retrieved November 18, 2011 from DHMH Website: <http://www.dhmh.maryland.gov/pressreleases/2011/pr102011.html>

⁶ The Agency for Healthcare Research and Quality is funding the national implementation of a patient safety initiative modeled after the success of Michigan's Keystone ICU Project in dramatically reducing CLABSIs. The project involves two components: the Comprehensive Unit-based Safety Program (CUSP) to improve safety culture, and the use of evidence-based CLASBI elimination tools.

⁷ United Health Foundation. (2010). America's Health Rankings: A Call to Action for Individuals & Their Communities, 2009 Edition. Retrieved November 18, 2011, from United Health Foundation Website: <http://www.americiashealthrankings.org/MD/2010>

reduce their readmissions are able to charge more per case retain the savings, and hospitals that have increases in their readmission rates must charge less per case and sustain a loss.

More than 2/3 of the State's hospitals have volunteered to participate in the ARR payment bundling program beginning July 1, 2012. (Source: HSCRC website: http://76.12.205.105/init_ARR.cfm)

They also reported 7.9% hospital-based preventable complications out of the State's inpatient cases, amounting to about \$580 million in potentially preventable hospital payments in FY 2010. To target potentially preventable complication, HSCRC implemented the Maryland Hospital Acquired Conditions (MHAC) Initiative in which hospitals receive rewards or penalties based on their performance on a set of ~50 Potentially Preventable Complications. The number of complications included in the MHAC program declined by 20% across FYs 2010 and 2011, resulting in cost savings of \$105.4 million, after adjusting for changes in patient characteristics. Source: paper prepared by HSCRC staff for Secretary Sharfstein, November 28, 2011.

With these disparate quality indicators in mind, the Council has continued to work on several priorities aimed at improving health care quality and reducing health care costs in the State. The Wellness and Prevention Workgroup has championed the "Healthiest Maryland" campaign to promote healthy eating and prevention of tobacco use to address prominent risk factors for chronic diseases. Healthcare-Associated Infections are the central focus of the Evidence-based Medicine Workgroup. Rigorous data reporting and auditing, implementation of evidence-based interventions with proven success will further reduce infection rates. Access to health care will continue to be monitored and improved by the Patient Centered Medical Home Workgroup. In light of these efforts, the Council will continue to set priorities and propose recommendations to sustain successful initiatives while championing new areas of focus. The Council seeks to extend the scope of projects into additional healthcare settings and to leverage the many opportunities provided under federal health reform.

D. HEALTH DISPARITIES IN MARYLAND

The Institute of Medicine (IOM) defines a *health disparity* as a difference in the burden of illness, injury, disability, or mortality experienced between one population group and another. A *healthcare disparity* is defined as racial or ethnic differences in the quality of health care that are not due to access-related factors or clinical needs, preferences, and appropriateness of intervention."⁸ The prevalence and impact of health disparities continues to be significant both

⁸ Institute of Medicine. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care* (2002).

nationally and in Maryland. The 2010 National Healthcare Disparities Report from the Agency for Healthcare Research and Quality states that nationally 80 percent of disparities in quality of care measures are either not improving or actually getting worse over time. In Maryland, racial and ethnic minority disparities exist for 9 of the 14 leading causes of death. Areas of significant disparity include cardiovascular disease, cancer, diabetes, HIV/AIDS, kidney disease, asthma, coverage by health insurance, ability to afford health care, and utilization of mental health services. Maryland has made progress in reducing death rate disparities: between 2000 and 2009 the Black vs. White disparity in all-cause mortality declined by 39%. During this period, the Black-White mortality disparities for cancer, stroke, diabetes, and HIV/AIDS fell by 63%, 43%, 46% and 46% respectively. As the Council continues to move forward with initiatives to improve quality and reduce health care costs it is essential that we continue to address disparities that plague far too many of our minority residents.

The Department of Health and Mental Hygiene's Office of Minority Health and Health Disparities (OMHHD) in 2009 expanded its focus from just the areas of cancer and tobacco-related illnesses to minority health disparities across all diseases and conditions. Two key documents of OMHHD, the Maryland Plan to Eliminate Minority Health Disparities, Plan of Action 2010 – 2014 (March 2010)⁹ and the Maryland Chartbook of Minority Health and Minority Health Disparities Data, 2nd Edition (December 2009)¹⁰ will be resources to the Council as we refine ongoing initiatives and will guide future projects.

OMHHD presented to the Council at its June 2010 meeting on an overview of disparities data in the State. The presentation focused on the need for broad-based quality improvement initiatives that are delivered to all segments of the population equally. Suggested targets for action to reach minority populations include public insurance programs, safety net providers, the correctional system, community centers, local public services and community-based organizations. Disparity themes were then presented for each workgroup initiative, including suggestions for targeted outreach, representation, cultural/linguistic appropriateness, data collection and minority and disparity benchmarks for evaluation. Moving forward the Council agreed that each workgroup should consider recommendations to integrate strategies to address disparities in approved initiatives.

Further emphasis on this important issue resulted from the signing of the Affordable Care Act, including promotion of the Federal Office of Minority Health, grant funding that prioritizes underserved communities; and public health initiatives aimed at addressing diseases that disproportionately impact minorities. The Affordable Care Act also includes specific workforce provisions to improve the diversity in the health care workforce while addressing known shortages.

In June 2011, the Council formed the Disparities Workgroup with a charge to develop recommendations for best practices, monitoring, and financial incentives for the reduction of disparities in the health care system. Under the chairmanship of Dean Albert Reece of the University of Maryland School of Medicine and with statewide leadership and diverse representation, the Workgroup has drafted three strategies for consideration by the Administration

⁹ http://www.dhmdh.maryland.gov/hd/pdf/2010/Maryland_Health_Disparities_Plan_of_Action_6.10.10.pdf

¹⁰ http://www.dhmdh.maryland.gov/hd/pdf/2010/Chartbook_2nd_Ed_Final_2010_04_28.pdf

in 2012. These strategies stimulate innovations to solve costly health disparities, construct geographic regions with incentives for providers to partner, and incentivize providers to collect race and ethnic data. The Council continues to advance opportunities under the Affordable Care Act to eliminate minority health disparities in Maryland, thereby raising the overall health status of the total population.

E. TELEMEDICINE

The Maryland Board of Physicians COMAR 10.32.05, defines telemedicine as “... *the practice of medicine from a distance, in which intervention and treatment decisions and recommendations are based on clinical data, documents, and information transmitted through telecommunications systems.*”¹¹ Evidence of the value of telemedicine is wide-ranging. A study of 170 acute stroke patients treated at community hospitals with access via telemedicine to stroke neurologists and 132 comparable patients treated in stroke center hospitals found that mortality rates and levels of impairment after six months were comparable for both groups. Similarly, a survey on the application of telemedicine in Intensive Care Units (ICUs) found that telemedicine reduced ICU mortality by about 20 percent and shortened the average hospital length of stay by more than a full day. Telemedicine has been shown to improve time-to-diagnosis, facilitate care access for patients in remote regions, and increase patient satisfaction.¹²

In June 2010, the Maryland Health Cost and Quality Council convened a Telemedicine Task Force (Task Force) to identify challenges to and develop solutions for widespread adoption of a comprehensive statewide telemedicine system of care. The Taskforce submitted its final report to the Council in September, 2010. In Fall, 2010, then Secretary of Health and Mental Hygiene John Colmers, formed a Leadership Committee, with joint oversight by The Maryland Institute for Emergency Medical Services Systems (MIEMSS) and the Maryland Health Care Commission to further study expanding telemedicine statewide.

The Leadership Committee established three advisory groups to formulate recommendations: the Clinical Advisory Group, the Technology Solutions and Standards Advisory Group, and the Financial and Business Model Advisory Group. These advisory groups, with membership participation from academic medicine, community providers, payors, and government representatives, studied telemedicine legislation, care delivery and reimbursement models, and licensing issues in other states with existing programs, and formulated specific recommendations for increasing the use of telemedicine in Maryland.

¹¹ <http://www.dsd.state.md.us/comar/comarhtml/10/10.32.05.04.htm>

¹² Telemedicine Recommendations: A Report Prepared for the Maryland Health Quality and Cost Council. December, 2011.

These recommendations included:

- State-regulated payors should reimburse for telemedicine services. The taskforce recommended exploring options for reimbursing providers for telemedicine services. The taskforce discussed studying reimbursement models in other states.
- Establish a centralized telemedicine network built on existing industry standards. The taskforce recommended developing an interoperable telemedicine network that would conform to existing standards. Organizations that adopt telemedicine should meet certain minimum requirements related to technology and connectivity to a centralized telemedicine network.
- Implement changes in licensure, credentialing, and privileging of providers to facilitate the adoption of telemedicine. The taskforce recommended developing licensure regulations to coincide with Centers for Medicare and Medicaid Services rules for credentialing and privileging providers at both the local and remote site in order to be reimbursed for a telemedicine service. The group also addressed licensure for out-of-state providers so they can serve patients in Maryland.¹³

F. COORDINATION OF ACTIVITY RELATED TO REFORM IMPLEMENTATION

The Patient Protection and Affordable Care Act was signed into law by President Obama on March 23, 2010. The next day, Maryland Governor Martin O’Malley signed Executive Order 01.01.02010.07, creating the Health Care Reform Coordinating Council (HCRCC) to coordinate Maryland’s response to Affordable Care Act. The objective of the Executive Order and the HCRCC is to ensure that the state implements federal health care reform thoughtfully and thoroughly, with careful deliberation and collaboration across agencies and all branches of government, and with meaningful participation of the health care community and other private sector stakeholders.

The Executive Order created the HCRCC as the primary body in Maryland charged with coordinating state government activity in implementing the Affordable Care Act. The HCRCC is directed to identify and present a series of recommendations on the issues and decisions that are critical to the successful implementation of health care reform in Maryland. To fulfill this mandate, the HCRCC was directed to submit both this interim report and a final report by January 1, 2011. In its Interim Report, presented on July 26, 2010, the HCRCC identified the need to focus on “bending the cost curve” and established the Health Care Delivery System Workgroup.

The success of health care reform will depend in large measure on the degree to which the delivery system is transformed. The Affordable Care Act offers states tools to achieve this goal: providing opportunities for pilots, demonstration projects, and other mechanisms to test and evaluate delivery system changes designed to improve quality and rein in costs.

The HCRCC acknowledged in its Interim Report that Maryland has already initiated several such efforts with the creation of the Maryland Health Quality and Cost Council, among others. In

¹³ Telemedicine Recommendations: A Report to the Maryland Health Quality and Cost Council. December, 2011.

addition, the Reform Council's delivery system workgroup, which met from early August through the end of October, 2010, included presentations on the Patient Centered Medical Home model and Healthiest Maryland, as well as discussions around comparative effectiveness research and ways in which Maryland could benefit from a coordinated dissemination effort.

The goals of the HCRCC closely align with those of the Maryland Health Quality and Cost Council, which can be the vehicle by which to deal with specific quality improvement and cost containment initiatives. Further, the Affordable Care Act includes grant opportunities for many of the initiatives the Council has supported and Staff will continue to work to capitalize on those opportunities moving forward.

Implementation of Health Care Reform

Maryland is working diligently to be ready for the full implementation of federal health reform in 2014.

Activities of the Maryland Health Benefit Exchange

Chapters 1 and 2 of the Acts of 2011 established the Maryland Health Benefit Exchange Board, and required the Board to convene advisory groups and conduct specified studies that must be submitted to the Governor and the General Assembly by early 2012.

The Exchange Board held its first board meeting in June and formed four stakeholder advisory committees over the summer. The advisory committees met during the fall. The Board also contracted with consultants to conduct the studies required by legislation. Specifically, the studies relate to:

- How the Exchange should conduct a Navigator Program;
- What considerations the Exchange should take into account in developing a SHOP Exchange (an exchange to serve small businesses);
- The feasibility and desirability of the Exchange engaging in selective contracting and multistate or regional contracting;
- The rules under which health benefits should be offered inside and outside of the Exchange;
- How the Exchange should conduct its public relations and advertising campaign; and
- How the Exchange could be self-sustaining by 2015.

The Board is considering both the consultants' reports and the advisory committee reports in developing its recommendations. The Exchange Board also hired an Executive Director, Rebecca Pearce, who began work with the Exchange in September, 2011.

Activities of the Health Reform Coordinating Council

The Health Care Reform Coordinating Council released its report to the Governor and General Assembly in January, 2011, which set forth 16 recommendations addressing how Maryland should implement the federal Affordable Care Act in ways that would work best for the State and its citizens. The Council has continued its oversight of federal health care reform implementation in

the ensuing year as the State continues to move forward on its recommendations. Carolyn Quattrocki has been appointed as Executive Director for the Council.

First, the Governor signed a new Executive Order in May extending the duration of the Council and expanding its membership to include two additional legislative members, the Secretary of the Department of Labor, Licensing and Regulation, and the Executive Director of the Maryland Health Benefit Exchange. Pursuant to the Council's first recommendation, the Administration also spearheaded the enactment of the Maryland Health Benefit Exchange Act of 2011 and a second bill giving the Maryland Insurance Administration authority to enforce the Affordable Care Act's new insurance consumer protections. Pursuant to other Council recommendations, two additional pieces of legislation expanding the contracting authority of local health departments and developing a plan to assist safety net providers adapt to health care reform were also enacted.

Since the 2011 legislative session, the Council has met several times to monitor the State's continued progress on reform implementation, including milestones reached in the establishment of the Maryland Health Benefit Exchange, comprehensive planning for workforce development, the creation of a health care delivery reform committee and a communications strategic plan. Finally, a new consumer-centric website will soon be launched to help keep Marylanders informed about the progress of health care reform implementation and how it affects them, and the Council will meet in early January, 2012 to receive updates on the Exchange Board's recommendations on additional legislation needed to give further shape to the policies and operations of the Exchange.

II. Strategic Plan: Recommendations and Implementation

In accordance with Executive Order 01.01.2007.24, the Council is required to submit annually an update of activities for the previous year as well as recommendations for improving health care quality and reducing health care costs in the State.¹⁴ To guide this task, the Council established three initial priorities:

- Develop actionable wellness and prevention strategies to be integrated into a chronic care and disease management plan;
- Coordinate multi-phased quality and patient safety initiatives for acute hospitals settings; and,
- Facilitate statewide implementation of a Patient-centered Medical Home (PCMH) demonstration project.

In 2011, the Council added two more priorities:

¹⁴ http://dhmh.maryland.gov/mhqcc/pdf/2011/Jun11/Revised_EO_01.01.2011.09.pdf

- Develop actionable strategies to improve access and decrease health disparities for Maryland’s minority populations; and
- Explore the current state of telemedicine in Maryland, and study the feasibility of expanding telemedicine services across the State.

To facilitate these efforts, the Council created workgroups, consisting of several Council members as well as individuals from the private sector, academia, and state agencies with expertise related to each workgroup’s charge.

An ongoing effort of the Council will be to understand precisely where the State stands relative to its peers—and why—on key indicators of population health, health care quality, and health system costs. As such, each workgroup developed a detailed inventory of existing health improvement initiatives and activities in the state. The workgroups also sought to better understand the health care quality improvement and cost containment initiatives that are being considered and undertaken by other states, as well as international bodies focused on quality of care. The goal of these activities was to note those elements, policies, and practices that have been most successful and thus might serve as a guide or blueprint for the development of a strategic plan.¹⁵ As this report outlines, these exercises served as a foundation on which to build future efforts to improve population health and the quality of the health care system.

A. WORKGROUP GOALS AND PROCESSES

The priorities established by the Council aim to improve population health, improve quality of care, and contain health care costs within Maryland. Accordingly, the Council initially created three Workgroups: Wellness and Prevention, Evidence-based Medicine and Patient Centered Medical Home. In 2011, the Council created the Health Disparities Workgroup and the Telemedicine Taskforce to study these specific opportunities to improve access and patient care, improve efficiencies of health services, and decrease healthcare costs. Each group consists of several Council members as well as individuals from the private sector, academia, and government with expertise related to the workgroup’s charge. A list of workgroup and taskforce participation can be found in Appendix A. Workgroup meetings and conference calls were posted on the Council’s website.

The groups were responsible for executing the activities listed below for their focus areas and bringing their recommendations to the Council for approval at quarterly meetings. Initially, each Workgroup was tasked with:

- Narrowing its focus to a handful of key areas;
- Determining strategies to be included in the Council’s strategic plan;
- Articulating measures, timelines, estimated costs, and estimated health benefits associated with each strategy; and
- Addressing proposed legislation and regulatory changes necessary to accomplish

¹⁵ See Maryland Health Quality and Cost Council website for a complete review of the public and private sector initiatives that each workgroup considered: <http://dhmh.state.md.us/mhqcc/>

proposed strategies.

During the past year, the initial three Maryland Health Quality and Cost Council workgroups made significant progress in implementing their key strategies. In addition, each group was charged with considering ways each initiative might be designed to ameliorate health disparities and to evaluate results accordingly. Groups were challenged to present evaluation plans and timelines with key milestones to the Council for approval.

B. WELLNESS AND PREVENTION WORKGROUP

Charge

The Wellness and Prevention workgroup developed actionable wellness and prevention strategies that fulfill the Maryland Health Quality and Cost Council's (HQCC) efforts to advance wellness, prevention, and chronic care management toward the overarching goal of a healthier State. The aim is to make healthier choices easier, such as eating healthier, being physically active, and adhering to recommended preventive screenings and treatment.

Recommendation 1: Implement Healthiest Maryland throughout the State.

Healthiest Maryland is a grassroots campaign engaging leadership in communities, schools, and businesses to make organizational commitments to promote wellness within their sphere of influence. The goal of this campaign is to create healthy and supportive environments where Marylanders live, learn, work, and play through three complementary components. Leaders throughout Maryland are encouraged to adopt evidence-based policies and practices that will promote health. Healthiest Maryland Businesses was prioritized by the HQCC with the purpose of creating a culture of wellness at all Maryland workplaces—an environment where the healthiest choice is the easiest choice.

Healthiest Maryland Businesses

The Healthiest Maryland Businesses (HMB) initiative is the cornerstone of the Healthiest Maryland campaign. It was prioritized by the HQCC because of the overwhelming evidence supporting workplace wellness, the HQCC members' experience and success in this arena, and existing partnerships with the national, regional and local experts (i.e. Partnership for Prevention, Mid-Atlantic Business Group on Health, Greater Baltimore Committee, etc.) HMB is an initiative designed to foster a culture of wellness within workplaces. "Grasstops" business leaders and public and nonprofit employers are recruited to make an organizational commitment to comprehensive employee health management. Participating businesses are referred to accredited workplace wellness resources and receive education and technical assistance. Participants are recognized for their commitment and businesses who demonstrate best practices in implementing evidence-based tobacco, nutrition, physical activity, and breastfeeding practices are given special recognition.

Making the Case for Workplace Wellness Partnership for Prevention and the U.S. Chamber of Commerce has launched a national *Leading by Example*, CEO-to-CEO initiative that Healthiest

Maryland Businesses is modeled after¹⁶. According to a literature review on the benefits of workplace wellness completed by the Partnership for Prevention:

- The indirect costs (e.g., absenteeism, presenteeism) of poor health can be two to three times the direct medical costs;
- Productivity losses related to personal and family health problems cost U.S. employers \$1,685 per employee per year, or \$225.8 billion annually;
- A review of 73 published studies of workplace health promotion programs shows an average \$3.50-to-\$1 savings-to-cost ratio in reduced absenteeism and health care cost; and
- A meta-review of 42 published studies of workplace health promotion programs shows:
 - Average 28 percent reduction in sick leave absenteeism;
 - Average 26 percent reduction in health costs;
 - Average 30 percent reduction in workers' compensation and disability management claims costs; and
 - Average \$5.93-to-\$1 savings-to-cost ratio.

Recruitment. To date 150 companies have enrolled in and made an organizational commitment to comprehensive employee health management (a complete list of participating companies, supporting organizations, and ambassadors are located in Appendix B.) Participating companies are located in 21 Maryland jurisdictions and reach over 200,000 full-time Maryland employees. The available participant data shows a relatively even distribution of company size with these approximate percentages: 26% of companies employing over 750 Maryland employees, 24% employing 250 to 749 employees, 16% employing 100 to 249 employees, 13% employing 50 to 99 employees, and 20% employing less than 50 employees. Among the current participating employers the industries best represented and their approximate percentages are health care and social assistance (32%), finance and insurance (14%), professional/scientific/and technical services (11%), services except for public administration (9%), and manufacturing (7%). Partnerships with the HQCC and the HMB supporting organizations (workplace wellness partners and experts) resulted in a variety of new promotion and marketing recruitment activities, such as—integrating HMB into all Healthiest Maryland and HQCC related events, targeting educational presentations towards various employer groups (i.e. chambers of commerce, broker groups, and health coalitions), and advertising via earned media (i.e. advertisements in local publications and partner sponsored events.)

Referral. The HMB preliminary evaluation reported that Maryland companies need technical assistance and diverse trainings to make sustainable changes at the workplace. Given the increasing demand for comprehensive workplace wellness programs and expertise, HMB programmatic enhancements have focused on providing more comprehensive technical assistance and trainings to employers. Specific HMB technical assistance and training activities have included: directly connecting employers and their local supporting organizations (wellness experts), identifying and engaging new supporting organizations to provide more resources to employers, partnering with supporting organizations to provide more frequent and comprehensive events, sponsoring and planning HMB events, promoting and recognizing success stories, providing enhanced technical assistance and education to the supporting organizations so they

¹⁶ Partnership for Prevention is a national membership organization of businesses, nonprofit organizations and government agencies advancing policies and practices to prevent disease and improve the health of all Americans. Details of this initiative are available at <http://prevent.org/content/view/30/57/>

can better meet the needs of HMB participants, and promoting related wellness opportunities to companies through email. Please see Appendix C for examples of workplace wellness technical assistance, trainings, and recognition events that were made available to HMB participants.

Recognition. Healthiest Maryland Businesses utilizes all technical assistance and training events as an opportunity to promote companies that are committed to employee health and highlight those with successful wellness programs. For example, the 2011 Workplace Health and Wellness Symposium showcased two of Healthiest Maryland Businesses' leading wellness ambassadors, Perdue Farms and Erickson Living. The promotion of comprehensive workplace wellness strategies as an employer success story facilitates peer-to-peer education and networking and identifies wellness champions in the business sector. This type of recognition activity is essential because it makes the content uptake stronger and produces more buy-in among participants. The employer success stories are also communicated to the CDC and Maryland leadership. Please see Appendix D for examples of two success stories in Maryland.

Addressing Disparities. An analysis of 2009 Maryland data from the U.S. Equal Employment Opportunity Commission¹⁷ by industry and race showed that there are 264,364 full-time African American Marylanders employed in the private industry and 45,395 full-time African American Marylanders employees in the public industry. Within the private industry—where African American Marylanders are largely employed—the African American full-time workforce is highly represented in the health care and social assistance industry (29%), retail trade (17%), and administrative and support/ waste management/ remediation services (10%). By targeting these three industries, 56.0% (150,804) African American employees in Maryland could be reached through Healthiest Maryland Businesses. Although all of these industries are well represented within HMB, efforts continue to focus on recruiting companies that disproportionately employ African American Marylanders or other minority populations.

To address health disparities the HQCC and HMB continue to encourage employers to implement timely, large-scale policy, systems, and environmental changes that make the healthiest choice the easiest choice for all. Healthier employees contribute to fiscal health, which keep people employed. This is critical as employment is a leading determinant of health status.

Evaluating Healthiest Maryland. The Maryland Institute for Policy Analysis and Research (MIPAR) at the University of Maryland Baltimore County is leading an external evaluation of the Healthiest Maryland Businesses initiative and an assessment of barriers and facilitators of workplace wellness in Maryland. This evaluation is viewed as a community participatory research with Maryland employers. Evaluation efforts in year one included a qualitative analysis of human resource manager phone interviews and the identification of companies to participate in the employer survey and case study components of the evaluation. Please see Appendix E for the Year 1 Evaluation Report. Activities for the remaining period of the evaluation project include the completion of employer surveys and company case studies—including employee surveys, employee focus groups, and medical claims analysis.

¹⁷ Employment data is available on the EEOC website at <http://www.eeoc.gov/eeoc/statistics/employment/index.cfm>. Data comparisons are limited to include that of the African American and Caucasian workforce population because the data available reflects small numbers for other minority populations (which generate statistically unstable estimates) and there are large numbers of individuals that are missing racial or ethnic information.

Next Steps The Wellness and Prevention Workgroup will work to reinvigorate the efforts of the Healthiest Maryland Businesses initiative. In order to do this the focus of HMB will be to enhance recruitment activities by partnering with local groups (i.e. education, health departments, behavioral health organizations, and chambers of commerce), enhance outreach to small businesses, improve the method of communication with employers (i.e. create social media accounts for professional networking), enhance technical assistance and recognition events (i.e. facilitate roundtable discussions across the state), and continue to promote and disseminate success stories.

Recommendation 2: The State of Maryland will establish an Interagency Health and Wellness Task Force to design and implement statewide wellness policies.

Lieutenant Governor Brown and Secretary Sharfstein charged the Wellness and Prevention Workgroup with exploring policies with a large reach and impact. Seven science-informed policies were assessed based on their reach (number of entities directly touched), the impact (resulting short and long health outcomes), political feasibility/partnerships, and the ease of execution. Given those criteria and the available data, the HQCC prioritized the creation of a multi-phase nutrition policy that would reduce sodium and transfat among the Maryland food supply. Potential strategies to accomplish this were: 1) implement institutional procurement policies, 2) advocate for healthier food production policies among food manufacturers, and 3) change government strategies regulating sodium and transfat levels. The Workgroup agreed to champion the first strategy and promote healthy food procurement policies for the State of Maryland.

Interagency Health and Wellness Task Force

As a major self-insured employer offering health benefits to 140,000 covered lives, a high-volume food purchaser, and leading institutional service provider, the Workgroup agreed that the State can lead by example to improve public health and lower costs by implementing healthy food procurement policies, in addition to other comprehensive wellness policies on a broader scale. With 80% of heart disease, stroke, and diabetes and 40% of certain cancers preventable through healthy eating, physical activity, and tobacco-free living, health and wellness policies at State workplaces would have a major impact on the health of Marylanders. Such policies, if implemented at all state agencies, would support approximately 80,000 state employees and nearly 19,000¹⁸ Marylanders residing in state facilities. The purpose of the Interagency Task Force would be to develop and implement wellness policies, such as:

- Develop and promote healthy food and beverage policies both for foods served at State Facilities and foods available for purchase at State Workplaces;
- Develop and promote healthy meeting policies for all State Agencies;
- Establish and promote universally available, comprehensive tobacco cessation and evidence-based nutrition counseling benefits;
- Establish and support comprehensive health management policies for all State Agencies related to physical activity, behavioral health, and breastfeeding;
- Prohibit sale of tobacco products at all State Workplaces; and

¹⁸ Includes individuals served food at state correction, juvenile, veteran house, and public health hospital facilities.

- Establish and support tobacco free campuses for all State Agencies.

Next Steps. The Wellness and Prevention Workgroup’s recommendation was taken into consideration at the highest level by the O’Malley-Brown Administration. The HQCC’s efforts elevated these issues to the Governor’s Office as the State continues to explore statewide wellness policies.

Recommendation 3: Champion the recommendations of promising public and private sector initiatives, including the Maryland Childhood Obesity Report.

The Wellness and Prevention Workgroup identified a need to focus on the prevention of diabetes and obesity, but also recognized the work of the Childhood Obesity Committee. In addition to promoting the 12 priorities outlined in the 2009 Legislative Report, the issue of childhood obesity was championed by the University of Maryland Baltimore through the statewide Healthiest Maryland initiative.

Community Transformation Grant

The Maryland Department of Health and Mental Hygiene was awarded a CDC Community Transformation Grant (CTG) to expand the Healthiest Maryland efforts in tobacco-free living, active living and healthy eating, and quality clinical and other preventive services (i.e., improving control of hypertension and high cholesterol). This CTG implementation grant targets the entire state of Maryland minus large counties (1,900,000) including a rural population of over 300,000. The initial award was \$1,945,289 for September 30, 2011-September 29, 2012. The anticipated project period is five years.

Healthiest Maryland is a statewide movement to transform communities into healthy environments for all, particularly population racial, ethnic and economic subgroups experiencing health disparities. Healthiest Maryland’s four complementary components, Healthiest Maryland Communities, Healthiest Maryland Schools, Healthiest Maryland Businesses, and Healthiest Maryland Health Care, aim to create the healthiest environments where Marylanders live, learn, work, play and optimize the value of health care. Healthiest Maryland includes a “grasstops” campaign to engage leadership in the community, schools, businesses and health care settings to make organizational commitments to promote wellness within their sphere of influence.

Local Health Departments (LHD) provide the backbone for intensive, community interventions. As such, the CTG allows a vehicle for local action teams to implement Healthiest Maryland in support of the State Health Improvement Process objectives to prevent and control chronic disease. The CTG will provide support to local health departments to transform and implement primary prevention efforts—specifically tobacco control, obesity prevention, and hypertension management.

Local health departments with their community partners will implement obesity prevention policies, tobacco policy related to pricing, packaging and flavoring of tobacco products, school wellness policies in Title I schools, and work site wellness programs. Additional LHD activities include training for child care wellness policy development and implementation, as well as expanding the Healthy Corner Stores program.

Finally, the development of the Institute for a Healthiest Maryland (**the Institute**) has been proposed to support these local and state-level policy, systems, and environmental changes. The Institute will coordinate all prevention and clinical quality improvement efforts of academic partners, identify and address gaps in expertise, and provide robust communication between local, state, and national public health leaders and academic experts. The Institute's purpose is to provide inter-professional expertise in three areas: policies within organizations that promote wellness, programs that change the built environment, and quality improvement for primary care and clinical preventive services. The Institute will unify and institutionalize longstanding public health partnerships, providing a gateway for public health leaders to access and exchange strategic guidance in making transformative change in local communities, and enabling Maryland to achieve a sustainable Healthiest Maryland through programs and policies.

A Summit on Childhood Obesity, sponsored by the University of Maryland in partnership with the Department of Health and Mental Hygiene Office of Chronic Disease Prevention, was held November 15-16, 2011. It brought together over 400 stakeholders from across the State to exchange and disseminate evidence-based information; produce an inventory of resources and programs in Maryland; and discuss the impact of current policies, health disparities, and cultural influences on childhood obesity. The partnership between DHMH and University of Maryland, Baltimore will continue with the establishment of the Institute, which launched on November 25, 2011. The Institute is a valuable resource for communities, particularly LHDs and community leaders, in promoting the efforts of the Healthiest Maryland initiative.

2011 Accomplishments

- Awarded the \$9 million five year Community Transformation Grant from the Centers for Disease Control and Prevention;
- Recruited more than 150 companies within 18 months of HMB's launch;
- Achieved diversity in the participating businesses by region, industry type, racial/ethnic composition, and size; and
- Provided seven technical assistance events, reaching 300 employers throughout Maryland.

2012 Milestones

- Launch community transformation throughout Maryland communities;
- Recruit a total of 225 companies to participate in HMB by December 2012;
- Enhance activities relating specifically to small sized companies by December 2012;
- Identify and recognize at least 10 companies for their successful wellness programs by December 2012; and
- Disseminate final evaluation results by December 2012.

C. EVIDENCE-BASED MEDICINE WORKGROUP

Charge

The Evidence-Based Medicine Workgroup is charged with prioritizing the widespread implementation of a discrete set of practices (so far mainly in hospital-based settings) that have been shown to improve healthcare quality, decrease cost and could be instituted on a large scale relatively quickly. The Council initially termed such practices "low-hanging fruit" because the practices to be considered by the group were to be those that are evidence based, with little or no

debate about their effectiveness, and that could be implemented in relatively short time periods.

Overview

The Evidence-Based Medicine Workgroup continues to be chaired by Dr. Chip Davis at the Johns Hopkins Center for Innovation. The other Council members who participate in this workgroup are Barbara Epke, James Chesley, Kathy White, Peggy O’Kane, and Roger Merrill. Regular participants also include Maryland Patient Safety Center representatives Pat Chaulk and Inga Adams-Pizarro, Bev Miller from MHA, Pam Barclay from MHCC, and Dianne Feeney from HSCRC.

The workgroup generally holds two conference calls between quarterly Council meetings. All calls are publicized on the HQCC website so the public may join in. The calls include an update on ongoing collaboratives/projects and any interventions necessary to keep them on track, then topics for future projects are discussed. Two large collaborative projects, Hand Hygiene and Blood Wastage Reduction, continued for their third year in 2011. (See individual project reports to follow for details.)

In April of 2011, the workgroup issued a broad solicitation for new ideas on the HQCC website and list-serves of interested parties. Projects were requested to be evidence-based, have a goal of improving quality and/or decreasing cost, be fairly easy to implement, and focus on a hospital inpatient setting.

The following suggestions were received:

Pediatric telemedicine;

Tobacco Cessation Counseling for inpatients;

Hospital discharge planning to include identification of inexpensive prescriptions;

Exercise programs for inpatients;

Dialysis case management;

Falls prevention;

Care transitions;

Pressure ulcer reduction;

Academic detailing; and

Pediatric central line infection reduction.

Some of these projects were considered to be better suited to other arenas, such as the pediatric telemedicine project being referred to the general Telemedicine Project that originated in this workgroup in 2010, and now being lead by MIEMSS and MHCC.

Some projects did not meet all the criteria, such as they were not evidence-based.

The topic of tobacco cessation counseling for inpatients is being researched in the fall of 2011 to determine if it is an initiative the workgroup would like to present to the Council for their consideration.

Preliminary conversations are continuing between a partnership of public payers in Maryland (Medicaid, Maryland Health Insurance Program, and the state employee health benefit program) with the National Resource Center for Academic Detailing.

Additional topic suggestions during 2011 included mandatory influenza vaccination of healthcare workers, hospital payment adjustment for elective deliveries prior to 39 weeks gestation, and adoption of phase two of the hand hygiene project, in which healthcare associated infection data collected through the Maryland Health Care Commission would be linked to hospital hand hygiene compliance data.

The workgroup is presenting mandatory flu vaccination for health care workers to the Council for their consideration as a future initiative at the December, 2011 meeting. This would potentially be the first workgroup project to include other healthcare settings in addition to hospitals. Ambulatory Surgical Centers and Nursing Homes have been discussed as possible settings for this project.

The payment adjustment for elective pre-39 week gestation project is being addressed at the HSCRC during the fall of 2011. Linkage of hospital discharge data sets and birth certificate data has been challenging, but work continues.

Phase two of the Hand Hygiene project will be suggested to the HQCC as a project whose time has come. MHCC has validated the hospital-specific Central Line Associated Blood Stream Infection (CLABSI) data and is willing to do a preliminary review for 2010 and 2011 comparing monthly CLABSI rates to the hospital monthly hand hygiene compliance rate. MHCC anticipates having validated hospital-specific surgical site infection (SSI) data between July and October of 2012, and multiply drug-resistant organism (MDRO) data sometime in 2013. In addition, a comparison may be possible between a DHMH survey of acinetobacter rates in hospitals and hand hygiene compliance rates. Reduction of blood stream infections in the patient population undergoing dialysis has been suggested as a topic for the workgroup recently, and more work needs to be done to prepare it for possible presentation to the Council.

Evidence-Based Medicine Strategies

Recommendation 1: Implement Hand Hygiene Campaign aimed to reduce Healthcare-Associated Infections

In 2009 the Council endorsed a statewide hand hygiene campaign that aimed to achieve immense life and cost-saving potential represented by a significant reduction in the number of healthcare-associated infections (HAI). While the Council acknowledged the significant work already underway in the State's acute care facilities there was significant focus on the lack of uniform standards by which to measure improvement across facilities.

The Council agreed that a coordinated, statewide effort is the most effective and successful approach to having a positive impact on infection prevention practices. It is significantly more efficient than the pre-existing patchwork of individual, well-intended, but divergent facility efforts.

Maryland Hospital Hand Hygiene Collaborative

Kick-off for the Maryland Hand-Hygiene Collaborative was November 3, 2009. At that time 42 of the 46 state acute care general hospitals signed on to implement a standardized protocol of reporting on at least 30

observations of hand hygiene on exit from patient rooms, using unknown observers, and reporting on all medical-surgical units.

Original protocol design was recommended by the MHCC Healthcare Acquired Infection Committee chaired by Pamela Barclay after considering several other programs, among them the JHH WIPES campaign. The oversight committee for the collaborative included DHMH, MHCC, and the Evidence-Based Medicine Workgroup Chair, Dr. Chip Davis, of the Johns Hopkins Center for Innovation, and his staff.

Originally, DHMH and MHCC were able to obtain \$100,000 in ARRA grant money that was applied to this project through the Maryland Patient Safety Center, with Delmarva Healthcare Foundation as a subcontractor. Johns Hopkins Center for Innovation and Center for Performing Sciences provided the web-based data base (Handstats) for observation tracking, and the professional hand hygiene program experience for the collaborative.

The Maryland Patient Safety Center¹⁹ was able to obtain an additional funding source through the HSCRC so that the project is supported until June 30, 2012. In the fall of 2011 the maintenance of Handstats and the reporting from the database was transferred from the Center for Innovation to the Maryland Patient Safety Center. The contractor assuming the work on behalf of the Center was the Delmarva Foundation for Medical Care.

Delmarva continued their supportive activities during 2011, with technical assistance calls, site visits to hospitals, monthly team calls that highlighted recent hand hygiene literature, and one in-person event that featured speakers on Hand Hygiene best practices in the U.S.

Data collection began in February, 2010, with some hospitals running parallel programs in which they had known and unknown observers in different units of the hospital. In the fall of 2010, the research methodology was made more stringent, and only hospitals using exclusively unknown observers in a minimum number of units could report into the Handstats system. At that time 31 acute care general hospitals agreed to adhere to the tighter methodology, however, not all of those facilities were able to report using that methodology during the 2011 project year.

Monthly compliance rates for the hospitals that were performing the standard protocol (Number averaged between 11 and 12) averaged 75-80% for the period January to May, 2011. There was a several month period during the transition of the Handstats database to the Patient Safety Center that no reporting was performed. The workgroup anticipates that these data will be available getting catch up information for the December, 2011 Council meeting. At that time, hospital CEOs will receive a report card demonstrating their individual trend over time during the collaborative, compared to the rest of the group.

Recommendation 2: Implement a Blood Wastage Reduction Initiative

The Workgroup's second initiative aimed to reduce blood wastage after it was learned that the variation in the way blood is used, stored, and saved can be reduced – and this can be done inexpensively and relatively easily. The cost savings accrue directly to hospitals/care providers in proportion to the effectiveness with which they roll out this type of program. It was agreed that

¹⁹ All Collaborative material can be accessed at:
http://www.marylandpatientsafety.org/html/collaboratives/hand_hygiene/index.asp

blood is a precious commodity and that the variability of the supply directly affects the ability to provide blood when needed. The Council felt that addressing blood wastage as a public health issue would also increase the efficiency of hospitals, thereby improving both quality and cost.

Maryland Statewide Reduction of Blood Wastage Collaborative

Kick-off for this project was September of 2009.²⁰ Forty-four of the 45 acute care hospitals with blood banks committed to a standardized monthly reporting of their wastage for plasma and platelets. As the project matured, data reporting dropped only slightly, so that about 35 hospitals continued to regularly submit their data.

This project was implemented without additional funding. Ms. Donna Marquess, then Director of the Sinai Hospital Blood Bank, and Page Gambrill, at the Maryland Chapter of the American Red Cross co-chaired the group. Oversight was provided by I-Fong Sun at the Johns Hopkins Center for Innovation and DHMH.

Platelets and plasma were selected as the focus for the project after a statewide survey identified them as the products most problematic for Maryland's blood banks. Original data reporting and tracking was designed by staff at the Johns Hopkins Center for Innovation and Center for Performance Sciences.

The blood wastage reduction collaborative ran thru September of 2011. Over the life of the collaborative, a total of \$558,833 was saved through the decrease in wastage rates: 1034 units of platelets and 629 units of plasma. The benefit of having more of this precious resource available for Maryland patients outweighed the financial savings.

During the collaborative, best practices were shared across hospitals and were maintained as part of the data base. Members also developed the concept of a "Craig's List", now formally called the Inventory Visibility System, on which to list short-dated products so that other hospitals could use them. The system was successfully used by the hospitals in 2011, and the National leadership of the American Red Cross expressed interest in promoting the technology in other regions.

Recommendation 3: Regulated Medical Waste

The Council authorized implementation of a project to reduce regulated medical waste in hospitals at their June, 2010, meeting. The planning meeting was held August 25 with representatives from the John Hopkins Center for Innovation, Johns Hopkins Hospital, Hospitals for a Healthy Environment (H2E), the Department of the Environment, and DHMH.

The project was delayed until early 2012, when Dr. Clifford Mitchell will convene the workgroup to focus on reducing regulated medical waste. Dr. Mitchell is Assistant Director for Environmental Health and Food Protection in the Department's Infectious Disease and Environmental Health Administration .

Recommendation 4: Statewide Telemedicine Network

The initial telemedicine taskforce co-chaired by Drs. Eric Aldrich and Barney Stern, neurologists

²⁰ The Blood Wastage Reduction Collaborative Kick-off presentation is available at:
http://dhmh.maryland.gov/mhqcc/pdf/2009/oct09/BWWG_09_22_09_Final.pdf

from Johns Hopkins and University of Maryland, respectively presented its report to the Council in September, 2010.²¹ As a result of this group’s recommendations, the Council created a Telemedicine Taskforce jointly directed by MIEMSS and MHCC. This taskforce began meeting in July, 2011 with Clinical, Financial and Business Model and Technology Solutions and Standards advisory groups. The taskforce’s report, presented to the council in December, 2011, is attached as an Appendix.

D. PATIENT CENTERED MEDICAL HOME WORKGROUP

Charge

The Patient Centered Medical Home Program, established by legislation enacted by the Maryland General Assembly in 2010 and effective July 1, 2010, charged the Maryland Health Care Commission (MHCC, or Commission) to establish a program if it concluded that the program is likely to result in the delivery of more efficient and effective health care services and is in the public interest (Maryland Annotated Code, Health General Section 19-1A.) The statute requires that the program promote the development of patient centered medical homes by adopting standards, forms and processes with the consultation of stakeholders.

Practice Selection

In November of 2010, the Commission convened a Practice Selection Committee composed of the Council’s PCMH Workgroup’s Chair, medical directors from the participating carriers, Medicaid staff, and Commission staff to select 60 practices from the 179 primary care practices (representing more than 1,000 physicians) that had applied to participate in the Commission’s three-year Multi-payer PCMH Program (MMPP).

Overview of the Provider Applicants

MHCC Planning Regions	Practice Type	
	Applied	Applied
Central Maryland	94	FQHC 14
EASTERN SHORE	13	Multi Spec 51
MONTGOMERY COUNTY and PRINCE GEORGE's COUNTY	28	Single Spec 96
SOUTHERN MARYLAND	22	Solo 17
WESTERN MARYLAND	21	

16

In selecting the invited practices, the Committee utilized a ranking procedure weighing the

²¹ The Telemedicine Taskforce’s Report to the Council is available at:
http://dhmh.maryland.gov/mhqcc/pdf/2010/Sep10/Telemedicine_Task_Force_Presentation_09242010.pdf

practice’s responses across 6 domains:

- Special Requirements in legislation: geographically diverse, reflects variations in care delivery, and encompass all populations. (Commercially insured, Medicaid, and Medicare) and small practices including NPs and practices that are collaborating with other small practices;
- Existing NCQA Recognition – PCMH, Back, Heart, Diabetes;
- Participation in quality initiatives, employee wellness, primary care residency;
- Established business functions – hours worked, extended hours of access;
- PCMH features -- Use of EHR, Offer care beyond “office visits” (i.e., phone, online); and
- Adaptive reserve – the capabilities and resources that can be used to further the transformation to a PCMH.¹ Adaptive reserve includes measures of leadership, diversity, mindfulness, communication, respectful interaction, learning culture, reflection and general work environment.

The MMPP Program intends to test the following value propositions:

- Enhanced primary care will improve health status and outcomes for patients (especially for the chronically ill);
- The result will be fewer complications, ER visits, and hospitalizations; and
- Savings from these improved outcomes can be used to fund increased payment to primary care practices.

Participating practices must achieve NCQA PPC PCMH Level 1+ or higher by December 31, 2011 and Level 2+ or higher by December 31, 2012. In addition, the MMPP practices must report on quality measures as set forth in the chart on the next page:

Quality Measurement Criteria				
Group One Criteria*				
NQF Measure	Developer	Recommended Measure Title	Reported by Pediatric Practices	Reported by Adult Practices
0001	AMA	Asthma Assessment	YES	YES
0002	NCQA	Appropriate Testing for Children with Pharyngitis	YES	
0013	AMA	Core: Hypertension: Blood Pressure Measurement		YES
0018	NCQA	Controlling High Blood Pressure		YES
0024	NCQA	Alternate Core: Weight Assessment and Counseling for Children and Adolescents	YES	
0028a	AMA	Core: Preventive Care and Screening Measure Pair: a. Tobacco Use		YES

		Assessment		
0028b	AMA	Core: Preventive Care and Screening Measure Pair: b. Tobacco Cessation Intervention		YES
0034	NCQA	Colorectal Cancer Screening		YES
0036	NCQA	Use of Appropriate Medications for Asthma	YES	YES
0038	NCQA	Alternate Core: Childhood immunization Status	YES	
0041	AMA	Alternate Core: Preventive Care and Screening: Influenza Immunization for Patients ≥ 50 Years Old		YES
0043	NCQA	Pneumonia Vaccination Status for Older Adults		YES
0047	AMA	Asthma Pharmacologic Therapy	YES	YES
0059	NCQA	Diabetes: HbA1c Poor Control		YES
0061	NCQA	Diabetes: Blood Pressure Management		YES
0067	AMA	Coronary Artery Disease (CAD): Oral Antiplatelet Therapy Prescribed for Patients with CAD		YES
0075	NCQA	Ischemic Vascular Disease (IVD): Complete Lipid Panel and LDL Control		YES
0081	AMA	Heart Failure (HF): Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD)		YES
0105	NCQA	Anti-depressant medication management: (a) Effective Acute Phase Treatment, (b) Effective Continuation Phase Treatment		YES
0421	QIP	Core: Adult Weight Screening and Follow-Up		YES
0575	NCQA	Diabetes: HbA1c Control (<8%)		YES

***NOTE: Shaded rows are the CMS EHR Meaningful Use Core or Alternate Core measures. Non-shaded rows are additional recommended measures to be included in the Program.**

Payment Methodology

Commission staff and their consultants from Discern Consulting LLC continued refinement of the program’s payment model. MMPP practices will be reimbursed as usual for fee-for-service (“FFS”) care, and carriers will pay practices on a per patient per month (“PPPM”) basis for care coordination expenses not included in their standard FFS schedules. The reimbursement methodology is summarized below:

Fixed Payments are guaranteed and adjusted by PCMH recognition level, category of carrier (commercial, Medicaid MCO, and Medicare MCO), and practice size.

- Paid semi-annually prospectively;
- Range of \$3.00 - \$6.00 PPPM for commercially insured populations; and
- Total fixed payment range of \$40,000 - \$60,000 per full-time physician annually.

Shared savings payments could be substantial, but are not guaranteed.

- Calculated based on achieved total savings from all care (IP, Rx, Outpt, and Prof);
- Separately calculated for commercial (grouped together for all carriers), Medicaid, and Medicare (if Maryland participates in the CMS demonstration);
- Baseline for savings will be the practice’s patients’ total medical expenses, adjusted for inflation and plan benefit changes since the start of the Pilot; and
- Paid retrospectively.

Bonus, or shared savings, payments will be derived from the savings that the carriers are able to document, with the largest percentage of the savings returned to the practice. Practices would get the full payment if they are able to meet the cost and quality thresholds established for the program. Program participants agreed to the following levels for Fixed Transformation Payments and shared savings (or incentive) payments as shown below.

Commercial Population - Fixed Transformation Payments			
Physician Practice Site Size (# of patients)	Level of PCMH Recognition		
	Level 1+	Level 2+	Level 3+
< 10,000	\$4.68	\$5.34	\$6.01
10,000 - 20,000	\$3.90	\$4.45	\$5.01
> 20,000	\$3.51	\$4.01	\$4.51
Note: Level 1+ applies only to the first year of the Program. In Years 2 and after, medical homes must achieve Level 2+ or better to receive Fixed Transformation Payments.			
Medicaid Population - Fixed Transformation Payments			
Physician Practice Size	Level of PCMH Recognition		
	Level 1+	Level 2+	Level 3+
All Practices	\$4.54	\$5.19	\$5.84
Note: Level 1+ applies only to the first year of the Program. In Years 2 and after, medical homes must achieve Level 2+ or better to receive Fixed Transformation Payments. Fixed payments will NOT be available for Federally Qualified Health Centers.			
Table 4. Medicare Advantage Population - Fixed Transformation Payments			
Physician Practice Size	Level of PCMH Recognition		

	Level 1+	Level 2+	Level 3+
All Practices	\$8.66	9.62	11.54

1. Fixed Transformation Payments

- a. A Carrier shall make Fixed Transformation Payments to a participating Practice semi-annually using one of the following methods:
 - i. By a claim for each attributed PCMH patient using a local HCPCS code that has been approved by the Commission;
 - ii. By a lump sum payment to a participating Practice for all patients attributed to that Practice in the current 6-month attribution period; and
 - iii. By an alternative method approved by the Commission at least 60 days prior to date when the payment is due.
- b. The sum of all claim payments or the lump sum payment shall represent the total semi-annual payment for the attributed participating patients associated with that Practice.
- c. The Carrier shall provide the Practice with sufficient information to enable the Practice to reconcile Fixed Transformation Payments with the specific patients attributed to the program.
- d. Fixed Transformation Payments shall be adjusted annually by the change in the Medicare Economic Index between the current year and the ensuing years.

2. Incentive Payments: Beginning in Year 1 and continuing through Year 3.

- a. Practices that have met the specified annual performance criteria will be qualified to receive the defined percent of any savings generated by the Practice during Years 1, 2, and 3.
- b. Practices shall report the specified criteria and the Commission will calculate the utilization criteria for each Practice.
- c. The baseline for measuring changes in utilization for each participating Practice shall be participating patients attributed to that Practice in the calendar year preceding the start of the Program.
- d. The savings shall be based on the difference between expected medical costs for the Practice’s patient population and the actual total medical care spending per attributed participating patient, including the cost of the “Fixed Transformation Payments,” and any existing Carrier incentive programs, including an EHR incentive created by legislation.
- e. The total expected medical expenses are defined as the per participating patient medical expense in the year prior to the start of the Program, adjusted for medical inflation.
- f. The Commission may adjust the shared savings algorithm to account for outliers and changing case mix in a Practice based on evidence that these factors would present a significant disadvantage to a Carrier or participating Practice.
- g. In determining shared savings, separate saving calculations shall be constructed for the commercially insured population, the Medicaid population, and the Medicare population, including traditional Medicare (if CMS decides to participate) and Medicare Advantage.

- h. Should there be no savings as defined herein, the Practice will not be eligible for an Incentive Payment, nor will it be required to repay the Carriers for the Fixed Transformation Payments.
3. The medical inflation factor used to adjust expected expenses will be derived by estimating the change in spending in the Maryland market for the commercially insured, the Medicaid, and the Medicare populations from the base year to the current program year using a nationally known industry source such as the Milliman Medical Index or the Medical Care Data Base. Separate medical inflation factors will be applied to base spending for the commercially insured, Medicaid, and Medicare populations.
 4. Procedure for Paying the Incentive Payments
 - a. The Commission will notify each participating Carrier of the shared savings achieved for its covered individuals that are attributed to a Practice.
 - b. The Commission may assign Carriers the responsibility of calculating the shared savings using the Commission’s calculation approach.
 - c. The Carrier shall obtain the Commission’s approval for making an Incentive Payment to a Practice.
 5. The Commission may negotiate with self-insured employers and their representatives on the level of Fixed Transformation Payments paid by self-insured employers according to the following conventions:
 - a. Any reduction in the Fixed Transformation Payment amount shall be offset by an equivalent increase in the percent of shared savings awarded to the plan.
 - b. The self-insured employer, or its agent, can provide a method to Practices for differentiating participating patients insured by self-insured employers and other forms of coverage.

MMPP Participation Agreement

Commission staff negotiated the terms of the Patient Centered Medical Home Program Participation Agreement, which was executed by contracting authorities with Aetna, CareFirst, CIGNA, Coventry, United Healthcare, the Medicaid MCOs and physician practices, which include a CRNP-directed practice, solo and small physician-owned practices, Federally-Qualified Health Centers, hospital-owned practices, and faculty-based practices. The following are the participating practices:

MMPP Participating Practices

Practice Site name
AGHS Berlin Primary Care
AGHS Townsend Medical Center
Andrew S Dobin, M.D., P.A.
Bay Crossing Family Medicine
Calvert Internal Medicine Group, P.A.
Calvert Internal Medicine Group, P.A.
Calvert Internal Medicine Group, P.A.
Calvert Physician Associates, LLC – Calvert Family Care
Calvert Physician Associates, LLC – Twin Beaches
Calvert Physician Associates, LLC – Calvert Convenient Care

MMPP Participating Practices

Cambridge Pediatrics, LLC
Children's Medical Group, P.A.
Comprehensive Women's Health
Crossroads Internal Medicine
Drs. DiMarzio, Gordon, Jackson, Kinzer, Miller & Verkouw, PA
Family Health Centers of Baltimore
Family Medical Associates, LLC
FamilyCare of Easton
Gerald Family Care, PC
Green Spring Internal Medicine, LLC
Hahn & Nelson Family Medicine
Johns Hopkins Community Physicians at Wyman Park
Johns Hopkins Community Physicians at Canton Crossing
Johns Hopkins Community Physicians at Hagerstown
Johns Hopkins Community Physicians at Water's Edge
Johns Hopkins Community Physicians at Montgomery County
Johnston Family Medicine
Joseph K. Weidner, Jr. MD L.L.C. (dba Stone Run Family Medicine)
MedPeds, LLC
MedStar Health Physicians; Franklin Square Family Health Center
Mountain Laurel Medical Center
Parkview Medical Group, Frederick
Parkview Medical Group, Mt. Airy
Parkview Medical Group, Myersville
Patient First – Waldorf
Potomac Physicians – Annapolis Regional Medical Center
Potomac Physicians – Frederick Medical Center
Potomac Physicians – Security Health Center
Primary and Alternative Medical Center
Shah Associates, Hollywood
Shah Associates, Prince Frederick
Shah Associates, Waldorf
The Pediatric Group – Crofton
The Pediatric Group – Severna Park
The Pediatric Group – Davidsonville
Ulmer Family Medicine, PC
Union Primary Care
University of Maryland Family Medicine Associates, PA
University of Maryland Pediatric Associates, P.A.
UniversityCare at Edmondson Village
Vanessa Allen, MD

Self-Insured Employer Participation

Throughout the Spring of 2011, Commission staff also conducted an outreach program recruiting interested self-insured employers to participate in the program. The Maryland State Employee Health Plan, Maryland Health Insurance Program (MHIP) and the Office of Personnel Management voluntarily agreed to participate.

Maryland Learning Collaborative

The Commission contracted with the University of Maryland, Department of Family and Community Medicine at the University of Maryland School of Medicine to plan and launch the Maryland Learning Collaborative (MLC) to foster practice transformation for practices in the program. The MLC is a partnership that combines resources from the education and research communities with the commitment and knowledge of clinicians committed to advancing primary care. It is led by Drs. David Stewart, MD, MPH, Niharika Khanna, MD, and Kathy Montgomery, PhD, RN of the University of Maryland and Norman Poulsen, MD, Scott Feeser, MD and Bruce Leff, MD of Johns Hopkins University. The first meeting of the MLC was held on May 14, 2011, with a focus on introducing the concepts of the PCMH, documentation of baseline participating practices' readiness for transformation, and meeting the NCQA requirements for recognition. The MLC has established a secure website for sharing information with practice participants and conducts numerous site visits to the practices, webinars and teleconferences, and regional meetings of the Collaborative. The second meeting of the Collaborative was held on November 11 and 12, 2011, with a focus on organizational change, care management, and quality measurement.

MMPP Advisory Panel

The Maryland Health Care Commission convened an MMPP Advisory Panel, composed of carrier, employer, and practice representatives in August of 2011. The purpose of the Advisory Panel is to consider and advise the Commission on administration of the program. No program modifications were recommended in August.

Patient Attribution

The MMPP program completed attribution of patients by carriers and the Medicaid MCOs in September. A combined investment of approximately \$3 million was paid to participating practices for the first Fixed Transformation Payments. The commercial carriers accounted for approximately \$2.1 million, as follows: CareFirst \$1.4 million; United Healthcare \$431,000, Aetna \$140,000, and Coventry \$33,800. Medicaid released special payments to the MCOs and approximately \$900,000 was paid by the Medicaid MCOs to the practices. Commission staff estimates that an addition \$100,100 was paid to practices by several self-insured employers. Participating sites received an average payment of \$56,000. As of the writing of this report, the MMPP program was in the process of the second round of attribution, with Fixed Transformation Payments due to the participating practices in January of 2012.

NCQA Recognition

Forty seven of the 52 practice sites submitted their NCQA applications for PCMH recognition on or before the October 28, 2011 deadline. Five practices received a deferment of up to one month in order to complete their submissions.

Program Evaluation

The MHCC released an RFP for PCMH Program Evaluation services in February 2011 and revised and re-released the RFP in May. Two potential vendors responded to the revised RFP. An Evaluation Review Commission composed of Dr. Kathi White (former Chair of the Council's PCMH Workgroup) Dr. Howard Haft of Shah Associates (an MMPP participating practice), Grace Zaczek of Maryland Medicaid, and Ben Steffen, Linda Bartnyska, Susan Myers, Karen Rezabek, and Sharon Wiggins of the Commission staff reviewed the proposals and recommended approval by the Maryland Board of Public Works for the Commission to enter into a five year contract with IMPAQ International. The Maryland Board of Public Works approved the contract on September 21, 2011.

E. HEALTH DISPARITIES WORKGROUP

Charge Executive Order (released May 26, 2011)

The Council shall explore and develop health care strategies and initiatives, including financial, performance-based incentives, to reduce and eliminate health disparities, and make recommendations regarding the development and implementation of those strategies. The initiatives should seek to:

- (a) Improve quality and reduce costs;
- (b) Build on existing efforts to address known disparities; and
- (c) Identify best practice disparity programs in Maryland and across the country to determine if and how they should be implemented in Maryland.

Activities and Recommendations

The workgroup held six meetings from June, 2011 through December, 2011. The workgroup's report of recommendations to the Council are attached to this report as Appendix F, but highlights of the workgroup's efforts are described here. Using data detailed in the attached workgroup report, the group identified areas of health and health care disparities in Maryland, factors contributing to the disparities and recommended strategies for reducing the disparities. The group identified three health care conditions as targets for disparity reduction: lung diseases - particularly asthma, cardiovascular diseases and diabetes.²²

Health care, community and individual factors contribute to disparities. Some health care issues the group identified were: lack of or inadequate health insurance, lack of sufficient providers – especially those who would accept many insurances including Medicaid, poor provider-patient communication such as lack of provider cultural competency, and lack of workforce health care diversity. The group discussed contributing community factors including: non-availability of healthy foods, safe places for physical activity, and local jobs, community level poverty, high crime rates, inadequate housing and educational opportunities, exposure to environmental toxins and disease triggers, and racism. Just a few of the individual factors the workgroup found were: unhealthy diet and lack of adequate exercise, tobacco and alcohol use, substance abuse, low educational attainment and health literacy, and poverty. The group noted that while these factors

²² Health Disparities Workgroup. Maryland Health Quality and Cost Council. Recommendations Report, December, 2011.

are identified and data are collected at the community, state and national level, the solutions almost always must be implemented at the local community level.²³

The workgroup recommended three strategies to begin reducing health and health care disparities in Maryland's communities. The first is the creation of Health Empowerment Zones (HEZ), which the workgroup defined as: a local community that can utilize special incentives and funding streams to address these various factors in their community by using healthcare-level, community-level, and individual-level interventions. The HEZ would be a geographic area with poor health outcomes and/or documented disparities, especially in hospital admissions and Emergency Department visits for asthma, hypertension and diabetes; demonstrates collaboration among community groups; and involvement from local government, community groups, providers, hospitals and insurers.²⁴

The second strategy would create the "Maryland Health Innovation Prize." In addition to improving health in local communities, the prize would promote:

- Public health breakthroughs are needed to revitalize and move existing health systems to achieve measurable improvements in population health;
- Health care costs continue to escalate and need effective measures that curtail escalation while improving quality of care; and
- Model innovations can develop from outside the health care system that could have increased potential for resolving persistent health care delivery challenges.

Some expected benefits of the prize include:

- Innovations in community health and public health;
- Innovations through research and development investments;
- Innovations from the non-health sector;
- Innovations from youth and young adults;
- Improved health status and increased economic benefits to Maryland's local minority communities;
- Societal sectors outside of health care delivery could bring resources, value added, and partners whose collaboration addresses causal factors outside the health system; and
- Formation of new health-related industries that vitalize and incentivize the nation's health system to operate with efficiency leading to healthier population groups.

There would be several steps to creating and implementing the prize:

- Engage societal entities that stand to benefit from healthier populations such as industries, businesses, large employers, etc. to participate in building "The Purse" as well as to compete for the Prize;
- Engage all health delivery systems to participate in building "The Purse" that can be invested, utilizing the investment earnings to pay the Prize, maintaining the capital for growth. The Health delivery systems could also compete for the "Prize";
- An entity responsible for administration of the Prize would need to be established or designated; and

²³ Ibid.

²⁴ Ibid.

- Criteria for prize eligibility, and for ranking competing candidates for the prize, would need to be established.

An organization would have to be identified or created to administer the prize. Representatives should include: local and minority communities, local health officers, community-based organizations and providers, hospitals, insurers, professional societies, academic medicine, and the business and philanthropic communities.

State sponsorship of the prize would require legislation or regulation, or the prize could be privately funded and administered. Implementation of these strategies is planned to begin in 2012.²⁵

The last strategy the Workgroup recommended is racial and ethnic tracking of health care performance data in two areas:

- Hospital Care Incentives (*Health Services Cost Review Commission*)
 - Quality Based Reimbursement (based on process measures)
 - Maryland Hospital Acquired Conditions (MHAC) (based on complications)
 - Maryland Hospital Preventable Readmissions (MHPR)
 - Admission-Readmission Revenue (ARR) Hospital Payment Constraint Program
- Primary Care Incentives (*Maryland Health Care Commission*)
 - Shared Savings Incentive in the Patient Centered Medical Home Program.

These two existing health care quality incentive programs do not currently track the incentives by race and ethnicity. This proposed recommendation would enhance these existing programs by requiring that the performance metrics be analyzed by race and ethnicity where the data are sufficiently robust to permit such analysis. Such racial and ethnic analysis will serve several purposes:

- Identification of Racial/Ethnic Disparities in Health Care Quality Metrics;
- Determination of whether current race/ethnic-neutral incentive formats are in fact improving minority health care quality and reducing disparities; and
- Determination of whether new race/ethnic-specific incentive formats are required.

The expected benefits to the incentive programs of racial/ethnic data tracking include:

- Identification of Racial/Ethnic Disparities in Health Care Quality Metrics;
- Determination of whether current race/ethnic-neutral incentive formats are in fact improving minority health care quality and reducing disparities; and
- Determination of whether new race/ethnic-specific incentive formats are required.

²⁵ Ibid.

The expected benefits to Maryland overall of racial/ethnic performance data tracking include:

- Improvement in minority health care quality;
- Reduction and eventual elimination of health care quality disparities;
- Improvement in minority health; and
- Health care cost savings to private and public payers for health care.

Either legislation and/or regulation would be required to implement racial/ethnic performance data tracking. The two commissions, HSCRC and MHCC would be directed to:

- Study the feasibility of racial/ethnic performance data tracking;
- Report the data by race and ethnicity where feasible; and
- Explain the limitations where data cannot be reported by race and ethnicity and describe necessary changes to overcome those limitations.²⁶

The workgroup anticipates beginning efforts to develop racial and ethnic performance data tracking in 2012.

TELEMEDICINE TASKFORCE

The Telemedicine Task Force presented “Telemedicine Recommendations – A Report Prepared for the Maryland Health Quality and Cost Council, December, 2011” at the Council’s final meeting. The report is attached as Appendix G. Effective use of telemedicine can increase access to health care, reduce health disparities, and create efficiencies in health care delivery. Telemedicine is generally considered as a viable means of delivering health care remotely through the use of communication technologies, and can bridge the gaps of distance and health care disparity.²⁷

The Council supports the promotion of Telemedicine and concurred that the next steps should be further work on developing the technical and policy standards for telemedicine in Maryland.

²⁶ Ibid.

²⁷ Telemedicine Taskforce – Maryland Health Quality and Cost Council. Telemedicine Recommendations. December, 2011.

IV. Appendices

APPENDIX A: WORKGROUP MEMBERS AND MEETING

DATES

Wellness and Prevention Workgroup

Council Members

Jill Berger
Debbie Chang
James Chesley
Roger Merrill
Peggy O’Kane
E. Albert
Reece

Staff

Fran Phillips (Chair – Secretary’s
Designee) Katie Jones
Maria Prince
Audrey Regan
Nicole
Stallings

Other Participants

Geff Bergh (Merck)
Amy Deutschenberg, Johns Hopkins
Lori Doyle, Community Behavioral Health Association
Allison Gertel-Rosenberg, representing council member Debbie Chang
Carmela Jones, Jeanne DeCosmo and Jessica Jackson, Maryland Hospital Association
Alan Lake, Maryland chapter of American Academy of Pediatrics
Adam Milam, representing Delegate Tarrant
John Miller, Mid-Atlantic Business Group on Health
Deb Neels, Patty Ilowit, and Mary de la Santo, University of Maryland
Amjad Riar, Capitol Palliative Care Consultants
Magaly Rodriguez deBittner, University of Maryland School of Pharmacy
Nancy Witkowski, Boehringer Ingelheim Pharmaceuticals

Wellness and Prevention Workgroup Meeting Dates

3/21/2011
5/6/2011
9/7/2011
12/6/2011

Evidence-Based Medicine Workgroup

Council

Members

Richard (Chip) Davis (Chair)

James Chesley

Barbara Epke

Kathi White

Roger Merrill

Peggy O’Kane

Staff

Mary Mussman

Other Participants

Bev Miller, Maryland Hospital Association

Dianne Feeney and Steve Ports, HSCRC

Maria Prince, DHMH

I-Fong Sun and Howard Carolan, Center for Innovation in Quality Patient Care at Johns Hopkins

Grace Zaczek, DHMH

Blood Wastage Reduction Workgroup

Page Gambill, American Red Cross

Donna Marquess, LifeBridge Health

I-Fong Sun, Joan Boyd, Lisa Shifflett and Richard Hill, Center for Innovation in Quality Patient Care at Johns Hopkins

Janice Hunt, UMMC

Mary Mussman, DHMH

Ed Hamburg, MDE

Regulated Medical Waste Workgroup

Clifford Mitchell, Chair

Evidence Based Medicine Workgroup Meeting Dates:

2/23/2011

5/23/2011

9/7/2011

12/8/2011

Health Disparities Workgroup

Council Member:

E. Albert Reece, University of Maryland School of Medicine, Workgroup Chair

Workgroup Staff:

Brian DeFilippis, University of Maryland School of Medicine

Carlessia Hussein, Department of Health and Mental Hygiene

David Mann, Department of Health and Mental Hygiene

Ben Stutz, Office of the Lieutenant Governor

Other Workgroup Members:

Oxiris Barbot, Baltimore City Health Department

Claudia Baquet, University of Maryland School of Medicine

Michael Chiamonte, Southern Maryland HealthCare System

Lisa Cooper, Johns Hopkins University School of Medicine

Renee Fox, University of Maryland School of Medicine

Darrell Gaskin, Johns Hopkins Bloomberg School of Public Health

Jay Magaziner, University of Maryland School of Medicine

Marcos Pesquera, Adventist HealthCare

Ligia Peralta, University of Maryland School of Medicine

Steven Ragsdale, Johns Hopkins University

Stephen Thomas, University of Maryland College Park

Workgroup Meeting Dates:

July 6, 2011

July 27, 2011

August 16, 2011

September 13, 2011

October 11, 2011

November 15, 2011

December 7, 2011

Telemedicine Taskforce

Leadership Committee

Robert R. Bass, Maryland Institute for Emergency Medical Services Systems, Chair
Anna Aycock, Maryland Institute for Emergency Medical Services Systems
Barbara Goff, Maryland Institute for Emergency Medical Services Systems
Nancy Grimm, DHMH Office of Health Care Quality
Sarah Orth, Maryland Health Care Commission
Karen Rezabek, Maryland Health Care Commission
Ben Steffen, Maryland Health Care Commission
David Sharp, Maryland Health Care Commission
Grace Zaczek, DHMH
David Finney, Audacious Inquiry, Consultant to the Taskforce

Financial and Business Model Advisory Group Participants

Ben Steffen, Maryland Health Care Commission Chair	Elizabeth Raitz-Cowboy, Aetna
Clarence Brewton, MedStar Health System	Gene Ransom, MedChi
Michelle Clark, Maryland Rural Health Association	H. Neal Reynolds, University of Maryland School of Medicine/ R Adams Cowley Shock Trauma
Tom Dowdell, Western Maryland Health System	Valerie Shearer Overton, Maryland Hospital Association
Cynthia Fleig, United Healthcare	Adam Weinstein, Shore Health System
Mary Fuska, Children's National Medical Center	Jennifer Witten, American Health and Stroke Association
John Hamper, CareFirst BlueCross BlueShield	Grace Zaczek, Department of Health and Mental Hygiene
Timothy Jones, Children's National Medical Center	Teresa Zent, Legislative Consultant
Traci La Valle, Maryland Hospital Association	
Robert Lyles, LifeStream Health Center	
Mary Mastrandrea, ValueOptions	
Matthew Palmer, Consumer	

Technology Solutions and Standards Advisory Group Participants

David Sharp, Maryland Health Care Commission, *Chair*
Scott Afzal, Audacious Inquiry, LLC
Lee Barrett, Electronic Healthcare Network Accreditation Commission
Gary Capistrant, American Telemedicine Association
Bill Day, InTouch Health
Marc Delacroix, MedStar
Brian Grady, University of Maryland
David Horrocks, Chesapeake Regional Information System for Our Patients
Timothy Jones, Children's National Medical Center
Kenneth Karpay, Karpay diem, LLC
Simon King, Medvision, LLC
Katherine Klosek, Office of Governor O'Malley, Governor's Delivery Unit
Lisa Lyons, Allegany County Health Department
John Malloy, Zypher Technology
Steve Mandel, Johns Hopkins Hospital and School of Medicine
Arumani Manisundaram, Adventist Health Care, Inc.
Mary Mastrandrea, ValueOptions
Mary McKenna, University of Maryland Medical Center
Alex Nason, Johns Hopkins Medicine Interactive
Diana Nolte, Worcester County Health Department
Adelline Ntatin, Department of Health and Mental Hygiene
Grace Zaczek, Department of Health and Mental Hygiene
David Quirke, Frederick Memorial Healthcare System
Audrey Regan, Department of Health and Mental Hygiene
Molly Reyna, Children's National Medical Center
H. Neal Reynolds, University of Maryland School of Medicine/R Adams Cowley Shock Trauma
Rachel Schaaf, Maryland Hospital Association
Barney Stern, University of Maryland School of Medicine
Maury Weinstein, System Source
Jennifer Witten, American Health and Stroke Association
Michelle Clark, Maryland Rural Health Association
Richard Colgan, University of Maryland School of Medicine
Jenifer Fahey, University of Maryland Medical Center
Michael Franklin, Atlantic General Hospital
Frank Genova, Kaiser Permanente, Mid-Atlantic Permanente Medical Group, P.C.
Barbara Goff, Maryland Institute for Emergency Medical Services Systems
Brian Grady, University of Maryland Medical Center
Fremont Magee, Office of the Attorney General
Marek Mirski, Johns Hopkins Medical Institutions
Peggy Naleppa, Peninsula Regional Medical Center
Mimi Novello, Franklin Square Hospital Center

Laura Pimentel, American College of Emergency Physicians
Alexandra Podolny, University of Maryland Center for Health and Homeland Security
Virginia Rowthorn, University of Maryland Francis King Carey School of Law
H. Neal Reynolds, University of Maryland School of Medicine/R Adams Cowley Shock Trauma
Amjad Riar, Governor's Commission on Asian Pacific American Affairs
Nayan Shah, Shah Associates, MD, LLC
Barney Stern, University of Maryland Medical Center
Earl Stoddard, University of Maryland Center for Health & Homeland Security
Tricia Thompson Handel, Maryland Board of Physicians
Jo M. Wilson, Western Maryland Health System
Elizabeth Vaidya, Department of Health and Mental Hygiene
Jennifer Witten, American Heart and Stroke Association
Grace Zaczek, Department of Health and Mental Hygiene
Marc Zubrow, Christiana Care Health System

APPENDIX B: HEALTHIEST MARYLAND BUSINESSES PARTICIPANTS

	Company:	Industry Type:
1	A&G Pharmaceutical ,Inc.	Health Care and Social Assistance
2	ACT Personnel Service, Inc.	Professional, Scientific, and Technical Services
3	Adventist Healthcare	Health Care and Social Assistance
4	AES Warrior Run	Utilities
5	Aetna	Finance and Insurance
6	Alliant Tech Systems	Manufacturing
7	American Diabetes Association, Maryland Office	Health Care and Social Assistance
8	Anderson, Coe & King, LLP	Professional, Scientific, and Technical Services
9	Anne Arundel Medical Center	Health Care and Social Assistance
10	Arc of Washington County , nc.	Health Care and Social Assistance
11	Atlantic General Hospital	Health Care and Social Assistance
12	Audacious Inquiry	Management of Companies and Enterprises
13	Ayers/Saint/Gross	Professional, Scientific, and Technical Services
14	Baltimore City Community College	Educational Services
15	Baltimore County Public Schools	Educational Services
16	BioMarker Strategies	Professional, Scientific, and Technical Services
17	BOC International	Health Care and Social Assistance
18	Bon Secours Baltimore Health System	Health Care and Social Assistance
19	Business Health Services	Professional, Scientific, and Technical Services
20	Calvert Memorial Hospital	Health Care and Social Assistance
21	Calvin B. Taylor Banking Company	Finance and Insurance
22	CareFirst BlueCross BlueShield	Finance and Insurance
23	Carroll Chiropractic & Sports Injury Center	Health Care and Social Assistance
24	Carroll Community College	Educational Services
25	Carroll County Public Schools	Educational Services
26	Carroll Hospital Center	Health Care and Social Assistance
27	Cecil County Health Department	Health Care and Social Assistance
28	Chesapeake Hearing Centers, Inc.	Health Care and Social Assistance
29	Chesapeake Urology Associates	Health Care and Social Assistance
30	Chester River Health System	Health Care and Social Assistance
31	City of College Park	Public Administration
32	City of Cumberland	Public Administration
33	City of Frederick	Public Administration
34	City of Gaithersburg	Public Administration
35	City of Greenbelt	Arts, Entertainment, and Recreation
36	City of Greenbelt	Public Administration
37	City of Rockville	Public Administration
38	City of Salisbury	Public Administration
39	Clear Channel Outdoor	Other Services (except Public Administration)
40	College of Notre Dame	Educational Services
41	Commercial Insurance Managers, INC	Health Care and Social Assistance
42	Community College of Baltimore County (Dundalk)	Educational Services
43	David A. Bramble, Inc.	Construction
44	David Edward	Manufacturing
45	Deers Head	Health Care and Social Assistance
46	Deutsch & Associates, LLC	Finance and Insurance
47	Dixon, Valve, and Coupling	Manufacturing
48	Easton Utilities	Utilities
49	Erickson Retirement Communities	Real Estate and Rental and Leasing
50	Euler Hermes ACI	Finance and Insurance
51	Forest City - NEBP	Construction
52	Friends Aware	Other Services (except Public Administration)
53	G.1440	Professional, Scientific, and Technical Services
54	Garrett County Memorial Hospital	Health Care and Social Assistance
55	George, Miles & Buhr	Professional, Scientific, and Technical Services

56	Gillespie & Son, Inc.	Manufacturing
57	Gliknik, Inc.	Professional, Scientific, and Technical Services
58	Goodwill Industries of the Chesapeake, Inc.	Other Services (except Public Administration)
59	Grant Thornton	Finance and Insurance
60	Greater Maryland Medical Center	Health Care and Social Assistance
61	Harford Community College	Educational Services
62	Health Care for the Homeless	Health Care and Social Assistance
63	Healthy Howard, Inc	Health Care and Social Assistance
64	Hord Coplan Macht, Inc.	Other Services (except Public Administration)
65	Howard County Health Department	Public Administration
66	Human Services Programs of Carroll County, Inc.	Health Care and Social Assistance
67	Injured Workers Insurance Fund	Finance and Insurance
68	Innovative Benefit Solutions, LLC	Finance and Insurance
69	JBS International	Health Care and Social Assistance
70	Jenkins Block and Associates, -PC	Professional, Scientific, and Technical Services
71	Jerry's Chevrolet Company	Construction
72	Johns Hopkins Health System / Johns Hopkins Hospital	Health Care and Social Assistance
73	Jolles Insurance	Finance and Insurance
74	Joyous Living	Health Care and Social Assistance
75	K&L Microwave, Inc	Manufacturing
76	Kaiser Permanente	Finance and Insurance
77	Kelly & Associates Insurance Group	Finance and Insurance
78	Kent County Health Department	Health Care and Social Assistance
79	Kent County Public Schools	Educational Services
80	Leisure Fitness	Retail Trade
81	Life Fitness Management	Other Services (except Public Administration)
82	LifeBridge Health	Health Care and Social Assistance
83	Lifeguard Wellness	Health Care and Social Assistance
84	Manual Physical Therapy and Sports Medicine	Health Care and Social Assistance
85	Marriott International	Accommodation and Food Services
86	Maryland Hospital Association	Health Care and Social Assistance
87	McCormick & Company, Inc.	Manufacturing
88	Medifast, Inc	Other Services (except Public Administration)
89	MedStar Health, Inc.	Health Care and Social Assistance
90	Mel's Business Systems, Inc	Retail Trade
91	MidAtlantic Business Group on Health	Management of Companies and Enterprises
92	Mid-Delmarva Family YMCA	Arts, Entertainment, and Recreation
93	Miltec Corporation	Manufacturing
94	Montgomery College	Educational Services
95	Mt. Washington Pediatric Hospital	Health Care and Social Assistance
96	Municipal Employees Credit Union of Baltimore	Finance and Insurance
97	National Aquarium	Arts, Entertainment, and Recreation
98	New Windsor State Bank	Finance and Insurance
99	Nexercise	Professional, Scientific, and Technical Services
100	Northrop Grumman Corporation	Professional, Scientific, and Technical Services
101	Novartis Pharmaceuticals	Health Care and Social Assistance
102	Peninsula Cardiology Associates, P.A.	Health Care and Social Assistance
103	Peninsula Regional Medical Center	Health Care and Social Assistance
104	Perdue Farms	Poultry Processing
105	Pfizer	Finance and Insurance
106	Pfizer, Inc.	Health Care and Social Assistance
107	Playworks	Educational Services
108	PNC Bank	Finance and Insurance
109	Price Modern, LLC	Retail Trade
110	QIAGEN	Manufacturing
111	Reliable Contracting Co., Inc	Construction
112	Richard J Princinsky and Associates	Finance and Insurance
113	Riggs, Counselman, Michaels & Downes	Finance and Insurance

114	RSM McGladrey	Professional, Scientific, and Technical Services
115	Rummel, Klepper & Kahl, LLP (RK&K)	Professional, Scientific, and Technical Services
116	Saint Agnes Hospital	Health Care and Social Assistance
117	Shore Bancshares, Inc.	Finance and Insurance
118	Shore Health System	Health Care and Social Assistance
119	SMECO	Utilities
120	Spirit Creative Services, Inc.	Arts, Entertainment, and Recreation
121	Sport and Spine Rehab	Health Care and Social Assistance
122	Sports Automotive	Other Services (except Public Administration)
123	State of Maryland	Public Administration
124	TBC, Inc.	Other Services (except Public Administration)
125	The Aspen Group, Inc.	Professional, Scientific, and Technical Services
126	The Bank of Delmarva	Finance and Insurance
127	The Henry M. Jackson Foundation for the Advancement of Military Medicine	Other Services (except Public Administration)
128	The Horizon Foundation	Other Services (except Public Administration)
129	The PharmaCareNetwork	Health Care and Social Assistance
130	Thrasher Engineering	Professional, Scientific, and Technical Services
131	Total Biz Fulfillment, Inc.	Transportation and Warehousing
132	Transamerica Life Insurance Company	Finance and Insurance
133	Ulman Cancer Fund for Young Adults	Other Services (except Public Administration)
134	Union Hospital of Cecil County	Health Care and Social Assistance
135	United Healthcare	Finance and Insurance
136	University of Maryland Baltimore	Educational Services
137	University of Maryland School of Medicine	Health Care and Social Assistance
138	University Physicians, Inc.	Health Care and Social Assistance
139	Upper Chesapeake Health	Health Care and Social Assistance
140	Verizon	Other Services (except Public Administration)
141	Washington College	Educational Services
142	WellAdvantage	Health Care and Social Assistance
143	Western Maryland Area Health Education Center	Health Care and Social Assistance
144	Western Maryland Health System	Health Care and Social Assistance
145	Wicomico Co. Health Department	Health Care and Social Assistance
146	Wicomico County Board of Education	Educational Services
147	Wisp Resort	Arts, Entertainment, and Recreation
148	WMDT	Information
149	Work Smart Ergonomics	Professional, Scientific, and Technical Services
150	Y of Central Maryland	Health Care and Social Assistance

Healthiest Maryland Supporting Organizations

	Company:	Industry Type:
1	American Cancer Society	Health Care and Social Assistance
2	American Diabetes Association	Health Care and Social Assistance
3	American Heart Association	Health Care and Social Assistance
4	Calvert Memorial Hospital	Health Care and Social Assistance
5	Greater Baltimore Committee	Other Services (except Public Administration)
6	Healthy U Delmarva	Health Care and Social Assistance
7	Howard County Health Department	Health Care and Social Assistance
8	Kent County Health Department	Health Care and Social Assistance
9	Maryland Hospital Association	Health Care and Social Assistance
10	Injured Workers Insurance Fund	Finance and Insurance
11	Mid-Atlantic Business Group on Health	Health Care and Social Assistance
12	National Committee for Quality Assurance	Health Care and Social Assistance
13	Partnership for Prevention	Health Care and Social Assistance
14	Partnership for a Healthier Carroll County	Health Care and Social Assistance
15	Western Maryland Health System	Health Care and Social Assistance
16	Wicomico County Health Department	Health Care and Social Assistance

Healthiest Maryland Businesses Ambassadors

	Company:	Industry Type:
1	Johns Hopkins	Health Care and Social Assistance
2	LifeBridge Health	Health Care and Social Assistance
3	Marriott International	Accommodation and Food Services
4	Perdue Farms	Poultry Processing
5	University of Maryland School of Medicine	Educational Services

As of November 30, 2011

APPENDIX C: 2011 WORKPLACE WELLNESS TECHNICAL ASSISTANCE, TRAINING AND RECOGNITION EVENTS

- Throughout the spring the Maryland Health Care Commission hosted a variety of executive briefings designed to inform and engage Maryland employers about the Maryland's Multi-Payer Patient Centered Medical Home Program.
- The Mid-Atlantic Business Group on Health held a Strategic Implications of Health Reform Symposium on April 28, 2011. This symposium educated employers about the future of health insurance exchanges and Accountable Care Organizations in Maryland.
- The Mid-Atlantic Business Group on Health held a symposium entitled, Systems Approach to Health Benefits on July 15, 2011. Participants learned about workplace wellness best practices and employer's successful systems approach to health benefits.
- In Partnership with the Greater Baltimore Committee the first Healthiest Maryland Businesses Luncheon was held on June 1, 2011. Forty-nine companies were in attendance and were able to learn about the best practices of small-to-medium sized local companies in Maryland.
- In Partnership with the Injured Workers Insurance Fund, CareFirst BlueCross BlueShield, Chesapeake Region Safety Council and Business Health Services a Maryland Workplace Health & Wellness Symposium was held on June 3, 2011. With over 300 participants in attendance from across the State, 63 organizations were linked to additional information on the HMB initiative and its available resources.
- Healthy Howard held their 3rd Annual Healthy Workplaces Awards on October 11, 2011. The Healthiest Maryland Businesses initiative was highlighted as a statewide initiative that provides resources, recognizes successful companies, and facilitates networking opportunities for employers.
- The Summit on Childhood Obesity held a session on employers making the connection between healthy employees and healthy families on November 16, 2011. As leading employers and partners of HMB, the presenters discussed how to improve family and community health by leveraging public/private partnerships, providing healthy food in institutions (i.e. healthcare settings), leading by example, and promoting community-based prevention. Fifty-five companies were registered to participate in this session.

APPENDIX D: HEALTHIEST MARYLAND BUSINESSES' SUCCESS STORIES



If at first you don't succeed, try try again.

LifeBridge Health is a regional health care organization based in northwest Baltimore City and Baltimore County. LifeBridge Health consists of Sinai Hospital of Baltimore, Northwest Hospital, Levindale Hebrew Geriatric Center and Hospital, Courtland Gardens Nursing & Rehabilitation Center, LifeBridge Health & Fitness, and their subsidiaries and affiliates. LifeBridge Health has well over 7,000 employees and has a gross income of over \$1 billion per year.

As a company that provides health care, one might think that it might be natural and easy for LifeBridge to take a systems approach to health benefits. The implementation of a company wellness program, however, has proved that this is not the case. Given the tagline of “LiveWell at LifeBridge” Guy Van Tiggelen, Director of Compensation and Benefits, likens the company’s wellness program to a developing fetus. In contrast to any other creature’s offspring, however, the LifeBridge wellness program went through an 8 year gestation period before it reached its first stages of viability.

In the program’s “1st trimester” of gestation the goal was wellness strategies with no or low cost. This included forming a wellness committee with a Senior Vice President on board, walking

Lessons:

- Important to find the right fit wellness program vendor;
- Incentives/Penalties make a difference;
- Strong Support from Upper Management is Required; and
- Good Communication with Employees is Key.

trails (both inside and outside), nutrition information in cafeterias, and differential pricing of healthy verses non-healthy food items. For example, if prices needed to be raised in the cafeteria, LifeBridge raised the prices of the less healthy items more, in order to keep the prices for more healthy items

down.

In the “2nd trimester” LifeBridge explored expansion of the program. During this time the company teamed up with a medical systems vendor to implement the wellness program. They offered Health Risk Assessments (HRA) and biometric testing (such as cholesterol screening), with a \$300 incentive for employees to participate. While the company expected 65% participation, they were disappointed to find that they had much less. LifeBridge realized that the wellness program provider they had brought in was not the right fit for them and the program was abandoned.

In the “3rd” and final “trimester” the company made major strides but went into what Mr. Van Tiggelen equates to “false labor”. Understanding the importance of finding the right partner to supply the wellness program, LifeBridge put out an RFP and found that Innovative Wellness Solutions (IWS) was the best match. In January of 2010 the program began. The company’s goal in this first phase of the program was to have employees complete HRA and biometric testing. LifeBridge considered different incentives to encourage employee participation; including \$100 gift cards and \$50 gift cards, plus a car raffle. In the end, however, they settled on a \$25 gift card. However, the result of this small carrot was a low level of participation (10%)



Finally, after 8 years of gestation, LifeBridge delivered a healthy full service wellness program in April of 2011!! In this second Phase of the life of LiveWell @ LifeBridge, management decided to change the participation carrot into a stick. Instead of offering incentives, LifeBridge set requirements for employees to complete HRAs as well as other wellness tasks for which they receive points (including personal health review, action plans, physicals, preventive health screening, and vaccinations). Employees who do not complete their HRA and receive a certain number of points face a penalty in which they will have to pay a larger percentage of the cost of their health plan; which equates to between \$20 to \$70 a month. After five months of life, 83% of employees had completed their HRA and 29% has met the annual points requirement.

After this series of fits and starts LifeBridge finally considers their plan viable. In the future they plan to enhance the plan by modifying the point system and adding additional activities to gain points; such as dental exams, vision exams, and independent exercise. In addition LifeBridge is working to address some of the important issues they have discovered through their implementation process such as:

- Having wellness activities that are free is important;
- Find a way to have offsite employees participate;
- Ensure that employees know that their information is confidential and the internet interfaces are secure and ensure that that confidentiality and security is maintained;
- Build capacity at wellness events so that all employees can participate; and
- Effectively communicate with employees about program.



Simplification can be complicated. But simplifying and consolidating can be worthwhile.

McCormick, established in 1889 and based in Hunt Valley, Maryland, is popularly thought of as a company that sells jars of spices. The company though is a global manufacturer, distributor, and marketer of flavoring products to both consumers and the food industry. Globally McCormick employees almost 9000 people with 3628 located in the United States. Seventy percent of McCormick's workforce is located in Maryland, while the remaining 30% is in 5 others states (TX, GA, CA, IN & LA). The average employee is 45 years of age and has been with the company for 12.7 years.

In 2008, the company had a robust, but inconsistent focus when it came to health benefits, according to James Downing, Director of Global Benefits. At that time the company had 4 health plan carriers (4 HMO / 1 PPO), various wellness programs, and a bifurcated internal administration of health and wellness plans, managed by both the corporate human relations department and the company medical department.

This structure created a number of challenges for taking a systems approach to health benefits. The challenges included health plan design inconsistency due to the large number of plans and carriers, an inability to provide focused communications, and lack of clear understanding of responsibilities of key individuals, due to the bifurcated administration of the plans. In addition, the company was confronted with an increasing burden on its system due to the aging workforce, rising healthcare costs, regulatory changes, decentralization of providers and increased utilization of healthcare services.

In 2010 McCormick decided to confront its challenges head on and redesign its benefits program, to strengthen and enhance the strategic positioning and value proposition of their employer-paid health & welfare benefit programs. They planned to achieve this goal by:

- Simplifying administration;
- Creating renewed interest among employees through communications;
- Better aligning with employee needs and preferences;
- Taking a holistic and integrated approach to delivery of services;
- Centralizing medical programs through one vendor; and
- Enhancing their ability to attract and retain talent.

The first step in this process was to issue a request for proposal (RFP) for all of the company's health and wellness program needs, including medical, dental, life, disability, and vision. In order to make the system uniform and benefits easier to manage, the company developed a benefits website and branded it/their benefits program (McCormickandme.com). In addition, a benefits newsletter was developed so that timely benefits information could be communicated to

employees. In order to simplify administration and improve accountability, management of the medical department was shifted to the corporate benefits group.

As of July 2011, McCormick had successfully achieved many of their objectives. They now have one main medical plan provider, a voluntary vision program, and a new life insurance carrier. In the near future they intend to add Consumer Driven Health Plans with Health Spending Account. In addition under the management of the corporate benefits group, the company medical department's focus has shifted to being a true onsite medical facility. In addition to providing wellness programs for Hunt Valley based employees, wellness programs now also focus on employees at remote locations. In the fall of 2011, the company will move the medical department to a more central location to provide better access to all employees to medical care and improved wellness facilities.



McCormick was successful in making dramatic changes to its benefits programs in a very compressed time frame: less than 1 year. This was necessary because of the need to meet regulatory requirements, improve employee satisfaction, attract and retain employees, and to establish employee comfort level with the new providers and processes. These types of radical changes are not easy to achieve in any corporation and McCormick was especially challenged because of company culture at the time. There were mixed emotions about change as well as employees lack of full understanding of the need to change and a feeling over saturation of change within the organization. Mr. Downing believes however, that the change was successful because of a number of factors including:

- Strong sponsorship and Executive support for change;
- Integrated change management activities to the launch of the project;
- Communication that occurred early and often;
- Employee training; and
- Reinforcement.

APPENDIX E: HEALTHIEST MAYLAND BUSINESSES EVALUATION

Year One Report

Qualitative Analysis of Human Resource Managers in HMB

The qualitative analysis for the evaluation of the Healthiest Maryland Businesses (HMB) initiative was conducted by interviewing workplace wellness program directors of 12 companies participating in HMB. Selected at the beginning of the evaluation project, the 12 companies represented different industries types in the sample; which strengthens the breadth of the qualitative evaluation. Personnel from the human resources department were contacted by email in order to obtain contact information of workplace wellness program directors. Twenty-minute phone interviews were held with program directors to discuss different aspects of the wellness program implemented in the company.

The phone interview consisted of 18 open-ended questions. The interview questions were grouped in four components: (i) reasons to implement workplace wellness programs, (ii) length of the program and key members, (iii) implementation process, incentives and barriers, and (iv) knowledge of HMB. The qualitative content was organized and analyzed using Atlas Ti.

This analysis summarizes the four components presented above and documents the different stages and paths that companies took in the implementation of their workplace wellness programs.

Reasons to Implement the Program

The primary reason for implementing wellness initiatives amongst the companies interviewed was related to health care cost reductions. According to several interviewees, the wellness program was aimed at improving the health of the employees, and therefore to reduce health related costs to the company. Although this is cited as the primary reason for implementing wellness initiatives, many companies do not evaluate their programs and thus cannot capture its actual cost saving. Other companies addressed other important reasons, such as “*it was the right thing to do for our employees*” or “*they are a way of building camaraderie, teamwork.*”

A recurring theme among those interviewed is that wellness programs are not just “nice extras” that are appreciated by employees, they are an effective way to keep employees healthier. As one of the participants said when asked why the company had a wellness program in place:

“We just felt that it was important to give the employees an opportunity to better themselves health-wise and just that a healthy employee is a more productive employee. In the end it should help the bottom line of our company, but at the same time, we are interested in providing the employees an opportunity to improve their health”

Length of the Program and Key Members

There is an important variation among the 12 companies interviewed regarding the length the wellness programs have been in place. In four companies, the wellness program had been implemented for a period of only a few weeks. For instance, one company implemented a “moving challenge” for over a month which employees were given pedometers and different incentives (i.e. bottle of water and t-shirts) in order to make employees aware of the benefits of exercise. After the challenge was finished, the company did not continue with the

implementation of the program. The reasons cited for program discontinuation are the time limited nature of one-time programs or challenges and the desire to continuously develop creative, new initiatives. Similar experiences were found in the other three companies in which the program was part of a “wellness fair,” or seminars that were not continued. Nevertheless, eight of the participating companies have comprehensive and permanent initiatives in place. Among these companies there is also variation regarding implementation time, ranging from one year to four years. In these companies the wellness program has been tied to health insurance plans, permanent financial incentives (i.e. gym membership), and in some cases annual monitoring of biometrics and vaccinations.

Amongst the companies that have implemented wellness programs for short periods of time, the initiative was led by the human resources department and in most of the cases, only one person was leading and implementing the initiative. On the other hand, companies with comprehensive initiatives have established committees, have regular meetings, and most importantly, have full support (including financial) from the top management.

In several cases, the interviewee stated that the program implementation required more time than they had initially planned. Wellness initiatives require time, preparation and continuous monitoring. In that sense, the support from top management is vital, otherwise, the time and resources invested in maintaining the program could be seen as a loss for the company.

One of the interviewees said:

“One of the things you read over and over about wellness and structuring a program is how important it is to get management buy-in and I agree that that’s very true. Upper management buying into these means an awful lot, but what I have learned is that almost even more important than that is line management buy-in, because those are the people who can really make you or break you.”

Implementation Process, Incentives and Barriers

There is also an important variation on how companies started their wellness program. Generally speaking, it was possible to find three common themes in this regard. The most common pattern is that the program was implemented as an extension of wellness programs that were in place in other offices, branches or similar companies. Another common approach is through the creation of wellness committees that progressively introduced small initiatives which then evolve into more structured programs.

One final approach that was implemented only in one company has a more systematic and comprehensive approach. The program started with the collection of a survey to know about employees’ interests and health status. Alongside the survey, the company collected biometrics and different types of screenings to create a baseline of the health status of the employees. The company compared the collected information with health insurance costs to identify needed programs that would improve employees’ health and reduce health insurance costs.

Amongst companies implementing comprehensive and permanent initiatives, it is usual to find the use of financial incentives as a component of the program. The incentives have a broad spectrum among companies and are related with the outcomes/goals that the company is pursuing. In most of the cases, companies establish programs aimed at reducing weight and smoking cessation, and the financial incentives are connected with the program’s goals. For instance, gym memberships were the most common incentive, alongside bonuses such as gift

cards or cash rewards when employees showed commitment to the program (going to meetings, losing weight, no smoking during the day).

One company implemented more extreme measures to ensure participation. For instance, this company implemented an incentive of \$600 credit a year, which was tied to biometrics measures, weight and other indicators. If the employees remained healthy during the year, they were eligible for the full amount of the credit. The following statement supports this claim.

“We probably have upwards of 92% of the people who qualify for the wellness credit. As a company we remain very healthy. Our overall expenditures are only in about the 25th percentile of similar companies that offer similar policies. We...our cost increases have been traditionally lower than the external market, because we maintain...we have been healthy, and that will be up to 2% or sometimes 3% lower than what other people have seen in the market. This year we saw a slight uptake in midsize claims and those are ones that we are developing wellness programs to support. [...] So yeah, I would say in general we have been very successful since the introduction of the program of keeping our cost rates lower.”

There are three consistent themes among companies that have implemented permanent and comprehensive programs that is necessary for successful program implementation: (i) to have a structured program aligned with the goals/outcomes established by the company, (ii) if the company is not able to provide the support needed to achieve the goals, usually the company hires a vendor or creates partnerships with the health insurance provider, and (iii) the company has to structure programs to provide the necessary tools to have healthy employees.

“You know, people know that they need to eat better; they know that they need to exercise more, but sometimes it is just hard for people to do, but when you give them a structured way to implement it, it kind of helps them to do it.”

Companies have developed several mechanisms to provide employees with tools for a healthy life style, as well as to publicize the wellness programs. The most common are frequent emails with health related information, newsletters, information attached to payrolls, flyers and the like. Nevertheless, by far, email communication is the most common mechanism amongst the companies that participated in this analysis.

The continuous evaluation of the wellness program was highlighted in the interviews as a key element. Nevertheless, only a few companies consistently perform evaluations and follow up on the health outcomes of their employees. A couple of companies that implement short initiatives stated that they conduct satisfaction surveys after seminars or focused programs. Amongst the companies that implement more comprehensive programs, only three reviews claims and adjust their programs based on their employees' needs.

In terms of the barriers that companies face when implementing wellness initiatives, two issues arise. The first one is related with the size of the company: the smaller the company, the easier the implementation process. In companies that have different locations the process is harder to implement comprehensive programs across locations. The second barrier is related with employees' participation (attending meetings, seminars, etc.) and willingness to share sensitive information with human resources personnel.

“I think our biggest challenge is just involvement and I am just fearful that the employees are not necessarily really paying attention.”

“Well, unfortunately most employees don’t I think feel...they don’t like the additional questions and additional requirements yet - the intrusiveness of the program.”

Healthiest Maryland Businesses

All the companies that participated in the analysis recognized Healthiest Maryland Businesses, and stated that being participants of a State initiative to promote health and wellness was a way to promote their programs within the company. Nevertheless, only few knew HMB had resources available to them to help to implement their wellness initiatives. Those who knew about HMB’s website and additional resources were the companies that have implemented more comprehensive programs, have had access to more resources, and have more knowledge about wellness initiatives.

“Yeah, I’m aware of the websites and I have looked at them, but I think actually we were starting with our program quite some time before Maryland did, so I think we have similar resources available to us. So I would have to say in that sense, that they haven’t really helped us, but then I think that’s just we were ahead of the crowd. However, I can see where they would help people who particularly were just starting or needed some support or maybe weren’t quite as big as we were.”

The resources companies would like to have from Healthiest Maryland are periodical newsletters and seminars. However, three companies emphasized that the major contribution that Healthiest Maryland can do for the companies involved in this analysis was to document what programs were working and how those programs were implemented.

“Maybe some ongoing conversation about challenges, hurdles, how people overcome those stumbling blocks, and what people are trying to tackle specific issues, like we just struggled pretty hard with how to develop any kind of useful smoking cessation program and I’ve done a ton of reading, but it would be helpful to have more give and take, more feedback.”

HMB Evaluation Next Steps

- A workplace web survey will be distributed to human resource managers to assess correlations between company characteristics (industry, size, year implementation, and use of HMB) and the types of wellness services provided. (In Process)
- The components of company case studies include:
 - Employee web surveys will connect utilization of prevention and wellness programs to employee health outcomes (In Process);
 - Employee focus groups will identify the wellness program’s implementation, utilization, and outcomes and guide programmatic improvements (In Process); and
 - Available claims data related to workplace wellness program utilization and health care expenditures (In Process.)

**APPENDIX F: HEALTH DISPARITIES WORKGROUP REPORT
RECOMMENDATIONS**

Health Disparities Workgroup Report Recommendations begin on the next page.



Maryland Health Quality and Cost Council

The Honorable Anthony G. Brown
Lieutenant Governor, State of Maryland
Council Chair

Health Disparities Workgroup Final Report and Recommendations

E. Albert Reece, M.D., Ph.D., M.B.A.
Vice President for Medical Affairs, University of Maryland and
Dean, University of Maryland School of Medicine
Workgroup Chair



January 2012

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Executive Summary

According to a number of measures, the State of Maryland is one of the highest performing states in the nation. We have the 3rd highest median household income, several of the nation's top medical schools, and 10th lowest rate of smoking. Despite these successes, Maryland continues to lag behind other states on a number of key health indicators. The State ranks 43rd in infant mortality, 35th in infectious diseases, 33rd in health outcomes, and 33rd regarding geographic health disparities. There are simply too many communities that are underserved by primary care clinicians.

Maryland also, despite its wealth, demonstrates significant disparities in health care and health outcomes. For example, black Marylanders have infant mortality rates that are almost three times the rate for white Marylanders; have an incidence of new HIV infections at almost 12 times the rate of the white population, and are almost twice as likely to lack health insurance as Whites.

Health and health care disparities are a serious challenge for our State and nation. A 2009 report estimated that between 2003 and 2006, the U.S. could have saved nearly \$230 billion in direct medical care costs if racial and ethnic health disparities did not exist.

The Maryland Health Quality and Cost Council was established by Governor Martin O'Malley to focus priorities for improving health care in Maryland. As Chair of the Council, Lt. Governor Anthony Brown established a health disparities workgroup led by Dean E. Albert Reece, M.D, Ph.D., M.B.A. of the University of Maryland School of Medicine to explore and develop health care strategies and initiatives, including financial, performance-based incentives, to reduce and eliminate health disparities, and to make recommendations regarding the development and implementation of those strategies.

The following report contains three recommendations that are intended to be bold and innovative. The workgroup believes that, through the use of incentives and improvements to data collection and analysis, we can improve health and health care disparities throughout Maryland and in our most underserved communities.

Maryland Health Enterprise Zones

Modeled after the Harlem Children's Zone and Promise Neighborhood programs, the workgroup has proposed creating Health Enterprise Zones (HEZ) in an effort to reduce health and health care disparities, improve health outcomes for Marylanders, and stem the rise in health care costs. Legislation would: (1) establish criteria for designation as a zone; and (2) enable a community based organization (CBO) or other qualifying community agency to apply for funds to improve health within a zone. Some of the criteria that may be used for designation as a zone include high rates of chronic disease (for example, diabetes, asthma, and hypertension), health disparities, and lack of access to primary care.

To incentivize primary care clinicians¹ to expand, move to or set-up their practice in a zone, the legislation would enable funding for the expanded Loan Assistance Repayment Program (established in 2009) *and* establish income, property, and/or hiring tax credits, assistance for health information technology and other practice expenses for clinicians in a zone. Among other requirements, the clinicians must participate in the Medicaid program to be eligible for zone benefits. Dependent on funding, we would expect that two to four pilot zones will be established in Fiscal Year 13.

Ultimately, the goal of a Health Enterprise Zone is to create an integrated health care system that expands health care access in a patient and family-centered manner. Working in tandem with new and existing providers, insurers, the public health system, non-health community agencies, and other stakeholders, the HEZ is designed to improve health and decrease costs, expand access, empower communities, and reduce health disparities. The HEZ initiative would comprise of three major components.

1. Community Based Organization (CBO). A CBO or other qualifying community agency, located within a zone, will apply for funding for public health and outreach projects linked to the health care system that address health disparities and reduce re-admissions.
 - Proposals that have a private/non-profit/foundation match and a plan for long-term funding and sustainability will receive priority. For example, a CBO may propose to match community health centers or a local hospital's investments in community health workers, evaluate their impact on re-admissions, and have the health centers and hospital continue to finance the health workers if the evaluation is positive.
 - Proposals that have the support of the local health improvement process will receive priority.
 - All CBOs must have a local steering committee including key partners.
2. Loan Assistance Repayment Program (LARP). The LARP will support existing and new primary care clinicians located within a Health Enterprise Zone that has been designated to receive community based funding (See component 1.). Priority will be given to clinicians who work in settings that meet DHMH voluntary standards for community service. The funding will be overseen by the DHMH Office of Primary Care.
3. Tax credits for hiring and other financial incentives. This funding will support existing and new primary care clinicians located within a HEZ that has been designated to receive community based funding (See component 1.). Priority will be given to clinicians who work in settings that meet DHMH voluntary standards for community service.

Maryland Health Innovation Prize

The Maryland Health Innovation Prize is a financial reward and public recognition for an individual, group, organization, or coalition thereof to acknowledge new and/or proven innovative interventions and programs that have achieved reductions in health or health care

¹ Primary care clinicians include: family physicians, internists, pediatricians, ob/gyns, psychiatrists, dentists, primary care nurse practitioners, primary care physician assistants.

disparities or aim to reduce and/or eliminate health and health care disparities in the State of Maryland.

Modeled after financial awards given by the X Prize Foundation, the Maryland Health Innovation Prize seeks to incentivize and reward unique ideas that have already or will seek to address health and health care disparities through health care, community, or individual interventions. The goal of the prize is to broaden the scope of participation and create interventions that positively affect the health and wellbeing of a particular community. In addition, these interventions will be evaluated for their capacity to influence and improve health and health care disparities in other parts of the State following the successful implementation in the initial project.

Health Innovation prizes will be awarded for new and existing interventions that address both wide-ranging health disparities as well as those which may be unique to a particular community and will bring to bear the expertise of all manner of health, business, non-profit, and community leaders.

Racial and Ethnic Tracking of Performance Incentive Data

In Maryland there are two areas, hospital care and primary care, where health care performance data currently or will soon be analyzed and incentive payments will be made (or potentially penalties assessed) to hospitals or providers based on the results. The first area, hospital care incentives, is currently administered by the Health Services Cost Review Commission (HSCRC). The second area is primary care incentives. The Maryland Health Care Commission (MHCC) administers a Patient Centered Medical Home Program that allows for the sharing of savings between participating payers and health care providers based on meeting certain measures.

These two health care quality incentive programs do not currently track incentives by race and ethnicity. Therefore, they do not base incentives or penalties on race-specific or ethnic-specific performance. They also do not reward reductions in racial or ethnic disparities in quality. This strategy, *Racial and Ethnic Tracking of Performance Incentive Data*, proposes enhancing these existing programs by requiring that the performance metrics be analyzed by race and ethnicity where the data are sufficiently robust to permit such analysis. Conducting this racial and ethnic analysis will:

- Identify areas of racial and ethnic disparities in health care quality metrics;
- Determine whether current race and ethnic-neutral incentive formats are in fact improving minority health care quality and reducing disparities; and
- Determine whether new race/ethnic-specific incentive formats are required.

The workgroup believes that requiring the performance metrics be analyzed by race and ethnicity, where the data are sufficiently robust, will allow the State to ensure that the improvements in health and health care that result from the incentive programs are shared equally among all Marylanders.

I. Background and Workgroup Process

Overview of Health Disparities in Maryland

According to the 2010 Census, Maryland's \$64,025 median household income ranks it as the nation's third most affluent state. Maryland is home to some of the finest hospital and medical institutions and ranks as one of the highest states in terms of the per capita number of primary care physicians. But despite these advantages, Maryland ranks 33rd overall in health outcome indicators and 33rd when it comes to geographic health disparities. There are simply too many communities that are underserved by primary care physicians.

As of the 2010 U.S. Census, 45.3% of Maryland's population reports some ancestry from racial and ethnic minority groups (Blacks or African Americans, Asians or Pacific Islanders, American Indians or Alaska Natives, and Hispanics or Latinos). All of these groups experience some disparities in health and/or health care when compared to Whites (see table below).

Selected Racial and Ethnic Health Disparities in Maryland

(Shows how many times higher the minority rate is compared to the White rate)

	Infant mortality	Late pre-natal care	End-stage kidney disease	No health Insurance	New HIV case rate
Black or African American	2.8	2.9	3.0	1.9	11.8
Asian or Pacific Islander	0.9	1.0	1.3	1.3	0.5
American Indian or Alaska Native	2.3	1.0	3.0	<i>Not Reported</i>	2.2
Hispanic or Latino	0.8	2.2	1.3	4.4	3.6

- Blacks or African Americans experience significant disparities in infant mortality, late prenatal care, end-stage kidney disease, and new cases of HIV, as well as in other areas.
- Hispanics or Latinos experience significant disparities related to lack of health insurance, and new cases of HIV, and disparities in late prenatal care, end stage kidney disease, as well as in other areas.
- American Indians or Alaska Natives experience disparities in infant mortality, end-stage kidney disease, and new cases of HIV, as well as in other areas.
- Asians or Pacific Islanders experience disparities in end-stage kidney disease and lack of health insurance, as well as in other areas.

Disparities are seen across many diseases and conditions: For nine of the fourteen leading causes of death in Maryland, Black age-adjusted death rates are higher than white age-adjusted death rates. In Maryland, nearly twice as many African Americans suffer from diabetes than Whites, and African American babies are three times more likely to die before the age of one (1) than White babies.

Disparities are seen throughout Maryland: Black age-adjusted all-cause death rates are higher than White age-adjusted all-cause death rates in 20 of Maryland's 24 jurisdictions. Differences in health and health care also exist between different parts of the State. For example, looking at age-adjusted all-cause death rates by race and jurisdiction from 2004 to 2006:

- The highest Black death rate was 1,211 deaths per 100,000 while the lowest Black death rate was 661 deaths per 100,000.
- The highest White death rate was 988 deaths per 100,000 while the lowest White death rate was 560 deaths per 100,000.

Workgroup Charge

In May, 2011, Governor O'Malley signed an executive order continuing the Maryland Health Quality and Cost Council. In this Executive Order, Governor O'Malley required the Council to establish a workgroup to explore and develop health care strategies and initiatives to reduce and eliminate health disparities, and make recommendations regarding the development and implementation of these strategies.

As a result of the Executive Order, the Maryland Health Quality and Cost Council established the health disparities workgroup. The workgroup was required by the Council to develop recommendations for best practices, monitoring, and financial incentives for the reduction of disparities in the health care system.

Disparities in the health care system may include:

- Lack of workforce diversity;
- Differences in quality of care within an office or hospital setting;
- Differences in access to care within a health plan or health care system; and
- Differences in patients' understanding of the care that they are receiving.

The Council envisioned that the workgroup would receive updates and provide input on other health disparities efforts through communication with the (1) the State Health Improvement Plan team on regional and state public health planning and (2) the Wellness and Prevention Workgroup on policy initiatives that will impact disparities. The Council requested that the workgroup provide a report with its findings and recommendations to the Council in December, 2011.

Workgroup Composition

The workgroup was developed to consider all factors contributing to the disparities in health and health care, bringing together experts from major academic health centers – University of Maryland School of Medicine and Johns Hopkins University School of Medicine – as well as leaders from community hospitals throughout the state, scholars studying health disparities, and community health officials. The goal was to develop a group that could delve into the fundamental underpinnings of health and health care disparities as well as more pragmatic issues related to the direct provision of care to minority populations.

The members of the workgroup were identified and selected by Lt. Governor Anthony G. Brown, Secretary of Health and Mental Hygiene Joshua Sharfstein, M.D., and workgroup chair E. Albert Reece, M.D., Ph.D., M.B.A.

The following individuals served on the Disparities workgroup:

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Dean, University of Maryland School of Medicine

Oxiris Barbot, M.D.

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National Institutes of Health

Stephen Thomas, Ph.D.

Professor of Health Services Administration School of Public Health
Director, University of Maryland Center for Health Equity

Ex-officio/Staff:

- **Brian DeFilippis**
Special Assistant to Dean
University of Maryland School of Medicine
- **Carlessia Hussein, RN, DrPH**
Director, DHMH Office of Minority Health and Health Disparities
- **David Mann, M.D., Ph.D.**
Epidemiologist, DHMH Office of Minority Health and Health Disparities
- **Benjamin Stutz**
Policy Director, Office of Lt. Governor Anthony G. Brown

Workgroup Process

The workgroup met on seven occasions starting in July, 2011 and concluding in December, 2011. During the series of meetings, the group identified areas where health and health care disparities exist in Maryland through the use of health care data available through the federal Agency for Healthcare Research and Quality (AHRQ). Using the data as a guide, the workgroup then discussed a variety of recommendations that were ultimately pared down to three key recommendations that will address health and health care disparities.

Dr. Reece presented an interim progress report to the Health Quality and Cost Council on Monday, September 26, 2011. Feedback from the Health Quality and Cost Council was incorporated into the draft report and reviewed and revised by the workgroup.

During the development of the recommendations, the workgroup invited representatives from key stakeholder groups such as MedChi, the Maryland Nurse Practitioner Association, and CareFirst BlueCross BlueShield to review and offer feedback on the recommendations (See Appendix A for comments from these stakeholders.).

Dr. Reece presented the workgroup's final report to the Health Quality and Cost Council on Monday, December 19, 2011.

Targeted Outcomes and Supporting Data

The workgroup examined the Maryland disparity data by race available on the Agency for Healthcare Research and Quality's (AHRQ) State Snapshots website².

For the fourteen (14) ambulatory care measures (hospital admission rates for conditions where good outpatient care can prevent most hospital admissions) used by AHRQ, all but one showed meaningfully worse Black rates than White rates. These findings are shown in the table on the following page. Admission rates were as much as 4.5 times higher for Blacks for hypertension (high blood pressure) and diabetes. The percent of Black admissions that were in excess due to disparity for these two conditions was 78%. Limitations in the available data prevent drawing accurate conclusions about disparities in these hospital admission rates for Maryland's other racial and ethnic minority groups.

These admission rate disparities were found in three major conditions – lung diseases (especially asthma), cardiovascular diseases, and diabetes. As a result, the workgroup selected admission rates for these specific conditions as ideal targets for interventions with the goal of reducing health and health care disparities.

² <http://statesnapshots.ahrq.gov/snaps10/SnapsController?menuId=47&state=MD&action=disparities&level=80>

Maryland Prevention Quality Indicators by Race and Ethnicity with Black % excess
<http://statesnapshots.ahrq.gov/snaps10/SnapsController?menuId=47&state=MD&action=disparities&level=80>

Ambulatory Care Measures	Whites (Non-Hisp)	Blacks (Non-Hisp)	B/W Ratio	R a n k	B-W Differ	R a n k	Black % excess
Respiratory Disease							
Admissions for chronic obstructive pulmonary disease per 100,000 population, age 18 and over	190.8	179.19	0.94	14	-11.61	14	N/A
Bacterial pneumonia admissions per 100,000 population, age 18 and over	260.11	355.93	1.37	10	95.82	7	26.9%
Pediatric asthma admissions per 100,000 population, ages 2-17	95.98	294.09	3.06	3	198.11	3	67.4%
Asthma admissions per 100,000 population, age 18 and over	115.34	312.68	2.71	6	197.34	4	63.1%
Asthma admissions per 100,000 population, age 65 and over	262.86	519.71	1.98	9	256.85	2	49.4%
Immunization-preventable influenza admissions per 100,000 population, age 65 and over	23.51	24.33	1.03	13	0.82	13	3.4%
Heart Disease							
Admissions for hypertension per 100,000 population, age 18 and over	44.39	200.66	4.52	2	156.27	6	77.9%
Admissions for congestive heart failure per 100,000 population, age 18 and over	351.43	896.83	2.55	7	545.40	1	60.8%
Admissions for angina without procedure per 100,000 population, age 18 and over	47.82	65.07	1.36	11	17.25	11	26.5%
Diabetes							
Admissions for diabetes with short-term complications per 100,000 population, ages 6-17	20.56	22.25	1.08	12	1.69	12	7.6%
Admissions for diabetes with short-term complications per 100,000 population, age 18 and over	46.09	134.31	2.91	4	88.22	8	65.7%
Admissions for diabetes with long-term complications per 100,000 population, age 18 and over	101.61	291.09	2.86	5	189.48	5	65.1%
Admissions for uncontrolled diabetes without complications per 100,000 population, age 18 and over	10.09	46.72	4.63	1	36.63	10	78.4%
Lower extremity amputations among patients with diabetes per 100,000 population, age 18 and over	27.44	64.46	2.35	8	37.02	9	57.4%

II. Strategies for Success

Strategy 1: Health Enterprise Zones (HEZ)

Overview of Health Enterprise Zones

A Health Enterprise Zone (HEZ) is a geographic area in Maryland that is eligible for specific policy incentives and funding opportunities for both new and existing providers. A Health Enterprise Zone is a designated local community where special incentives and funding streams are available to address poor health outcomes by using healthcare-level, community-level, and individual-level interventions. An HEZ can be defined in contiguous geographic terms, has health outcomes and/or documented health disparities, and exhibits several characteristics that illustrate its need and potential for improvement.

A major characteristic is that health metrics for the entire population or for racial/ethnic minorities' health outcomes, and/or documented health disparities in the area exceed State wide levels. This includes increased minority hospital admissions and Emergency Department visits as compared to the non-Hispanic white population, especially for asthma, diabetes, hypertension and other Ambulatory Care Sensitive Conditions (also called Prevention Quality Indicators)³.

A Health Enterprise Zone has lower median family income than the State overall and higher unemployment, Medicaid enrollment or eligibility, and Free and Reduced Meals (FARMS) rates than the State overall.

A Health Enterprise Zone has a collective community identity through active collaboration among community groups that include local government, community organizations, providers, hospitals, and insurers. A geographic area is recognized as a Health Enterprise Zone when it has clearly demonstrated these characteristics and been certified as an HEZ by the State.

Justification and Rationale for the Health Enterprise Zone

Poor health outcomes in general and poor minority health outcomes in particular, result in part from the following **modifiable** factors (See table on page 12.). The identification and measurement of these factors may occur at the national, state, city/county, or community levels. By contrast, the remediation of these factors is almost always a local community exercise, and explains the local nature of this strategy.

³ For examples of these metrics in Maryland see http://statesnapshots.ahrq.gov/snaps10/disparities_data.jsp?menuId=48&state=MD&level=83

Modifiable Factors That Contribute to Poor Health Outcomes

Health Care Factors	Community Factors	Individual Factors
<ul style="list-style-type: none"> ○ Lack of health insurance ○ Inadequate health insurance ○ Local provider shortage ○ Providers not accepting all insurance (e.g. not accepting Medicaid) ○ Lack of extended provider hours (nights, weekends) for access by working poor ○ Lack of transportation for clients to providers ○ Poor patient-provider communication ○ Lack of adaptation to low health literacy ○ Lack of cultural competency ○ Lack of language interpretation services ○ Lack of provider workforce diversity ○ Lack of provider adherence to diagnostic and treatment guidelines ○ Inadequate patient education regarding the treatment plan 	<ul style="list-style-type: none"> ○ Non-availability of healthy foods (food deserts) ○ Non-availability of safe places for physical activity ○ Non-availability of jobs in the community ○ Community-level poverty ○ High crime rates ○ Inadequate schools ○ Substandard housing ○ Exposure to environmental toxins or disease triggers ○ Racism 	<ul style="list-style-type: none"> ○ Unhealthy diet ○ Inadequate physical activity ○ Tobacco use ○ Alcohol and/or substance abuse ○ Low educational attainment and/or lack of health knowledge ○ Low health literacy ○ Poverty and/or unemployment ○ Language and/or cultural barriers

Expected Benefits of the Health Enterprise Zone

The workgroup believes that there are a number of expected benefits that will result from the HEZ-based interventions that are both structural and outcomes based.

Structural Benefits of the Health Enterprise Zone

The structural benefits of the HEZ will positively alter the provision of care and broaden the scope of providers within a given community with the goal of reducing health and health care disparities. For example, benefits such as loan assistance repayment and tax credits for hiring or other financial incentives are intended to increase the local health care provider supply, especially in primary care. It could also increase the diversity of the local health care workforce.

In addition to boosting the local physician workforce, the HEZ would also encourage the expanded use of community health workers in an effort to provide earlier medical interventions

and chronic care management in the home health setting. Coupled with increased cultural, linguistics, and health literacy competency programs, health care would be delivered in a more culturally sensitive manner.

This new model would require and encourage increased multidisciplinary and/or inter-agency collaboration. This would result in increased referrals to social and health service agencies, which would broaden the level and quality of care provided to individuals in the HEZ.

Outcome Benefits of the Health Enterprise Zone

One of the main benefits of the HEZ will be a reduction in the number of preventable hospital admissions and/or emergency department visit rates for a number of chronic disease conditions, including asthma, diabetes, and hypertension. Another key benefit of this proposed intervention will be a reduction in the number of preventable hospital admissions and/or emergency visit rates for Ambulatory Care Sensitive Conditions (ACSCs). The HEZ will also result in reductions of racial and ethnic disparities in the aforementioned chronic disease conditions and ACSCs.

Since each individual HEZ will have the ability to address additional, community-specific health disparities through incentives and programmatic efforts, it is expected that there will be a reduction in other health disparities as determined by the community within a specified zone.

Ultimately, the goal of a Health Enterprise Zone is to create a community in which an integrated health care system leads health care and prevention efforts in a patient and family-centered manner. Working in tandem with new and existing providers, insurers, the public health system, non-health community agencies, and other stakeholders, the HEZ is designed to improve health and decrease costs, expand access, empower communities, and reduce health disparities.

Statute-based Incentives in the Health Enterprise Zone

One set of approaches to the attainment of the expected benefits of the HEZ can be described as **statutory incentives**. These approaches utilize policy-based financial incentives that are available to eligible parties within a designated HEZ upon application and approval. These incentives primarily target issues of workforce recruitment and retention within the HEZ, and could include:

- Tax incentives (property or income tax reductions or credits) for new and existing primary care clinicians⁴;
- Tax credits for hiring by new and existing primary care clinicians;
- Free or low rent use of city/county property for some initial term to set up or expand a primary care practice;
- Loan assistance repayment for qualifying new and existing primary care clinicians;
- Funding for practice start-up costs;
- Funding and other assistance to support conversion to a Patient Centered Medical Home (PCMH);

⁴ Primary care clinicians include: family physicians, internists, pediatricians, ob/gyns, psychiatrists, dentists, primary care nurse practitioners, primary care physician assistants.

- Higher reimbursement from Medicaid if the practice becomes a PCMH (as allowed by MHCC pilot and State budget); and
- Funding and other assistance to support health information technology implementation.

Provider eligibility to receive these incentives could be contingent upon compliance with certain desirable structural elements, which might include:

- Proper collection of patient data on race, Hispanic ethnicity, nationality, and language;
- Training in cultural, linguistic, and health literacy competency;
- Racial, ethnic, and linguistic diversity in that provider's workforce;
- Utilization of community health workers; and
- Acceptance and care of Medicaid patients.

Steps to Implement Statute-based Incentives in the Health Enterprise Zone

In order to implement the statutory incentives listed above in Health Enterprise Zones, the following prerequisites must be achieved:

- Passage of State legislation and/or regulation that defines Health Enterprise Zones and establishes the mechanism by which a community is certified as an HEZ.
- For tax-based incentives:
 - Identification of discounts or credits (such as credits for new hiring) to State or local income, sales, or property taxes that the State or the relevant localities will provide; and
 - Passage of State or local legislation and/or regulation that sets up the identified discounts or credits to income, sales, or property taxes and defines eligibility criteria.
- For property use incentives:
 - Identification of State or local properties that can be used at low or no rent;
 - Identification of potential discounts or waivers on occupancy permit fees; and
 - Passage of State or local legislation and/or regulation that sets up the procedures for such low or no rent use or fee discounts and defines eligibility criteria.
- For loan repayment incentives:
 - Identification of funding sources for loan repayment; and
 - Passage of State or local legislation and/or regulation that sets up the procedures for loan repayment and defines eligibility criteria, or that adapts the existing Maryland Loan Assistance Repayment Program⁵ (LARP) to this purpose.

⁵ http://fha.maryland.gov/ohpp/pco_larp.cfm

Contract-based Incentives in the Health Enterprise Zone

Another set of approaches to attain the expected benefits of an HEZ can be described as contract-based interventions. This approach utilizes a contract for services model to allocate funding on a competitive basis to an HEZ that submits an application and is approved. These contract-based interventions have more flexibility to target a wide variety of the adverse health care system and community factors listed above.

The workgroup envisions that a Community Based Organization (CBO) or other qualifying community agency will propose funding for public health and outreach projects linked to the health care system that address health disparities and reduce re-admissions.

Proposals that have a private/non-profit/foundation match and a plan for long-term funding and sustainability will receive priority. For example, a CBO may propose to match community health centers or a local hospital's investments in community health workers, evaluate their impact on readmissions, and have the health centers and hospital continue to finance the health workers if the evaluation is positive.

Other examples of contract-based incentives that a CBO might employ include:

- Training and deploying community health workers,
- Providing financial assistance to providers for language interpretation services,
- Providing cultural, interpretation, and health literacy training to health care providers,
- Developing and supporting a community coalition and providing leadership training,
- Implementing evidence-based community-level interventions on specific health issues, and
- Providing financial assistance to providers in need of electronic medical record deployment and infrastructure conversion to a PCMH.

Steps to Implement Contract-based Incentives in the Health Enterprise Zone

In order to implement contract-based incentives in Health Enterprise Zones, the following prerequisites must be achieved:

- Passage of State legislation and/or regulation that defines Health Enterprise Zones and establishes a mechanism by which a community is certified as an HEZ;
- Identification of a funding source that can be used to fund the contract-based projects proposed by the various HEZs;
- Development of operational policies for the contract awards process; and
- Establishment of data collection and reporting requirements to properly evaluate the HEZs.

In developing operational policies for the contract awards process, an application format and toolkit will need to be developed, the task of application review must be assigned to an existing State entity, and criteria for adequacy of an application must be developed. Successful applicants should be able to demonstrate a private sector match and a plan for long-term funding,

support of the local health improvement process, and a local steering committee including key partners.

Responsible Parties and Partners

The workgroup believes that an existing State agency, department, or commission will need to be identified to move this proposal forward after the enabling legislation is passed. The existing State entity should work with appropriate stakeholders to implement HEZs, in a formally designated advisory committee capacity. The stakeholders that the State entity should work with include:

- Representatives of the Maryland Association of County Health Officers;
- Representatives of various community-based organizations;
- Interested leadership from our various minority communities;
- Representatives from hospitals;
- Representatives from community-based providers and physicians, including Federally Qualified Health Centers;
- Representatives from practitioner societies (e.g. MedChi, MD Nurse Practitioner Association, etc.);
- Representatives from insurers;
- Representatives from medical education, including Schools of Medicine, Dentistry, Nursing, Pharmacy, and Public Health;
- Representatives from the business community – including pharmaceuticals, medical device companies, and biotechnology companies;
- Representatives from the philanthropic community; and
- Representatives of State Government (DHMH and other departments).

Assessment Benchmarks

Each approved HEZ will require an independent evaluator. The workgroup recommends that where available, all data should be analyzed by race and ethnicity where the data permit such analysis. The workgroup recommends that assessment benchmarks are needed on two levels: statewide program outputs and individual HEZ program performance. Metrics may vary by the strategies used.

Some examples of measurements of statewide program outputs that should be included are:

- Amount of funding available for HEZ program;
- Number of communities designated as HEZs;
- Percentage of communities applying for HEZ designation that receive designation (this indicates the need for community development and technical assistance);
- Number of HEZ funding requests submitted by HEZs;
- Percentage of HEZ funding requests that are of fundable quality (this indicates the need for community development and technical assistance); and
- Number of newly Maryland licensed primary care and interdisciplinary care providers practicing in HEZs (this indicates statewide provider expansion rather than just intrastate reallocation of existing providers).

Some measurements of individual HEZ program performance that should be included are:

- Number of person reached with educational materials or presentations;
- Number of persons newly enrolled in health insurance;
- Number of persons receiving particular health services⁶ (e.g. screening, treatment);
- Number new providers added to the HEZ (where incentive model is used);
- Provider workforce diversity in the HEZ;
- ACSC emergency department visit rates in the HEZ;
- ACSC hospitalization rates in the HEZ;
- Healthcare Effectiveness Data and Information Set (HEDIS) measures; and
- Maryland Health Care Commission's Patient-Centered Medical Home Quality Performance Measures

The expected benefits of the HEZ-based interventions include the following structural benefits:

- Increased local health care provider supply, especially in primary care;
- Diversity of the local health care workforce
- Cultural, linguistic, health literacy competency of health care workforce;
- Increased use of community health workers;
- Increased multidisciplinary and/or interagency collaborations;
- Increased referrals to social and health service agencies;
- Improved community leadership development; and
- Reduced racial and ethnic minority health disparities and improved minority health outcomes.

The expected benefits of the HEZ-based interventions also include reductions in preventable hospital admission and emergency department visit rates for asthma, diabetes, hypertension, and other ACSCs/PQIs.

Timetables and Milestones

The workgroup recommends that enabling legislation be passed in the 2012 Session of the General Assembly creating Health Enterprise Zones. The legislation should give an existing State agency, department or commission responsibility for enacting the HEZs.

⁶ Persons served to be collected using new HHS Data Collection standards, found at: (<http://minorityhealth.hhs.gov/templates/content.aspx?ID=9227&lvl=2&lvlID=208>)

Strategy 2: Maryland Health Innovation Prize

The Maryland Health Innovation Prize will be a financial reward and public recognition for an individual, group, organization, or coalition to acknowledge new and/or proven innovative interventions and programs that have achieved reductions in health or health care disparities or aim to reduce and/or eliminate health and health care disparities in the State of Maryland.

Justification and Rationale for the Maryland Health Innovation Prize

The Maryland Health Innovation Prize is another strategy for addressing, at the community level, the healthcare, community, and individual factors that were listed as justification as creation for the Health Enterprise Zones. Additional considerations that motivate the creation of the Maryland Health Innovation Prize include:

- Public health breakthroughs are needed to revitalize and move existing health systems to achieve measurable improvements in population health;
- Health care costs continue to escalate and need effective measures that curtail escalation while improving quality of care; and
- Model innovations can develop from outside the health care system that could have increased potential for resolving persistent health care delivery challenges.

Expected Benefits of the Maryland Health Innovation Prize

The workgroup believes that there are a number of expected benefits that will result from the implementation of the Maryland Health Innovation Prize (I-Prize). The I-Prize will result in the creation of new programs and propagation of successful programs that address and improve community health and public health. The I-Prize will spur and reward innovative interventions through research and development investments, and the prize will also inspire innovations from the non-health sector, including from youth and young adults.

The I-Prize will also improve health status and increase economic benefits to Maryland's local minority communities. This initiative will provide incentives and rewards for societal sectors outside of the health care delivery system that bring resources and value added, and participation of partners whose collaboration addresses causal factors outside the health system. The prize may also result in the formation of new health-related industries that vitalize and incentivize the nation's health system to operate with efficiency, leading to healthier population groups.

Naturally, the workgroup believes that this intervention will result in a reduction in the number of preventable hospital admissions and/or emergency department visit rates for a number of chronic disease conditions, including asthma, diabetes, and hypertension. Another key benefit of this proposed intervention will be a reduction in the number of preventable hospital admissions and/or emergency visit rates for Ambulatory Care Sensitive Conditions (ACSCs). The HEZ will also result in reductions of racial and ethnic disparities in the aforementioned chronic disease conditions and ACSCs.

Implementation of the Maryland Health Innovation Prize

Steps to implementation of the Maryland Health Innovation Prize include:

- Engage entities that will benefit from healthier populations such as industries, businesses, large employers, etc. to help in building “The Purse” as well as compete for the Prize;
- Engage all health delivery systems to participate in building “The Purse” that can be invested, utilizing the investment earnings to pay the Prize, maintaining the capital for growth. The Health delivery systems could also compete for the “Prize”;
- Designate or establish an entity responsible for administration of the Prize;
- Establish criteria for prize eligibility, and for ranking competing candidates for the Prize.

Responsible Parties and Partners

An organization needs to be identified or established to administer the Maryland Health Innovation Prize. This organization would be responsible for identifying funding sources and acquiring and disbursing funds for the Prize; defining the eligibility criteria for nominees for the Prize; defining the criteria for ranking and selection among nominees; reviewing material submitted in support of nominees; and determining the periodic winner of the Prize.

The organization should work with appropriate stakeholders to implement the Prize, including:

- Representatives of the Maryland Association of County Health Officers;
- Representatives of various community-based organizations;
- Interested leadership from our various minority communities;
- Representatives from hospitals;
- Representatives from community providers, such as Federally Qualified Health Centers;
- Representatives from practitioner societies (e.g. MedChi, MD Nurse Practitioner Association, etc.);
- Representatives from insurers;
- Representatives from medical education, including Schools of Medicine, Dentistry, Nursing, Pharmacy, and Public Health;
- Representatives from the business community;
- Representatives from the philanthropic community; and
- Representatives of State Government (DHMH and other departments).

Timetables / Milestones

If the Prize is to be sponsored by the State, legislation that establishes the Prize should be introduced and passed during the 2012 legislative session. However, it is not necessary that the State should establish the Prize. The Prize could be an entirely private operation, from funding to administration.

Whether the Prize is administered by the State or by a private entity, designation of the accountable organization to administer the Prize should take place in the first half of calendar 2012. The accountable organization should draft the operational criteria for the Prize before December 31, 2012.

Strategy 3: Racial and Ethnic Tracking of Performance Incentive Data

Justification and Rationale for Racial / Ethnic Performance Data Tracking

There are two areas in which health care performance data are or will be analyzed and incentive payments will be made (or potentially penalties assessed) to hospitals or providers based on the results. The first area is hospital care incentives administered by the Health Services Cost Review Commission (HSCRC). The HSCRC tracks and incentivizes hospitals based on process measures for quality, rates of complications from hospital-acquired conditions, and rates of hospital preventable readmissions. The second area is primary care incentives. The Maryland Health Care Commission administers a Patient Centered Medical Home Program, which allows for the sharing of savings between participating payors and health care providers based on meeting certain measures.

These two existing health care quality incentive programs do not currently track the incentives by race and ethnicity. Therefore, they do not base incentives or penalties on race-specific or ethnic-specific performance. They also do not reward reductions in racial or ethnic disparities in quality. Our Strategy 3: *Racial and Ethnic Tracking of Performance Incentive Data* proposes enhancing these existing programs by requiring that the performance metrics be analyzed by race and ethnicity where the data are sufficiently robust to permit such analysis. Conducting this racial and ethnic analysis will:

- Identify of racial and ethnic disparities in health care quality metrics;
- Determine whether current race and ethnic-neutral incentive formats are in fact improving minority health care quality and reducing disparities; and
- Determine whether new race/ethnic-specific incentive formats are required.

Background on the Existing Incentive Programs

Hospital incentive programs of the HSCRC are based on generally accepted hospital quality metrics. These existing programs hold hospital accountable for performance on quality of care processes, performance on rates of hospital acquired conditions (patient complications that develop in hospitals and are preventable), and performance on preventable hospital readmissions⁷.

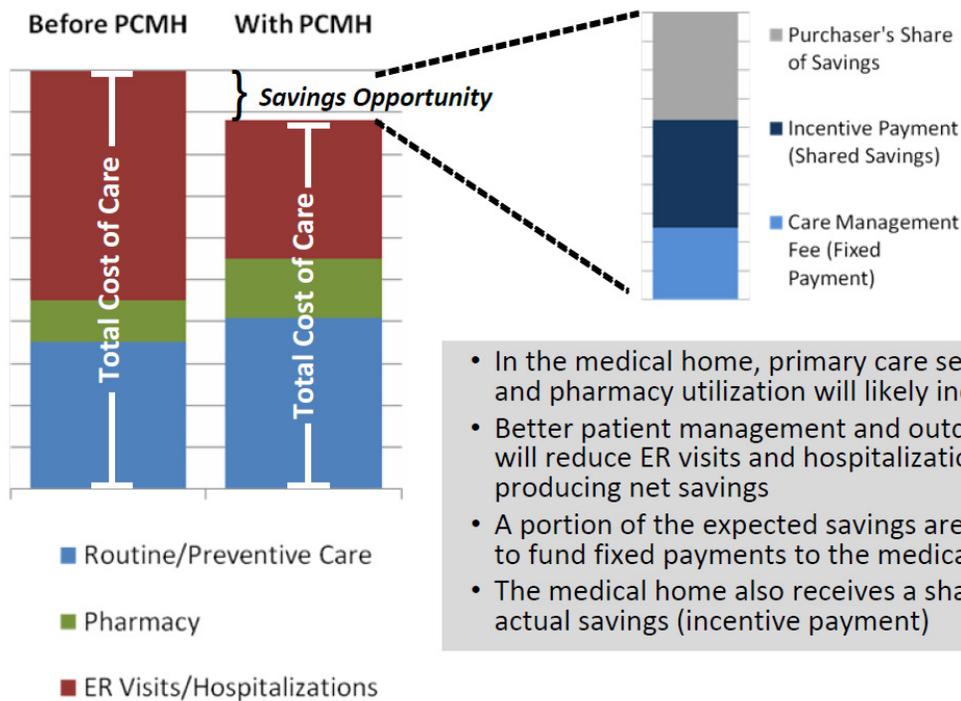
The shared savings incentive in the Maryland Patient Centered Medical Home Program⁸ takes advantage of the capability of improved preventive and primary care delivered in the medical home to reduce preventable and expensive emergency department visits and hospital admissions. The improved preventive and primary care can both improve the health status of patients and reduce the overall cost of their care.

⁷ Details on these hospital incentive programs are available at the HSCRC website at http://www.hscrc.state.md.us/init_qi.cfm

⁸ For more information about the Maryland Patient Centered Medical Home Program, see <http://mhcc.maryland.gov/pcmh.index.aspx>. A short bibliography regarding the success of medical homes in reducing costs can be found at <http://mhcc.maryland.gov/pcmh/studies.aspx>.

It is expected that outpatient visit costs and outpatient pharmacy costs may increase in the medical home, but that the savings from reduced hospital admission and emergency department visits will exceed those cost increases. The resulting net savings in care costs are then shared between the providers of and the payers for care (thus the term “shared savings” incentive). This gives providers both the incentive and the resources to implement practice improvements that can improve health and reduce costs. A diagram of the shared savings model is shown below and is taken from a presentation by the Maryland Health Care Commission that is available at <http://dhmh.maryland.gov/mhqcc/pdf/2010/Dec10/PCMH-Practice-payment-methods.pdf>.

PCMH Financial Model



Expected Benefits of Racial / Ethnic Performance Data Tracking

The expected benefits to the incentive programs of racial/ethnic data tracking include:

- Identification of racial and ethnic disparities in health care quality metrics;
- Determination of whether current race/ethnic-neutral incentive formats are in fact improving health care quality and reducing disparities; and
- Determination of whether new race and ethnic-specific incentive formats are required.

The expected benefits to Maryland overall of racial/ethnic performance data tracking include:

- Improvement in minority health care quality;
- Reduction and eventual elimination of health care quality disparities;
- Improvement in minority health; and
- Health care cost savings to private and public payers for health care

Implementation of Racial / Ethnic Performance Data Tracking

In order to implement racial/ethnic performance data tracking the work group recommends legislation that directs the HSCRC and the MHCC to include racial and ethnic data as part of their data collection. As an alternative, the MHCC and HSCRC could establish a process and timeline to:

- Study the feasibility of including racial/ethnic performance data tracking in quality incentive programs;
- Report data by race and ethnicity where feasible to the General Assembly by the 2013 session; and
- Explain the limitations where data cannot be reported by race and ethnicity and describe necessary changes to overcome those limitations.

A key feature of this strategy is that it builds upon existing data collection and analysis performed by HSCRC and MHCC. Thus, additional burden on providers should be minimal.

Responsible Parties and Partners

Responsible parties and partners for the implementation of this strategy include the Maryland General Assembly, the MHCC, the HSCRC, and stakeholder providers.

Assessment Benchmarks and Timetables / Milestones

If deemed necessary, relevant legislation should be introduced and passed in 2012. Where feasible, incentive data should be reported by race/ethnicity by 2013. Data limitations and strategies to address them should also be reported by MHCC and HSCRC by 2013. Once established, race/ethnic specific data should be monitored over 3-year intervals to assess trends. If minority quality improves and disparities decline, then current incentive can remain; if minority quality fails to improve and/or disparities do not decline, then race and ethnic specific incentives will need to be developed.

III. Implementation of Disparities Workgroup Strategies – Potential Challenges and Solutions

Health Enterprise Zones (HEZs) - Potential Challenges and Solutions

One potential unintended consequence of establishing HEZs is that the most poorly resourced zones and applicants may not be competitive for contract-based interventions, allowing more resourced areas to benefit disproportionately from these programs. This could be addressed by helping poorly resourced areas by identifying funding sources to support technical assistance. Smaller capacity-building grants, to be applied for by these communities, are another possible method to distribute resources to address this potential challenge.

Maryland Health Innovation Prize – Potential Challenges and Solutions

The major challenge related to implementing this strategy is likely to be fund-raising. However, creative strategies, such as those used by national advocacy groups, can be used to identify and engage potential donors. One strategy for fund-raising might be to find celebrity champions for the cause and to work with a broad base of stakeholder organizations and groups, including the top giving Maryland-based foundations focused on community empowerment, reduction of health disparities, advancement of health, and science education.

If the group determining the prize winner is dominated by representatives from any one of several groups – government, academia, industry, or community organizations – then there is the potential that unequal consideration will be given submitted projects and intervention strategies. Including representation from several (or all) stakeholder groups in the selection process will reduce the likelihood of domination by any one group and increase the likelihood that equal consideration will be given to all types of projects and intervention strategies.

Performance Based Incentive – Potential Challenges and Solutions

There is a risk that this strategy could result in a reduction of income and numbers of providers caring for poor and minority patient populations since these providers have fewer resources to devote to quality improvement and their patients may be less likely to adhere to treatment recommendations due to financial and social barriers. A possible solution is to reward both absolute quality scores and improvements in scores over time, otherwise known as pay for progress – and not just pay for performance; use risk adjustment and stratified analyses, either by geographic location of providers or by patient race/ethnicity; and include attention to the effects of incentive programs on disparities.

Some hospitals and practices may have small numbers of patients in certain ethnic groups, leading to unreliable estimates of quality metrics. *A potential solution to this challenge would be to use quality metric and incentives only when statistically reliable and valid measurements can be obtained.*

Some providers may perceive the strategy as increasing the burden of data collection and documentation of the problem without practical advice. In order to address this possible

concern, MHCC and HSCRC should avoid more regulatory approaches and incorporate more collaborative processes, such as those used by the Joint Commission to inspire excellence in providing safe and effective care of the highest quality and value.

IV. Summary and Conclusions

The workgroup determined that interventions which aim to reduce health and health care disparities through modification of individual and community health care factors would be the most prudent and promising. The three recommendations outlined in the report seek to address health and health care disparities by developing and enhancing the health care system's infrastructure in the State's most vulnerable locations. Through the use of incentives, education, outreach, technology, and innovation, the work group recommendations seek to empower and engage individuals and communities where the greatest health and health care disparities exist. The workgroup believes that these recommendations can and will have an immediate effect on health and health care disparities; but that these recommendations should be viewed as the initial steps in an ongoing effort to reduce disparities and improve health and health outcomes throughout Maryland.

The workgroup believes that these recommendations can and will have an immediate effect on health and health care disparities; but that these recommendations should be viewed as the initial steps in an ongoing effort to reduce disparities and improve health and health outcomes throughout Maryland.

APPENDIX A



The Maryland State Medical Society

Your Advocate.
Your Resource.
Your Profession.

To: Health Disparities Workgroup of the Governor's Health Quality and Cost Council

From: Gene Ransom
Chief Executive Officer, MedChi

Date: November 22, 2011

Re: Draft Recommendations Report

MedChi appreciates the opportunity to provide comment on the draft report of the workgroup as it works to finalize its recommendations to the full Council. Addressing Maryland's health disparities challenges is a priority for MedChi and we look forward to working with the Council as it considers the recommendations brought forth by this workgroup. MedChi has a health disparities committee and would welcome the opportunity to be included in future deliberations. We commend the workgroup on the comprehensiveness of its draft report and have only a few suggestions to offer as the report is finalized.

1. Inclusion of community based physicians in the HEZ Implementation Workgroup : The list of partners and responsible parties that recommended to comprise the HEZ Implementation Workgroup is comprehensive with the exception of the absence of community based physician representation. Academic health centers and hospitals have a different orientation than community based providers. The focus of this report is to bring care to the community to address health disparities. Any implementation workgroup should include representatives from the physicians in the community who will be providing that care.
2. Loan Assistance Repayment Program: Throughout the draft report there are references to loan assistance repayment programs. It is not clear whether these references refer to Maryland's loan assistance repayment program that was enacted into legislation in 2009 but has not yet been funded or whether the workgroup is contemplating the creation of other repayment programs. MedChi would urge clarification on this point. More importantly it would strongly urge the workgroup to include a recommendation that the State find a funding source for Maryland's program. The legislation that was enacted enables the State to determine the shortage areas and who is eligible to receive the assistance. That program, properly funded could provide the type of assistance contemplated in this report.
3. Recognition of Existing Providers: In the section of the report that discusses prerequisites for to implementation of incentive model tactics, it is not clear that these incentives could be utilized by existing providers for expansion of their current practices. There are currently physicians whose practices are located in areas likely to be considered HEZ's if adopted as recommended by the workgroup. These practices should be able to take advantage of any new incentives to expand their practices. In many cases, expansion may be more cost-effective than the location of new providers in an area. MedChi assumes that the workgroup intended to include existing providers but suggests that it clearly acknowledged in the report.

With these comments noted, MedChi applauds the workgroup for the comprehensiveness of the report and looks forward to working collaboratively with the workgroup and the Council as it continues its commitment to addressing health disparities.

NPAM: The Nurse Practitioner Association of Maryland

TO: Health Disparities Workgroup of the Governor's Health Quality & Cost Council

FROM: Kathy Becker, Nurse Practitioner Association of Maryland

DATE: December 8, 2011

RE: Draft Recommendations

NPAM appreciates the opportunity to provide comments on the draft report of the workgroup in advance of the final recommendations to the full Council. Addressing health disparities is a critical component of providing quality care to the diverse patient population in Maryland and we value the opportunity to be included in the workgroup discussions. We commend the workgroup on the thorough report and have only a couple comments to offer as the report is finalized.

1. Patient Centered Medical Home: The Maryland PCMH Pilot Program was implemented via legislation in 2010 and included Nurse Practitioners as Primary Care team leaders. As less and less medical school graduates specialize in primary care, the role of the nurse practitioner is leading the way in providing high quality primary care services. The report should focus on expanding the MD PCMH pilot model to incentivize more nurse practitioners to bring this innovative community care program to address health disparities in our communities across Maryland. The medical home concept is not new to nurse practitioners in primary care. Coordination of care, improved outcomes of chronic conditions, provision of wellness services, and prevention of complications of disease are integral to nurse practitioner practice.
2. Accountable Care Organization (ACO): NPAM supports the creation of an Accountable Care Organization to implement a Health Empowerment Zone (HEZ) to address the needs of local areas that consistently have poor health outcomes with regard to hospital readmission rates, chronic care and primary care needs. Inclusion of nurse practitioners as an interdisciplinary model with other practitioners with incentives such as loan repayment or higher reimbursement will benefit the patients in accessing quality care and retain the necessary workforce needed to sustain the health care delivery system.

Maryland's 3,400 nurse practitioners provide critical health care services in Maryland, including up to 40 % of primary care. Like physicians, nurse practitioners are certified, licensed health care practitioners who provide health care services in a variety of health care facilities (e.g. hospitals, outpatient clinics, freestanding medical facilities, nursing homes, etc) in both rural and urban underserved areas of the state.

Thank you for the opportunity to provide participation in the workgroup and we look forward to developing the relationship and dialogue with the workgroup and Council as we continue to work towards solutions to addressing health disparities.

The Nurse Practitioner Association of Maryland, Inc.
PO Box 540, Ellicott City, MD 21041
Toll Free: 888-405-6726 FX: 410-740-7217 www.NPAMonline.org



To: Health Disparities Workgroup of the Governor's Health Quality & Cost Council
From: Malcolm N. Joseph III, M.D., Medical Director, CareFirst BlueCross BlueShield
Subject: **Draft Workgroup Recommendations**
Date: December 13, 2011

CareFirst BlueCross BlueShield applauds the State of Maryland for recognizing that disparities in health care – both in the availability of services and in patient outcomes – should be of utmost priority. We also commend the Workgroup for outlining a strategy for addressing those disparities that is at once comprehensive and visionary. That the nation's most affluent state in terms of average household income ranks only 33rd by health quality indicators should be seen as a cause for alarm. That we permit access to quality health care services to vary so widely depending on one's race, income, geography and insurance coverage reflects how much work lies ahead of us in improving the health of *all* of our residents. Personally, I was proud to serve on the Workgroup alongside such a group of preeminent and caring individuals all dedicated to the proposition that real progress can be made in reducing the health disparities that currently exist among Marylanders.

Obviously, there can be no single, simple solution to a problem that is so pervasive and pernicious. For the State to make meaningful progress in addressing the challenge of health care disparity will require courage, creativity and commitment. Most of all, it requires a practical strategy, strong leadership and the resolve to carry it out. The proposed Health Empowerment Zones championed by Lt. Governor Brown meets all three of these imperatives. They offer a strategy and a potential structure for addressing a problem that heretofore has proven so resistant to change.

CareFirst shares the Workgroup's perspective that primary care clinicians are key to ensuring that everyone receives the coordinated, comprehensive care they need to achieve and maintain good health. Central to CareFirst's own Patient-Centered Medical Home initiative are financial incentives and support services that mirror in significant ways the incentives that are envisioned under the Workgroup's proposed Health Empowerment Zones. We especially applaud the proposed role to be played under the Community-Based Organization (CBO) concept in leveraging and coordinating the efforts of both the public and private sector in addressing the challenges before us. More meaningful and creative progress can be made by working collaboratively and cooperatively.

To that end, CareFirst offers to continue its role in the State's initiative by serving on the oversight group envisioned in the Workgroup's draft report. We believe the experience and expertise that we have developed in developing and supporting similar projects and programs through our CareFirst Commitment initiative would provide invaluable insight to the State's efforts. We have been committed to addressing health disparities with culturally competent, patient-centered, community-based solutions, such as: 1) our partnership with the University of Maryland to enhance community health awareness focused on cardiovascular disease in African Americans in Barber Shops and Beauty Salons in Baltimore City; and 2) our collaboration with Baltimore Medical Systems (BMS) to address well-documented health disparities in Latino and African-American populations at BMS centers in Highlandtown and Belair-Edison.

We look forward to working with the Workgroup and the Council in addressing these challenges.

CareFirst BlueCross BlueShield is the shared business name of CareFirst of Maryland, Inc. and Group Hospitalization and Medical Services, Inc. which are independent licensees of the Blue Cross and Blue Shield Association.
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**APPENDIX G: TELEMEDICINE TASKFORCE – TELEMEDICINE
RECOMMENDATIONS**

The Telemedicine Report begins on the next page.

TELEMEDICINE RECOMMENDATIONS

A Report prepared for the
Maryland Quality and Cost Council

December 2011

Robert R. Bass, M.D.
Executive Director



Ben Steffen
Acting Executive Director

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Executive Summary

Effective use of telemedicine can increase access to health care, reduce health disparities, and create efficiencies in health care delivery. Telemedicine is generally considered as a viable means of delivering health care remotely through the use of communication technologies.¹ Telemedicine can bridge the gaps of distance and health care disparity.^{2, 3, 4, 5, 6} Although telemedicine is well established, a number of technology and policy challenges need to be resolved before its full potential can be realized. In June 2010, the Maryland Health Cost and Quality Council convened a Telemedicine Task Force (Task Force) to address challenges to widespread adoption of a comprehensive statewide telemedicine system of care.

The goal of the Task Force was to identify challenges and develop solutions to advance telemedicine in Maryland. The Task Force submitted its final report to the Maryland Health Quality and Cost Council in September 2010. In November, former Secretary of the Department of Health and Mental Hygiene John Colmers established a Leadership Committee of the Task Force and requested that the committee develop specific recommendations to advance telemedicine in Maryland. Former Secretary Colmers requested that the Leadership Committee present its recommendations to the Maryland Health Cost and Quality Council in December 2011.

The Leadership Committee was jointly directed by the Maryland Institute of Emergency Medicine Services Systems (MIEMSS) and the Maryland Health Care Commission (MHCC). The Leadership Committee established three advisory groups to formulate recommendations: the Clinical Advisory Group, the Technology Solutions and Standards Advisory Group, and the Financial and Business Model Advisory Group. After nearly six months of deliberation, the advisory groups identified the following recommendations to promote telemedicine in Maryland:

- *State-regulated payers should reimburse for telemedicine services*

State-regulated payers (payers)⁷ should provide reimbursement for health care services delivered through telemedicine to the same extent as health care services provided face-to-face, regardless of the location for which the services are provided.⁸ Telemedicine services should be assessed to determine the appropriateness, provided that the appropriateness is determined in the same manner as it is for face-to-face services. These assessments may be conducted as part of benefit design and retrospectively through utilization review.

¹ Health Affairs, *Health Information Systems and the Role of State Government*, 16(3), 1997.

² Journal of Telemedicine and Telecare, *Systematic Review of Evidence for the Benefits of Telemedicine*, 8(1), 2002.

³ Journal of Telemedicine and Telecare, *Economic Evaluation in Telemedicine – Still Room for Improvement*, 16(5):229-231, 2010.

⁴ Neurology, *Long-Term Outcome after Thrombolysis in Telemedical Stroke Care*, 69(9): 898-903, August 2007.

⁵ CNS Spectrums: First in Applied Neuroscience, *Can Telepsychiatry Replace In-Person Psychiatric Assessments? A Review and Meta-Analysis of Comparison Studies*, 10(5): 403-413, May 2005.

⁶ Archives of Internal Medicine, *Impact of Telemedicine Intensive Care Unit Coverage on Patient Outcomes: A Systematic Review and Meta-analysis*, 171(6): 498-506, March 28, 2011.

⁷ State-regulated payers are insurers, nonprofit health services plans, or any other person that provides health benefit plans subject to regulation by the State.

⁸ Self-insured health care plans and government plans are exempt from State insurance regulation under the Employee Retirement Security Act of 1974 (ERISA). State mandated health insurance benefits affect around 25 percent of insured Maryland residents. Additional information is available from the U.S. Department of Labor at:

<http://www.dol.gov/dol/topic/health-plans/erisa.htm>.

- *Establish a centralized telemedicine network built on existing industry standards*

An interoperable telemedicine network that is built on existing standards and is integrated into the state designated health information exchange would enable broad provider participation, allow networks to connect to other networks, and have access to clinical information through the exchange. Organizations that adopt telemedicine should meet certain minimum requirements related to technology and connectivity to a centralized telemedicine network.

- *Implement changes in licensure, credentialing, and privileging of providers to facilitate the adoption of telemedicine*

Regulations should be aligned with newly revised Center for Medicare and Medicaid Services rules that permit privileging and credentialing by proxy, a process by which an originating-site hospital may rely upon the credentialing and privileging decisions made by a distant-site telemedicine entity. As telemedicine advances in the state, additional consideration regarding expanding existing regulations to support out-of-state providers that meet certain conditions to provide telemedicine services to patients in Maryland is required. Future changes in licensure are needed to enable reciprocity of licensure for physicians practicing in border states.

Telemedicine is an important strategy for Maryland to embrace for its cost reduction benefits and to improve access and delivery of health care services.^{9,10} Both providers and consumers can benefit from telemedicine. Consumers can experience expanded access to providers, faster and more convenient treatment, better continuity of care, reduction of lost work time and travel costs, and the ability to remain with support networks. Providers can experience instant access to other providers, a reduction of medical errors, an increase in efficiency with reduced travel and research times, and enhanced educational opportunities.

Telemedicine has the potential to increase access and reduce the cost of care. Setting prices for telemedicine that reflect actual costs and incorporate broad payments reforms are critical to ensuring appropriate access. Bundled payments incorporating telemedicine services are an example of how innovations in technology and payment could be fused to expand access and reduce costs. Maryland has been a leader in implementing the Patient Protect and Affordable Care Act (ACA); the expansion of telemedicine will support the success of the ACA. It is not yet clear what insurance benefits will be designated as essential by the federal government. The premature establishment of a mandate for telemedicine could add additional costs to the state, if the telemedicine benefit is not specified as essential by the federal government.

⁹ Journal of Telemedicine and Telecare, *Improved Access to Subspecialist Diabetes Care by Telemedicine: Cost Savings and Care Measures in the First Two Years of the FITE Diabetes Project*, 11(1) 2005.

¹⁰ Neurology, *The Cost Effectiveness of Telestroke in the Treatment of Acute Ischemic Stroke*, 77(17), 2011.

Report Limitations

This report builds on the findings from the Telemedicine Task Force from the prior year. Information included in this report represents the views of participants of the advisory groups. The scope of the report is limited to a defined set of clinical, technology, and financial barriers related to telemedicine. A financial impact assessment of implementing the recommendations was not included in the scope of work. Developing an implementation strategy related to telemedicine will be the challenge for others who share the commitment to expand its use in Maryland.

Introduction

The mission of the Maryland Health Quality and Cost Council (Council) is to maximize the health of the citizens of Maryland through strategic planning, coordination of public and private resources, and evaluation that leads to: effective, appropriate, and efficient policies; health promotion and disease prevention initiatives; high quality care delivery; and reductions in disparities in health care outcomes.¹¹ In June 2010, after a preliminary report to the Council on the use of telemedicine for emergent use cases such as stroke care, the Council created a Telemedicine Task Force (Task Force) with the charge to develop a plan for a comprehensive statewide telemedicine system of care.

The goal of the Task Force was to develop recommendations to advance telemedicine in Maryland. The Task Force submitted its final report to the Council in September 2010. In November, former Secretary of the Department of Health and Mental Hygiene John Colmers established a Leadership Committee of the Task Force and requested the Leadership Committee to further develop recommendations on advancing telemedicine in Maryland. Former Secretary Colmers requested the Leadership Committee to submit a final report to the Council in December 2011.

The Leadership Committee has been jointly directed by the Maryland Institute of Emergency Medicine Services Systems (MIEMSS) and the Maryland Health Care Commission (MHCC). Three advisory groups were formed to complete the work: the Clinical Advisory Group; the Technology Solutions and Standards Advisory Group; and the Financial and Business Model Advisory Group. The advisory groups convened multiple times over a nearly six month timeframe. All meetings were open to the public and meeting materials and key items from the meetings have been posted online.¹²

Literature Review

Evidence of the value of telemedicine is wide-ranging. A study of 170 acute stroke patients treated at community hospitals with access via telemedicine to stroke neurologists and 132 comparable patients treated in stroke center hospitals with attending neurologists found that mortality rates and levels of impairment after six months were comparable for both groups.¹³ Similarly, a survey on the application of telemedicine in Intensive Care Units (ICUs) found that telemedicine reduced

¹¹ Maryland Health Quality and Cost Council. Available at: <http://dhmh.maryland.gov/mhqcc/>.

¹² The Clinical Advisory Group meeting materials are available on the Council Telemedicine Task Force website at: <http://www.dhmh.state.md.us/mhqcc/telemedicine.html>, and the Technology Solutions and Standards Advisory Group and the Financial and Business Model Advisory Group meeting materials are available on the MHCC website at: <http://mhcc.maryland.gov/electronichealth/telemedicine/index.html>.

¹³ Neurology, *Long-Term Outcome after Thrombolysis in Telemedical Stroke Care*, 69(9): 898-903, August 2007.

ICU mortality by about 20 percent and shortened the average hospital length of stay by more than a full day.¹⁴ Telemedicine has been shown to improve time-to-diagnosis, facilitate care access for patients in remote regions, and increase patient satisfaction.¹⁵ Research on telepsychology, conducted by researchers at Columbia University, found that there is no difference in the accuracy or satisfaction between psychiatric consultations provided via telemedicine and those conducted in person.¹⁶

Health care organizations, networks and government organizations faced with provider shortages, access disparities and budget challenges, are adopting telemedicine to effectively connect geographically-remote patients with specialists based in centers of excellence, to allow scarce specialists to be on call across networks, and to provide remote monitoring of patients.¹⁷ A number of recent studies support the view that telemedicine-based interventions can result in comparable outcomes to traditional, in-person meetings, while at the same time offering the potential for cost savings and other efficiencies.^{18, 19, 20, 21}

The U.S. Agency for Health Care Quality and Research published findings from a study in the *New England Journal of Medicine* that support the use of video conferencing technology in the treatment of patients with hepatitis C virus infections.²² The study found that, for several hundred hepatitis C patients in New Mexico, the rate of serious adverse events was significantly reduced and cure rates were comparable for patients treated by local primary care providers and patients seen at the geographically distant University of New Mexico hepatitis C clinic. The authors concluded that local providers, properly supported via telemedicine by specialists, tended to be more culturally competent with regard to their specific community. Therefore, by allowing the patients to stay close to home instead of traveling for care, patients' adherence to treatment tended to improve and they were generally in more frequent contact with their providers.²³

Researchers at the University of Arkansas for Medical Sciences tracked the effects of a longstanding telemedicine initiative aimed at poor, underserved, rural populations in the East Arkansas Delta.²⁴

¹⁴ Archives of Internal Medicine, *Impact of Telemedicine Intensive Care Unit Coverage on Patient Outcomes: A Systematic Review and Meta-analysis*, 171(6): 498-506, March 28, 2011.

¹⁵ Journal of Telemedicine and Telecare, *Economic Evaluation in Telemedicine – Still Room for Improvement*, 16(5):229-231, 2010.

¹⁶ CNS Spectrums: First in Applied Neuroscience, *Can Telepsychiatry Replace In-Person Psychiatric Assessments? A Review and Meta-Analysis of Comparison Studies*, 10(5): 403-413, May 2005.

¹⁷ For instance, the U.S. Military has implemented one of the largest telemedicine networks in the world. The Telemedicine and Advanced Technology Research Center, which is based in Fort Detrick, Maryland, supports the Army's research and rollout of advanced telemedicine services ranging from bio-monitoring to medical imaging, psychological health, training, and trauma care. Available at: www.tatrc.org.

¹⁸ New England Journal of Medicine, *Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers*, 364:2199-207, June 1, 2011.

¹⁹ International Journal of Telemedicine and Applications, *Evaluation of the Effect of Consultant Characteristics on Telemedicine Diagnosis and Treatment*, 2011, May 4 2011.

²⁰ Journal of the American Medical Association, *Hospital Mortality, Length of Stay, and Preventable Complication Among Critically Ill Patients Before and After Tele-ICU Reengineering of Critical Care Processes*, 305 (21), June 1, 2011.

²¹ Telemedicine and e-Health, *Provider Satisfaction and Patient Outcomes Associated with a Statewide Prison Telemedicine Program in Louisiana*, 16(4):472-479, May 2010.

²² New England Journal of Medicine, *Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers*, 364:2199-207, June 1, 2011.

²³ Ibid.

²⁴ International Journal of Telemedicine and Applications, *Evaluation of the Effect of Consultant Characteristics on Telemedicine Diagnosis and Treatment*, 2011, May 4 2011.

The study followed providers across a range of specialties²⁵ as they interacted with remote patients via video conferencing. The study found that tele-ICU encounters frequently resulted in a change in the patient's diagnoses and/or treatment plan, or the institution of new treatment options, suggesting the level of care for these patients was upgraded as a result of access to geographically remote care.²⁶ Another study published in the *Journal of the American Medical Association*, found that the implementation of a tele-ICU was associated with reduced odds of mortality and hospital length of stay, as well as with changes in best practice adherence and lower rates of preventable complications.²⁷ The study concluded that implementing telemedicine-based practices improved outcomes even in an academic medical center that was well staffed with intensivists and had proven best practice programs in place.²⁸

Twelve states, covering over 106 million Americans, have legislated mandates for the reimbursement of telemedicine.^{29,30} Most state laws that require reimbursement cover medical services provided through real-time interactions between a patient and a health care provider located at a distant site via multimedia such as live videoconference. Commonly available technologies such as telephone, e-mail and Skype are generally not accepted as media for reimbursable telemedicine services. A theme that most state laws have in common is that payers may not create barriers to care or reimbursement solely because the care is being provided via telemedicine. Thirty-five states offer some level of telemedicine reimbursement through Medicaid.³¹ Many other states have developed telemedicine programs in response to clinical needs, even in the absence of reimbursement.

Georgia's approach to implementing telemedicine is notable. Georgia's statewide telemedicine program is overseen by the Georgia Partnership for Telehealth, a charitable nonprofit corporation funded through public and private sources.^{32,33} Its goal is to allow all Georgians to have access to specialty consultations without having to travel more than 30 miles from their homes. The program includes centralized scheduling of specialist consultants using a website that tracks open appointment times for panel specialists across the state, so that consultations can be requested and scheduled more efficiently. The program had over 25,000 patient encounters in 2010 and is expected to double in 2011. More than 175 specialists and health care providers currently

²⁵ Specialties in the study included OB/GYN, genetic counseling, psychiatry and psychology, nutrition, dermatology, primary care, and pharmacy.

²⁶ International Journal of Telemedicine and Applications, *Evaluation of the Effect of Consultant Characteristics on Telemedicine Diagnosis and Treatment*, 2011, 4.1

²⁷ Journal of the American Medical Association, *Hospital Mortality, Length of Stay, and Preventable Complication Among Critically Ill Patients Before and After Tele-ICU Reengineering of Critical Care Processes*, 305 (21), June 1, 2011.

²⁸ Ibid.

²⁹ American Telemedicine Association, *State Legislation for Telehealth-Provided Covered Services*. Available at: <http://www.americantelemed.org/files/public/Meetings/PolicySummit2011/StateMandate.pdf> (2011). Those states are (with the year of enactment in parenthesis): California (1996), Colorado (2001), Georgia (2006), Hawaii (1999), Kentucky (2000), Louisiana (1995), Maine (2009), New Hampshire (2009), Oklahoma (1997), Oregon (2009), Texas (1997), and Virginia (2010).

³⁰ See [Appendix A](#) for a list and description of each state's approach. Comprehensive profiles of selected states' initiatives are included in [Appendix B](#).

³¹ The northwest Regional Telehealth Resource Center. *Telemedicine Reimbursement: An Overview of Medicare and Medicaid*, 2010. Available at: http://www.nrtrc.org/wp-content/uploads/Medicare_Medicaid_Reimbursement_C_Britain1.pdf.

³² Georgia Partnership for Telehealth, *Our Mission*, July 2011. Available at: <http://www.gatelehealth.org/index.php/about/our-mission/>.

³³ Georgia Partnership for Telehealth, *About GPT*, July 2011. Available at: <http://www.gatelehealth.org/index.php/about/about-gpt/>.

participate, representing over 40 specialties. Georgia's prison system makes heavy use of the technology; officials say it saves the department over 30 percent in medical costs.³⁴

The University of Virginia's Office of Telemedicine recently received a grant from the U.S. Health Resources and Services Administration to serve as a Mid-Atlantic Telehealth Resource Center covering the District of Columbia and six states: Virginia, Delaware, Kentucky, Maryland, North Carolina and West Virginia. A 2010 Virginia law requires all health insurers, health care subscription plans, and health maintenance organizations (HMOs) to offer coverage for telemedicine services.³⁵ Payers may not discriminate with regards to reimbursement levels, premium payments, or other aspects of coverage on the basis that a service is being provided via telemedicine.

Telemedicine Task Force Recommendations

In general, existing telemedicine initiatives throughout Maryland are fragmented.³⁶ Oversight of the functions that support rendering care at a distance using licensed providers and health information technology rests within several state agencies: the Maryland Board of Physicians, MHCC, MIEMSS, and the Department of Health and Mental Hygiene (DHMH) Office of Health Care Quality.

Some of the advisory group participants felt that to facilitate further development of telemedicine in Maryland and improve the coordination between existing telemedicine initiatives and state regulatory agencies the state should consider several options: 1) designate a state entity to be a lead agency with regard to telemedicine; 2) create a telemedicine Advisory Council that consists of public and private representatives; or 3) designate a not-for-profit private entity that would provide expert guidance to telemedicine providers. Essential functions of the oversight and coordination process or network should include mitigating barriers to telemedicine adoption and monitoring and coordinating grant opportunities.

The advisory groups were comprised of a broad range of stakeholders such as payers, providers, consumers, and businesses. The recommendations are based on a lengthy deliberation process by the advisory groups, research conducted by a consultant, and information provided from various individuals from the stakeholder community in Maryland and in other states. Each advisory group developed recommendations.

Finance and Business Model Advisory Group

- *State-regulated payers should reimburse for telemedicine services*

The Finance and Business Model Advisory Group (advisory group) of the Task Force included a diverse group of stakeholders from organizations such as MedChi, the Maryland State Medical Society (MedChi), the Maryland Hospital Association, and the American Telemedicine Association (ATA), as well as payers and providers.³⁷ The advisory group agreed that the state-regulated

³⁴ Georgia Partnership for Telehealth, Available at: <http://www.gatelehealth.org/>.

³⁵ § 38.2-3418.16 Code of Virginia. *Coverage for Telemedicine Services*. Available at: <http://lis.virginia.gov/cgi-bin/legp604.exe?101+ful+CHAP0222>.

³⁶ See [Appendix C](#): Environmental Scan of Telemedicine Initiatives in Maryland.

³⁷ For a complete list of participants see [Acknowledgements](#).

payers (payers)³⁸ should reimburse for telemedicine services. The advisory group deliberated on an appropriate reimbursement model that payers could adopt for telemedicine.

The advisory group reviewed approaches to pay for medical services provided via telemedicine being implemented by states, federal programs, and private payers. It found a number of initiatives underway, and while there is some overlap, they are largely fragmented. The ATA indicated that virtually all of the twelve states currently requiring reimbursement for telemedicine broadly mandate payers to reimburse for services provided via telemedicine identical to reimbursement for face-to-face encounters. Overall, many states are moving to eliminate barriers to reimbursement for telemedicine; for example, the *California Telehealth Act of 2011* was signed into law in October 2011 and designed to further reduce barriers to the growth of telemedicine services in California. In 1996, California passed legislation mandating reimbursement for telemedicine services. The legislation recognized telemedicine as a legitimate means to deliver health care services and established that no payer can limit the setting where services are provided.³⁹

Medicare's incremental approach to reimbursing for telemedicine was reviewed as a potential model for provider reimbursement in Maryland. Medicare pays for telemedicine services on a fee-for-service basis under limited circumstances; while under managed care, no restrictions exist on the care Medicare beneficiaries may receive.⁴⁰ Characteristics of the Medicare fee-for-service model include:

- Reimbursement for limited professional services only;
- Limitations of the distant site practitioners eligible for reimbursement;⁴¹
- Distant site practitioners are paid 80 percent of the appropriate Medicare Physician Fee Schedule amount while originating sites receive a small fee, billed separately; and
- Originating sites⁴² must be located in a rural Health Professional Shortage Area (HPSA) or in a county outside of a Metropolitan Statistical Area.

The advisory group expressed strong concern about the limited provider types eligible for reimbursement under Medicare, and the limitation to services delivered in rural HPSAs, particularly emergency medical service providers.

Currently, reimbursement for telemedicine varies by payers. United Healthcare and Aetna are conducting telemedicine pilot programs in a number of states. One program, for example, offers

³⁸ State-regulated payers are insurers, nonprofit health services plans, or any other person that provides health benefit plans subject to regulation by the State. Self-insured health care plans and government plans are exempt from State insurance regulation under the Employee Retirement Security Act of 1974 (ERISA). State mandated health insurance benefits affect around 25 percent of insured in Maryland residents. Additional information is available from the U.S. Department of Labor at: <http://www.dol.gov/dol/topic/health-plans/erisa.htm>.

³⁹ California Assembly Bill 415 - 2011-2012 Regular Session. *California Telehealth Act*. Available at: <http://e-lobbyist.com/gaits/text/354075>.

⁴⁰ Centers for Medicare and Medicaid Services, *Telehealth Services: Rural Health Fact Sheet*. Available at: <http://www.nrtrc.org/wp-content/uploads/CMS-Telehealth-Srvcs-Fact-Sheet-March-2011.pdf> (July 2009).

⁴¹ Distant site eligible practitioners include physicians, nurse practitioners, physician assistants, nurse midwives, clinical nurse specialists, and registered dietitians or nutrition professionals. Clinical psychologists and clinical social workers cannot bill for psychotherapy services that include medical evaluation and management services under Medicare.

⁴² The originating site is the location of an eligible Medicare beneficiary at the time the service being furnished via telemedicine occurs and can include physician offices, hospitals, rural health centers, federally qualified health centers, hospital-based renal dialysis centers, skilled nursing facilities, and community mental health centers. Other originating sites, including the home, are not allowed at this time.

online access to physicians contracted with the payer as a benefit to certain self-insured plans.⁴³ In 2011, CareFirst Blue Cross Blue Shield revised its medical policies across the mid-Atlantic region, including Maryland, to comply with Virginia's new law and adopted reimbursement for telemedicine. CareFirst BlueCross BlueShield had previously provided \$3 million as seed money to support the growth of the tele-ICU (remote, electronic monitoring of critically ill patients in ICUs) technology in Maryland.

Maryland Medicaid fee-for-service presently reimburses for telemental health services through a pilot program. The Mental Hygiene Administration formed a Maryland Medicaid Telepsychiatry Regulations workgroup in the fall of 2007. The workgroup was composed of participants from Core Service Agencies, University of Maryland, Mental Hygiene Administration, State Office of Rural Health, Sheppard Pratt Health System, and Correctional Mental Health Services. The goal of the workgroup was to reach consensus on a draft telepsychiatry regulation for telemental health services to Medicaid recipients and resulted in COMAR 10.21.30, *Telemental Health Services*. The advisory group recommends that Medicaid's program continue as currently envisioned, with the flexibility to broaden its scope of reimbursable telemedicine services in the future. Additionally, it was suggested that over the next year Maryland Medicaid more fully consider the financial impact of supporting telemedicine and propose a reasonable adoption strategy relating to telemedicine services.

The advisory group agreed that payers should reimburse for telemedicine services in the same way as an in-person encounter is reimbursed today. The consensus was that payers should not exclude a service for coverage solely because the service is provided through telemedicine or based on the location of the patient, such as rural or urban.⁴⁴ The advisory group concluded that medical necessity and standards of care could be applied to telemedicine as they are applied to face-to-face services. Advisory group members felt that payers should make determinations on the appropriateness of telemedicine services prospectively and retrospectively through utilization review as is done with face-to-face services.

The advisory group considered the level of reimbursement relative to a face-to-face visit. Several members of the advisory group pointed out that some commercial payers are paying the distance site the same fee as they would have paid a provider delivering an in-person service plus also paying an administrative fee to the originating site. The sum of the fees results in a total fee that is larger than the fee paid for an in-person service. Medicare fee levels for telemedicine service are set so that the sum of the payment to the distance site (roughly 80% of the in-person service) and the administrative fee to the originating site are roughly equivalent to the total payment for a face-to-face visit. In general, higher payments for telemedicine could discourage support by payers and employers. The majority of the advisory group believed that the distant provider should receive the same payment as would have been paid for a face-to-face visit. Others noted that a fee for the originating site is needed to support the adoption of the technology. Most advisory group members supported the concept of parity in payment at the distance site and an administrative fee for the

⁴³ United Healthcare, presentation to the Telemedicine Task Force Finance and Business Models Advisory Group, September 7, 2011.

⁴⁴ The Clinical Advisory Group developed a set of clinical scenarios which are intended to illustrate the impact telemedicine can have on ordinary citizens. See [Appendix D](#) for clinical scenarios.

originating site if that site was a provider's facility. The advisory group saw merit in conducting a study to compare resource use telemedicine services and equivalent in-person services.

Technology Solutions and Standards Advisory Group

- *Establish a centralized telemedicine network built on existing industry standards*

The Technology Solutions and Standards Advisory Group (advisory group) had broad stakeholder participation and included representatives from payers, providers, technology vendors, and the ATA.⁴⁵ The advisory group considered a statewide telemedicine infrastructure as well as standards around technology deployed by telemedicine networks connecting to a centralized infrastructure.

Participants of the advisory group noted that telemedicine networks in Maryland are fairly disparate and are not readily capable of interoperating with other networks. The advisory group agreed that connecting telemedicine networks would increase provider availability to consult on care delivery and better enable the availability of medical services in remote areas of the state. The advisory group concluded that a centralized telemedicine network is needed to support all medical services and allow existing networks to connect with other networks. A centralized telemedicine network can be envisioned similar to a switchboard in early telephone networks — it allows endpoints to be connected to one another in a standards-based way.⁴⁶ Such a network would also enable patients with time critical conditions such as acute stroke, heart attack, and trauma, to receive immediate access to a specialty consultant at a designated trauma or specialty center.

The advisory group concluded that a provider directory service that identifies providers available to consult on care at the point of delivery should be included in a centralized telemedicine network. In general, a provider directory service is a sophisticated database that maintains a list of providers participating in a telemedicine network and includes information about the types of capabilities that each endpoint or gateway possesses. The provider directory could also support real-time scheduling and availability of providers, which could assist with emergent use cases, as well as accelerate the time involved with specialty consultations. Including a provider directory service in a centralized telemedicine network would allow participants to be easily identified.

The advisory group deduced that identifying existing standards for networks that choose to connect to a centralized telemedicine network is essential.⁴⁷ A shared infrastructure that supports existing standards would likely foster the development of telemedicine in hospitals, clinics, and provider offices. A centralized telemedicine network would serve as the bridge to videoconferencing connections. The advisory group viewed the state designated health information exchange as an organization well-suited for developing a centralized telemedicine network and believed that technology to support telemedicine should be incorporated into the health information exchange. The advisory group believed a role for the centralized telemedicine network should be to collaborate with a lead state or regional agency and actively monitor for funding opportunities that connecting networks could pursue.

The advisory group noted that widespread adoption of telemedicine is hindered in areas, often rural, where access to reliable high-speed broadband service does not exist. Such services are

⁴⁵ For a complete list of participants, see Acknowledgements.

⁴⁶ See [Appendix E](#) for the Maryland Telemedicine Network diagram.

⁴⁷ See [Appendix F](#) for ATA Core Technology Standards.

required to support use cases which involve high-resolution video and diagnostic-quality images. Issues related to broadband access are under consideration by the Rural Maryland Broadband Coordination Board, which was established during the 2006 Maryland General Assembly session. The Rural Maryland Broadband Coordination Board is responsible for coordinating efforts to deploy broadband infrastructure in rural and underserved areas and for reviewing and approving all disbursements from the Broadband Assistance Fund, which is administered by the Department of Business and Economic Development. The Maryland Broadband Cooperative is also addressing some of the challenges related to broadband services and is focused on advancing broadband access across Maryland's rural communities.⁴⁸

Clinical Advisory Group

- *Implement changes in licensure, credentialing, and privileging of providers to facilitate the adoption of telemedicine*

The Clinical Advisory Group (advisory group) consisted of a wide-range of stakeholders including representatives from MedChi, MIEMSS, University of Maryland Shock Trauma, the Maryland Rural Health Association, and Federally Qualified Health Centers as well as providers.⁴⁹ The advisory group addressed leading challenges related to expanding the practice of telemedicine in Maryland.⁵⁰

The advisory group agreed with the definition of telemedicine in the Maryland Board of Physicians COMAR 10.32.05, and proposed modifying the definition as follows to include images: *“Telemedicine” means the practice of medicine from a distance, in which intervention and treatment decisions and recommendations are based on clinical data, documents, [images], and information transmitted through telecommunications systems.*⁵¹ The advisory group agreed that audio-only telephone, e-mail messages, and facsimile transmissions are not appropriate items to include in the definition, and it may be best to specifically note these mediums as exclusions.⁵²

The advisory group identified the need for the continued development of evidence-based clinical standards and guidelines for telemedicine regarding care quality and documentation. The ATA is developing standards for a variety of telemedicine use cases, including diabetic retinopathy, telerehabilitation, telemental health, teledermatology, and telepathology.⁵³ The advisory group concluded that ATA standards should be considered for adoption into the practice of telemedicine in Maryland.

The advisory group noted challenges around credentialing, privileging and licensing. With regards to hospital-based care, federal and state regulations have traditionally required telemedicine providers be credentialed and privileged at the facilities on both ends of a telemedicine encounter:

⁴⁸ See [Appendix G](#) for a map of the Maryland Broadband Cooperative Network.

⁴⁹ For a complete list of participants, see Acknowledgements.

⁵⁰ The advisory group developed a set of clinical scenarios, which are intended to illustrate the impact telemedicine can have on ordinary citizens; they may be found in Appendix D.

⁵¹ Annotated Code of Maryland. Title 10 Department of Health and Mental Hygiene Subtitle 32 Board of Physicians Chapter 05 Telemedicine. Authority: Health Occupations Article, §14-205, 14-301, 14-601, and 14-602. Note, images does not appear in the definition and was added with brackets for illustration purposes.

⁵² See [Appendix H](#): Glossary.

⁵³ American Telemedicine Association, *Telemedicine Standards and Guidelines*. Available at: <http://www.americantelemed.org/i4a/pages/index.cfm?pageid=3311>.

the originating site, where the patient is located, as well as the remote site, where the provider is located.

The advisory group recommends aligning Maryland regulations with the Centers for Medicare and Medicaid Services (CMS) credentialing requirements, which were revised in May 2011.⁵⁴ The new CMS regulations allow a streamlined credentialing and privileging process at the originating facility providing that the originating facility enters into a written agreement with the remote facility. Through this written agreement, the originating-site hospital must ensure that the medical staff's credentialing and privileging processes and standards at the distant-site comply with the CMS standards. Once the written agreement is in place, the originating facility can rely on credentialing and privileging decisions made by the remote facility rather than conduct its own fact-finding process.

The Joint Commission, which accredits and certifies hospitals, intends to change its standards regarding telemedicine to conform to the new CMS credentialing requirements. There is an outstanding question whether Maryland's credentialing and privileging regulations need to be updated to accommodate the time-saving CMS process.⁵⁵ Presumably, the regulation requirements can be met via the written agreement between the originating and remote hospitals but an advisory opinion from the Attorney General of the DHMH would be useful to clarify this point.

States are also beginning to address licensing challenges related to telemedicine. The advisory group identified the rigorous requirements of individual states for licensing physicians as a barrier to telemedicine services that are provided across state borders. The advisory group recommended that the Maryland Board of Physicians consider changes in their laws and regulations to lessen the challenges faced by physicians who provide or would like to provide telemedicine services in Maryland. The advisory group agreed that options to mitigate these challenges include issuing medical licenses to out-of-state physicians that are limited to providing telemedicine services, establishing reciprocity agreements with other states either directly or through a multi-state compact, and supporting federal licensure for physicians who provide telemedicine services in multiple states. Changes in existing law and regulation are not immediately required to advance telemedicine in Maryland.

Some participants of the advisory group suggested establishing a demonstration project at MIEMSS to improve access to specialty center consultation for patients with time critical conditions such as acute stroke, heart attack and trauma. The pilot program could reside in the 24/7 emergency medical resource communications center at MIEMSS to test the feasibility of providing immediate access to specialty consultants for patients with time critical conditions. Such a pilot would enable physicians in hospitals across the state to have immediate access to specialist at designated trauma and specialty centers. The specialist would be able to provide expert advice on therapeutic interventions, the need to transfer, or the feasibility and safety of managing the patient locally.

⁵⁴ Department of Health and Human Services, Centers for Medicare and Medicaid Services 42 CFR Parts 482 and 485. Available at: <http://www.gpo.gov/fdsys/pkg/FR-2011-05-05/pdf/2011-10875.pdf>.

⁵⁵ The Code of Maryland Regulations (COMAR) stipulates that a hospital must establish a written protocol for its credentialing process for any physician who shall admit or treat patients in the hospital. COMAR § 10.07.01.24(C)(4) (2011) As part of this process, the hospital must collect, verify, review, and document the relevant professional experience of prospective providers, including their: a) education; b) clinical training; and c) licensure, employment, and malpractice history. COMAR § 10.07.01.24(C)(4)(a-h) (2011). COMAR also requires that all hospitals establish a formal written process to grant delineated clinical privileges. § 10.07.01.24(D) (2011).

Potential benefits of the pilot would include a reduction in unnecessary and costly transfers to tertiary care facilities, faster access to emergency intervention and improved patient outcomes. A demonstration project might yield information around broadly deploying telemedicine that could be applied to a statewide telemedicine initiative.

Conclusions and Next Steps

Provider shortages and growing transportation costs pose significant barriers to access of health services. The Association of American Medical Colleges predicts a national physician shortage of 91,000 by the year 2020 and 125,000 by the year 2025.⁵⁶ Telemedicine where the patient and provider are connected through real-time audio and video technology offers an alternative to the traditional method of care delivery. Maryland, like several states, is exploring opportunities to expand the delivery of health care services utilizing information and communication technologies to enable the diagnosis, consultation, treatment, education, care management, and self-management of patients at a distance from health care providers.⁵⁷ Telemedicine can remove barriers of distance and time, reduce health disparities, and drive efficiencies in the delivery system. Broad adoption of telemedicine offers the possibility to more efficiently connect consumers with the providers and the care they need. Many representatives on the advisory groups believe expanded use of telemedicine increases access to timely and appropriate care, thereby reducing total health care costs.

The adoption of telemedicine in Maryland is limited and uneven. Existing networks that support telemedicine are generally configured to support a limited set of services and often reimbursement is inadequate or not available. The lack of viable networks and uncertain reimbursement are significant barriers to broad adoption of telemedicine. The Leadership Committee believes building a viable technical infrastructure is essential and without an interoperable infrastructure, adoption will continue to be slow.

Telemedicine has been shown to save health costs, such as reducing hospital emergency room visits and ambulance use. The most recent and comprehensive assessment of telemedicine's economic value was conducted for California, focused on how telemedicine saves money for their Medicaid program, called Medi-Cal. It concluded that telemedicine used for "home monitoring for chronic diseases [such as] heart failure and diabetes ... has the potential to produce savings to the Medi-Cal program of as much as several hundred million dollars annually." It reported a 42 percent reduction in costs related to heart failure care and a 9 percent reduction in costs related to diabetes care.⁵⁸

As previously noted, thirty-six other states include some telemedicine coverage in their Medicaid plans and twelve states prohibit health plans offered in their states from discriminating against telemedicine-provided covered services. For the most part, the value of telemedicine may be more

⁵⁶ Association of American Medical Colleges Center for Workforce Studies, *Physician Shortages to Worsen without Increases in Residency Training*, June 2011. Available at: <https://www.aamc.org/download/150612/data/md-shortage.pdf>.

⁵⁷ California Assembly Bill 415 - 2011-2012 Regular Session. *California Telehealth Act*. Available at: <http://e-lobbyist.com/gaits/text/354075>.

⁵⁸ Blue Sky Consulting Group, *Fiscal Impact of AB 415: Potential Cost Savings from Expansion of Telehealth*, September 2011. Available at: http://www.connectedhealthca.org/sites/default/files/Fiscal%20Impact%20of%20AB%20415%20Potential%20Cost%20Savings%20from%20Expansion%20of%20Telehealth_0.pdf.

evident with a shift to value-based payment and service innovations, such as medical homes and accountable care organizations.

Approaches to Implementation

Payment policies for telemedicine services are in their infancy. Determining when telemedicine services are medically necessary and clinically equivalent to face-to-face services remains a significant challenge in setting payment. To support adoption of telemedicine, payments must accurately reflect the cost of delivery for providers and the effectiveness of the treatments must be proven to payers and patients. Payment must be sufficient to cover actual costs, but should not favor telemedicine over face-to-face services.

More information is needed on the costs of telemedicine before payment levels should be guaranteed relative to face-to-face visits. Some payers reimburse telemedicine services on par with face-to-face care due to the current low levels of adoption of telemedicine. Payers might favor reimbursing for telemedicine services the same as face-to-face services because modifying the claims adjudication software to distinguish telemedicine services from face-to-face services is more expensive, given the low volume of telemedicine claims. This perspective will likely change if telemedicine becomes a popular medium for delivering care. The appropriateness of new forms of reimbursement, such as bundling payments around a single episode of care or permitting telemedicine when delivered by an accountable care organization recognized by the payer, may prove attractive for providers and payers.

Payers are responsible for assessing medical necessity of clinical services. Often, payers use private review agents coupled with evidence gathered by impartial nationally-recognized standard setting organizations. Further work needs to be done to demonstrate clinical equivalence between telemedicine and face-to-face care. Although the ATA has developed several guidelines, their role as an advocate for telemedicine makes it less than an ideal standard-setting entity.

The strategy for diffusing telemedicine must align with requirements in the Patient Protection and ACA. A key element in the ACA is the requirement that all benefit plans sold beginning in 2014, other than plans in place in 2010 (grandfathered plans), must be based upon essential health benefits (EHBs) as defined by the Department of Health and Human Services (HHS). Premium subsidies are available to individuals with incomes below 400 percent of the federal poverty level that purchase individual insurance coverage through health benefit exchanges. ACA requires the state to pay the additional subsidy costs associated with any state-mandated benefit that is not included in the EHBs determined by HHS. If Maryland mandates use of telemedicine and this requirement is not defined as an EHB, Maryland would be responsible to pay the portion of the insurance subsidy attributable to telemedicine costs.

The federal government is expected to release draft regulations governing EHBs after the 2012 legislative session. A report from the Institute of Medicine (IOM) to HHS on EHBs may foreshadow definitions of EHBs. The IOM recommended that the HHS model EHBs after typical insurance products offered in small group insurance benefits package today. The recommendation by the IOM to benchmark the EHBs on typical small group benefits reflects growing sensitivity about costs. Any additional mandates, including telemedicine, must be balanced against possible added liabilities for the state.

One approach to implement telemedicine is to focus on developing the infrastructure and permit payers to support telemedicine, but not mandate use in 2012. A second approach would be to

direct the Maryland Insurance Administration, in consultation with MHCC, to adopt regulations on the use of telemedicine for particular services when appropriate guidelines exist or are being developed. As reported earlier, the ATA has developed guidelines for the following clinical services:

- Teledermatology;
- Telepathology;
- Telehome health care;
- Telemental health;
- Telerehabilitation; and
- Telehealth for Diabetic Retinopathy.

Little evidence exists to suggest that adoption of telemedicine increases health care costs. Aligning prices of telemedicine equitably with face-to-face care will help ensure that the service is used appropriately and does not lead to a surge in utilization, often the unintended consequence of mandate legislation.

Positioning Maryland for the fast changing needs of health care delivery is a goal of the analysis and recommendations. The information in this report will help guide policy leaders as they consider expanding telemedicine. The Task Force began its work with some uncertainty about an appropriate model for telemedicine. However, after nearly six months of work, the members of the Task Force are optimistic over what they consider to be a sound model for expanding telemedicine in Maryland.

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Appendix A: Telemedicine Licensure Overview by State^{59,60}

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
AL	No	Yes - Statute 1999; requires limited license, a license by endorsement, or full medical license. AL may grant a special purpose license allowing practitioners licensed in other states to practice across state lines	Limits special license to states that have reciprocal legislation permitting AL physicians to cross their state lines. (AL Code 34-24-51; 55; 70); reciprocity: 34-24-73 through 74; Licensure: 34-24-500 through 507
AK	Yes	No	(AK Stat. 08.64.170; 200)
AZ	No	M – Yes - Title 36. Ch 36 <i>Telemedicine</i> 3601-3603: (NOT FSMB): need to obtain a limited pro bono registration, locum tenens registration, or full medical license. Specific statute requiring telemedicine practitioners to obtain consent from the patient or the patient's healthcare decision maker before providing services	M - (AZ Rev. Stat. 36-3601-3603)
		O - See above	O - (AZ Rev. Stat. 32-1858)
AR	Yes - Statute, 1997	No	(AR Stat. Ann. 17-95-206)
CA	M - Yes - legislation passed in 1996 authorized a system of registration for physicians seeking to practice across state lines into CA. The Board has not adopted rules to implement this registration and thus a full and unrestricted license is required.	No	M - (CA Bus. & Prof. Code 2290.5)
	O - Yes	No	O - (CA Bus. & Prof. Code 2052.5)
CO	Yes – Statute, 1998	No	(CO Rev. Stat. 12-36-129, 12-36-106, 10-16-123) Colorado Licensure Statute permits limited licensure for physicians licensed to practice medicine in another state if they are associated with the Shriners Hospital

⁵⁹ The information contained in this table was provided by the Federation of State Medical Boards and is available online at: http://www.fsmb.org/pdf/GRPOL_Telemedicine_Licensure.pdf. The information was last updated 07/28/2011. This table is not intended as a comprehensive statement of the law.

⁶⁰ M = Medical Board licensure requirements; O = Osteopathic Board licensure requirements

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
CT	Yes – Statute; need to obtain a temporary or full medical license	No	(CT Gen. Stat. 20-9)
DE	Yes - Need to obtain a temporary, institutional or full medical license	No	(24 DE Code 1702, 1703) A person fully certified, licensed, or otherwise authorized to practice medicine in another state of the United States who briefly renders emergency medical treatment or briefly provides critical medical service at the specific lawful direction of a medical institution or federal agency that assumes full responsibility for the treatment or service
DC	Yes - Need to obtain a temporary, limited or full medical license	No	(D.C. Code 2-3305.1) Reciprocity and Endorsement: 3-1205.07
FL	M - Yes - Statute, 2000	No	M - (FL Stat. 458.327) (a) Other duly licensed health care practitioners acting within their scope of practice authorized by statute. (b) Any physician lawfully licensed in another state or territory or foreign country, when meeting duly licensed physicians of this state in consultation. (c) Commissioned medical officers of the Armed Forces of the United States and of the Public Health Service of the United States while on active duty and while acting within the scope of their military or public health responsibilities. (d) Any person while actually serving without salary or professional fees on the resident medical staff of a hospital in this state, subject to the provisions of s. 458.321. (e) Any person furnishing medical assistance in case of an emergency.
	O - Yes	No	No
GA	Yes - Statute, 1998; need to obtain a temporary, teacher's license, institutional, special volunteer or full medical license	No	(O.C.G.A. 43-34-31.1)
GU	No	Yes - Not FSMB model, but allows for special licensing	10 GCA Sec. 12207
HI	Yes – Statute, 1997; need to obtain a limited, temporary, educational teaching or full medical license	No	Fully licensed out-of-state physician may practice in consultation with physician licensed in HI. Any direct physician-to-patient practice requires full & unrestricted license. Position reaffirmed on 3-10-00. (HI Rev. Stat. 453-2)

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
ID	Yes - Need to obtain temporary, volunteer or full license — does provide for an Endorsement License (Not FSMB model)	No	54-1811 Licensure by Endorsement. IDAPA 22.01.01.053 An applicant, in good standing with no restrictions upon or actions taken against his license to practice medicine and surgery in a state, territory or district of the United States or Canada is eligible for licensure by endorsement to practice medicine in Idaho. An applicant with any disciplinary action, whether past, pending, public or confidential, by any board of medicine, licensing authority, medical society, professional society, hospital, medical school or institution staff in any state, territory, district or country is not eligible for licensure by endorsement. An applicant ineligible for licensure by endorsement may make a full and complete application pursuant to the requirements of Sections 050, 051 or 052. Effective Date (5-8-09)
IL	Yes – Statute, 1998	No	(225 ILCS 60-49.)
IN	Yes – Statute, 1998; need to obtain a probationary, provisional, temporary medical permit, temporary fellowship permit, or full medical license	No	(Ind. Code Ann. 25-22.5-1-1.1)
IA	Yes	No	(IA Code 147.2 (1996)) On August 20, 2010 an ad hoc committee was convened to study the 1996 policy statement and determine what is needed to make it more relevant to the continually expanding use of “telemedicine” by physicians.
KS	Yes - Need to obtain an exempt, temporary, postgraduate, special permit, institutional, or full medical license	No	(KS Adm. Rules 100-26-1)
KY	Yes - Statute; need to obtain a limited institutional practice, fellowship training, special faculty, temporary, or full medical license	No	(KY Rev. Stat. 311.560)
LA	No	Yes - Not FSMB model; allows for reciprocity licensing and telemedicine licensing/permit	(LA Rev. Stat. 37:1271 and) LAC 46:XLV.353 Qualifications for Medical Licensure by Reciprocity §1276.1. Telemedicine License
ME	M - Yes - Statute In Nov. 2002, a policy was adopted stating that physicians providing care and/or treatment to patients in Maine must be licensed in Maine	No	M - (32 ME Rev. Stat. 3270)
	O - Yes	No	No

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
MD	No	Yes - Not FSMB model, but allows for an exception	<p>MD Health Occupations Code Ann. § 14-302</p> <p>Subject to the rules, regulations, and orders, the following individuals may practice medicine without a license:- (1) A medical student or an individual in a postgraduate medical training program that is approved, while doing the assigned duties at any office of a licensed physician, hospital, clinic, or similar facility; (2) A physician licensed by and residing in another jurisdiction, while engaging in consultation with a physician licensed in this State; (3) A physician employed in the service of the federal government while performing the duties incident to that employment; (4) A physician who resides in and is authorized to practice medicine by any state adjoining this State and whose practice extends into this State, if: (i) The physician does not have an office or other regularly appointed place in this State to meet patients; and (ii) The same privileges are extended to licensed physicians of this State by the adjoining state; and (5) An individual while under the supervision of a licensed physician who has specialty training in psychiatry, and whose specialty training in psychiatry, if the individual submits an application on or before October 1, 1993, and either: (i) 1. Has a master's degree from an accredited college or university; and 2. Has completed a graduate program accepted by the Board of Physicians in a behavioral science that includes 1,000 hours of supervised clinical psychotherapy experience; or (ii) 1. Has a baccalaureate degree from an accredited college or university; and 2. Has 4,000 hours of supervised clinical experience that is approved.</p> <p>MD Administrative Regulation: COMAR 10.32.05.02</p> <p>A. In this chapter, the following terms have the meanings indicated.</p> <p>B. Terms Defined.</p> <p>(1) Consultative Service. (a) "Consultative service" means a service provided by a physician for the sole purpose of offering an expert opinion or advising the treating physician about an individual patient. (b) "Consultative service" does not include: (i) Decisions that direct patient care; or (ii) Interpretation of images, tracings, or specimens on a regular basis. (2) "Face-to-face" means within each other's sight and presence.</p> <p>Md. Administrative Regulation: COMAR 10.32.05.03</p> <p>03 Licensure. Except as specified in <i>Health Occupations Article, § 14-302</i>, Annotated Code of Maryland, an individual shall be a licensed Maryland physician in order to practice telemedicine if one or both of the following occurs: A. The individual practicing telemedicine is physically located in Maryland; B. The patient is in Maryland.</p>

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
MA	Yes – Statute; need to obtain a limited, restricted, temporary, or full medical license	No	(MA Ann. Laws Ch. 112, 6)
MI	M - Yes – Statute; need to obtain a limited, temporary, special volunteer or full medical license	No	M - (MSA 14.15 (17011))
	O - Yes	No	No
MN	No	Yes - Statute – SB 3026, 2006; requires physicians providing telemedicine services to patient in MN to register	(MN Stat. 147.032) – Interstate Practice of Medicine (2002 SB 3026)
MS	Yes - Must obtain a limited, temporary, special volunteer or full medical license	No	(MS Code Ann. 73-25-34) § 73-25-21. Licensees from other states or Canada may be granted license without examination; affiliation with boards of medical examiners. The State Board of Medical Licensure (SBML) may grant license to practice medicine without examination as to learning to graduates in medicine or osteopathic medicine who hold license to practice medicine from another state, provided the requirements in such state are equal to those required by the SBML; and it is further provided that the state board of medical licensure may affiliate with and recognize for the purpose of waiving examination diplomats of the national board of medical examiners, or the national board of examiners for osteopathic physicians and surgeons in granting license to practice medicine in Mississippi.
MO	No	Yes - Not FSMB model; physicians are granted permission to practice medicine through the state's licensure exception	(334.010 Rev. Stat. MO) Unauthorized practice of medicine and surgery prohibited--practice of medicine across state lines, definition 1. It shall be unlawful for any person not now a registered physician within the meaning of the law to practice medicine or surgery in any of its departments, to engage in the practice of medicine across state lines or to profess to cure and attempt to treat the sick and others afflicted with bodily or mental infirmities, or engage in the practice of midwifery in this state, except as herein provided.
MT	No	Yes - Statute 1999; provides a temporary, specialized, telemedicine or full license	(MT Code Ann. 37-3-342 thru 349) Rules adopted Oct 2000. See also 37-3-103; 301;306
NE	Yes – Statute, 1998; need to obtain a locum tenens, temporary educational, visiting faculty, or full medical license	No	(R.R.S. Neb. 71-1, 102) 38-2025 Medicine and Surgery Practice Act

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
NV	No	M - Yes - Statute 2001; obtain special volunteer, locum tenens, restricted, temporary, or full medical license. Grants a special purpose license to practitioners who are fully licensed in another state to practice telemedicine in NV	M - (NV. Rev. Stat. Ann. 630.020, 630.160, 630.261)
	No	O - Yes	No
NH	No	Yes - Exceptions. Not FSMB model. Can obtain a temporary training, special, courtesy or full medical license	<p>329.12 VI. A special licenses containing conditions, limitations, or restrictions, including licenses limited to specific periods of time in accordance with rules adopted under RSA 329:9, VIII may be issued.</p> <p>VII. A courtesy licenses authorizing the practice of medicine under limited conditions as defined may be issued. Courtesy licenses shall not exceed 100 days and shall be limited in location. All applicants shall hold an active, unrestricted license in another state and meet the same character qualifications as other licensees.</p> <p>VIII. A license authorizing the practice of medicine limited to administrative medicine for physicians whose practice does not include the provision of clinical services to patients may be issued.</p>

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
NJ	Yes - Need to obtain a full medical license	No	<p>45:9-6; 45:9-21. Certain Persons and Practices Excepted from Operation of Chapter</p> <p>The prohibitory provisions of this chapter shall not apply to the following:</p> <p>a. A commissioned surgeon or physician of the regular United States Army, Navy, or Marine hospital service while so commissioned and actively engaged in the performance of his official duties. This exemption shall not apply to reserve officers of the United States Army, Navy or Marine Corps, or to any officer of the National Guard of any state or of the United States;</p> <p>b. A lawfully qualified physician or surgeon of another state taking charge temporarily, on written permission, of the practice of a lawfully qualified physician or surgeon of this State during his absence from the State, upon written request for permission so to do. Before such permission is granted and before any person may enter upon such practice he must submit proof that he can fulfill the requirements demanded in the other sections of this article relating to applicants for admission by examination or endorsement from another state. Such permission may be granted for a period of not less than two weeks nor more than four months upon payment of a fee of \$50. Permissions may be for further periods of two weeks to four months but not to exceed in the aggregate one year;</p> <p>c. A physician or surgeon of another state of the United States and duly authorized under the laws thereof to practice medicine or surgery therein, if such practitioner does not open an office or place for the practice of his profession in this State;</p> <p>d. A person while actually serving as a member of the resident medical staff of any legally incorporated charitable or municipal hospital or asylum approved. Hereafter such exemption of any such resident physician shall not apply with respect to any individual after he shall have served as a resident physician for a total period of five years.</p>
NM	No	M - Yes - Statute 2001; need to obtain a full medical license, a license by endorsement, a temporary license, or a public service license.	M - (NM Stat. Ann. 61-6-20) Rules 16.10.2.11 61-6-11.1 Telemedicine License

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
NY	Yes - Statute; need to obtain limited or full medical license.	No	(NYCLS Educ. 6522)
NC	Yes - Statute 1997, 2001 (SB 118); need to obtain a resident's training, limited volunteer, special purpose, medical school faculty or full medical license.	No	(NC Gen. Stat. 90-18) -Board does provide for an expedited license if eligibility requirements are met
ND	Yes - Statute 1999; need to obtain a full medical license; physicians licensed in other states may temporarily practice in ND without first obtaining a license in four limited circumstances. Licensure by endorsement also available.	No	(ND Cent. Code 43-17-34) 1. As a member of an organ harvest team; 2. On board an air ambulance and as a part of its treatment team; 3. To provide one-time consultation or teaching assistance for a period of not more than twenty-four hours; or 4. To provide consultation or teaching assistance previously approved for charitable organizations.
OH	No	Yes - Not FSMB model; can be granted licensure through the state's exception statute: by obtaining a limited pro bono registration, locum tenens registration, or full medical license	(ORC Ann. 4731.41) § 4731.29. Admission of persons licensed in another state, by national board or by Canada (A) When a person licensed to practice medicine and surgery or osteopathic medicine and surgery by the licensing department of another state, a diplomat of the National Board of Medical Examiners or the National Board of Examiners for Osteopathic Physicians and Surgeons, or a licentiate of the Medical Council of Canada wishes to remove to this state to practice, the person shall file an application with the state medical board. A certificate may be issued to practice medicine and surgery or osteopathic medicine and surgery without requiring the applicant to submit to examination, provided the applicant submits evidence satisfactory of meeting the same age, moral character, and educational requirements individuals must meet under sections 4731.08, 4731.09, 4731.091 [4731.09.1], and 4731.14 of the Revised Code and, if applicable, demonstrates proficiency in spoken English in accordance with division (E) of this section.
OK	M - Yes - Need to obtain a temporary, special, special training, special volunteer or full medical license.	No	M - (OK Stat. Title 36 § 6802) 493.3. Licensure by Endorsement – Temporary and Special Licensure
OR	Yes - Statute, 1999; same requirements as full & unrestricted license per rules, August 2000)	No	(1999 OR Laws 549 (SB 600)) 677.135 to 677.141 Rules 847-025-000 to 847-025-0060
PA	M - Yes – Rules; need to obtain an interim limited, graduate, institutional, temporary, extraterritorial, or full medical license	No	M - (63 P.S. 422.10)

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
RI	Yes – Rules; need a limited license for postgraduate training or a full medical license.	No	No
SC	Yes - 1997 board position; Full medical license.	No	(SC Code Ann. 40-47-20 (36)(e))
SD	No	Yes - Full medical license (consultation exception)	(SD Codified Laws 36-4-41) ARSD 20:47:03:04 36-4-41. Practice of medicine or osteopathy in South Dakota while located outside of state. Any nonresident physician or osteopath who, while located outside this state, provides diagnostic or treatment services through electronic means to a patient located in this state under a contract with a health care provider licensed under Title 36, a clinic located in this state that provides health services, a health maintenance organization, a preferred provider organization, or a health care facility licensed under chapter 34-12, is engaged in the practice of medicine or osteopathy in this state. Consultation between a nonresident physician or osteopath and a licensee under this chapter is governed by § 36-2-9. SL 1995, ch 212; SL 2002, ch 175, § 2. 36-2-9. Consulting practitioners from other states exempt. Nothing contained in this chapter shall be construed to apply to any licensed person practicing any of the healing arts outside of this state when in actual consultation with a licensed practitioner of the healing arts in this state.
TN	No	M - Yes - Rule 1998; full medical license or a special telemedicine license	M - Rule 0880-2-.16 (TN Code Ann. § 63-6-201)
	No	O - Yes - Rule 2000	O - (TN Code 1050-2-.17)

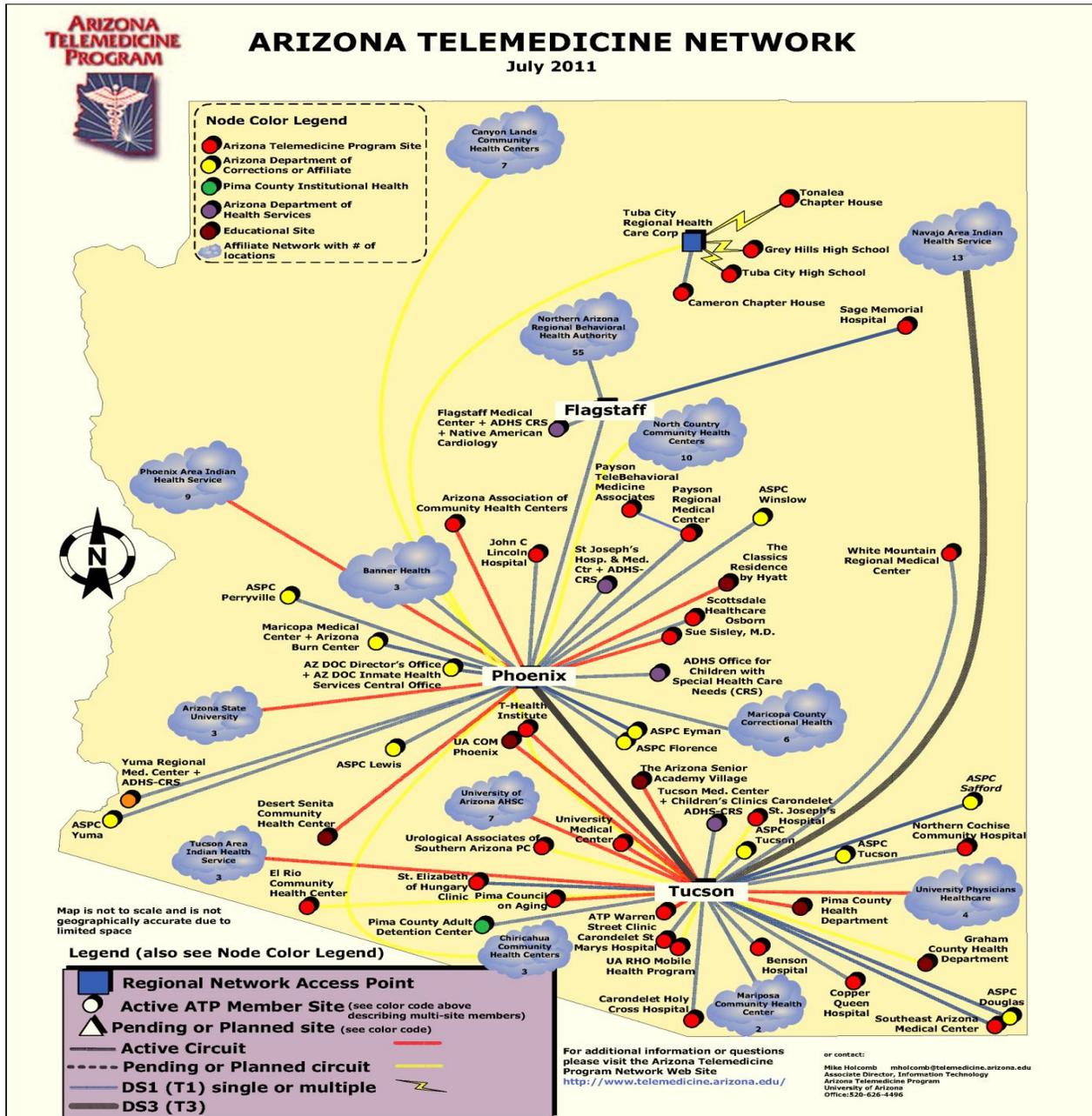
State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
TX	No	Yes - Statute 1997	<p>(22 TX Adm. Code 174.1 thru 174.12) New rule adopted 4-27-03 that includes Use of the Internet in Medical Practice.</p> <p>Effective 10/17/10: §172.12. Telemedicine License 22 TAC 174.5. <i>Notice to Patients</i></p> <p>(a) Privacy Practices.</p> <p>(1) Physicians that communicate with patients by electronic communications other than telephone or facsimile must provide patients with written notification of the physicians' privacy practices prior to evaluation or treatment. In addition, a good faith effort must be made to obtain the patient's written acknowledgement, including by e-mail, of the notice.</p> <p>(2) The notice of privacy practices shall include language that is consistent with federal standards under 45 CFR Parts 160 and 164 relating to privacy of individually identifiable health information.</p> <p>(b) Limitations of Telemedicine. Physicians who use telemedicine medical services must, prior to providing services, give their patients notice regarding telemedicine medical services, including the risks and benefits of being treated via telemedicine, how to receive follow-up care or assistance in the event of an adverse reaction to the treatment or in the event of an inability to communicate as a result of a technological or equipment failure. A signed and dated notice, including an electronic acknowledgement, by the patient establishes a presumption of notice.</p> <p>(c) Necessity of In-Person Evaluation. When, for whatever reason, the telemedicine modality in use for a particular patient encounter is unable to provide all pertinent clinical information that a health care provider exercising ordinary skill and care would deem reasonably necessary for the practice of medicine at an acceptable level of safety and quality in the context of that particular medical encounter, then the distant site provider must make this known to the patient prior to the conclusion of the live telemedicine encounter and advise and counsel the patient prior to the conclusion of the live telemedicine encounter regarding the need for the patient to obtain an additional in-person medical evaluation reasonably able to meet the patient's needs.</p> <p>(d) Complaints to the Board. Physicians that use telemedicine medical services must provide notice of how patients may file a complaint with the Board on the physician's website or with informed consent materials provided to patients prior to rendering telemedicine medical services. Written content and method of the notice must be consistent with §178.3 of this title (relating to Complaint Procedure Notification).</p>

State	Requires Full and Unrestricted License	Other Licensure Options	Miscellaneous Action (Statute or Rule Citation)
UT	M - Yes - Statute 1998; however, exempts practitioners licensed in other states from the full licensure requirement, allowing them to practice medicine in UT for a limited duration of time for a specific event	No	M - (UT Code Ann. 58-31b-102)
	O - Yes	No	No
VT	M - Yes - Statute; full medical license	No	M - (26 V.S.A. 1314)
	O - Yes	No	No
VA	Yes - Statute; need full medical license, temporary medical license or volunteer medical license	No	(VA Code Ann. 54.1-2929)
WA	M - Yes - No person may practice or represent himself or herself as practicing medicine without first having a valid license to do so. 18.71.030 Exemptions: The practice of medicine by any practitioner licensed by another state or territory in which he or she resides, provided that such practitioner shall not open an office or appoint a place of meeting patients or receiving calls within this state.	No	M - (Rev. Code WA 18.71.021)
	O - Yes	No	No
WV	M - Yes - need a special, volunteer or full medical license	No	M - (W.V. Code 30-3-10)
	O - Yes	No	No
WI	Yes - Full Medical License	No	(WI Stat. 448.03)
WY	Yes - Rules; need to obtain a temporary, restricted, emeritus, volunteer, or full medical license. Exception to allow practitioners licensed in other states to practice without compensation.	No	WCWR 024-052-001 "Practicing medicine" does not apply to: (D) Any individual residing in and licensed to practice medicine in another state or country called into this state for consultation by a physician licensed to practice medicine in this state; Wyo. Stat. § 33-26-301 License required

Appendix B: Select Profiles of State Telemedicine Initiatives

Arizona

Arizona's Telemedicine Program, created by an act of the state legislature in 1996, was one of the first in the nation. The program is operated by the University of Arizona. The university designed the telecommunications system in a configuration that minimized telecommunications charges, installed all of the telecommunications equipment, and operates the entire network. The network spans the entire state and is linked to other telecommunication networks in Arizona.⁶¹



⁶¹ Arizona Telemedicine Program, July 2011 *Arizona Telemedicine Network*. Available at: <http://www.telemedicine.arizona.edu/network.cfm>.

The program offers clinical, educational and administrative services, as well as research supporting the end-to-end assessment of telemedicine—from video imaging, networks, picture archiving and communication systems to end-user equipment and appliances. The program charges a membership fee to participating providers on a sliding scale based upon services desired. One example of a clinical use case that has matured within the program, the Arizona Diabetes Virtual Center of Excellence (ADVICE), is a comprehensive program for diabetes prevention, assessment, and management. ADVICE offers a range of services, from training and education to tele-consultation with specialists.

The program also serves as an information clearinghouse and resource center for telemedicine in the state. A key responsibility is the oversight of grants applications. Participants in the Arizona Telemedicine Program, along with members of affiliated programs, have successfully competed for grants and contracts totaling over \$14 million.⁶² Of note, the program centralized the application process for rebates from the federal Universal Service Fund's Rural Health Care Program, which helps rural health care providers acquire telecommunications and Internet services. To date, Arizona providers have received over \$2,600,000 in rebates to support telemedicine.⁶³

Georgia

Georgia's statewide telemedicine program is overseen by the Georgia Partnership for Telehealth, a charitable nonprofit corporation funded through public and private sources.^{64, 65} It is based on the Open Access Network, a web of access points formed by leveraging existing telemedicine programs in the state and creating access points at additional locations. The project's goal is to allow all Georgians to have access to specialty consultations without having to travel more than 30 miles from their homes. The program includes centralized scheduling of specialist consultants using a website that tracks open appointment times for panel specialists across the state, so that consults can be requested and scheduled more efficiently. The program had over 25,000 patient encounters in 2010 and is expected to double in 2011. More than 175 specialists and health care providers currently participate, representing over 40 specialties. Georgia's prison system makes heavy use of the technology; officials say it saves the department over 30 percent in medical costs.⁶⁶

Telemedicine legislation in Georgia includes the Coverdell-Murphy Act of 2008, which required the state to establish a network of primary and "remote" stroke treatment centers, and O.C.G.A. § 33-24-56.4 (2011), which defines telemedicine and mandates reimbursement for telemedicine visits by private insurers.^{67, 68} O.C.G.A. § 33-24-56.4 states, "It is the intent of the General Assembly to mitigate geographic discrimination in the delivery of health care by recognizing the application of

⁶² Weinstein, Ronald S, July 2011. Arizona Telemedicine, *Telemedicine Economics*. Available at: http://www.telemedicine.arizona.edu/program/Telemed_newsltr_Smr041.pdf.

⁶³ Universal Service Administrative Company. Available at: <http://www.usac.org/rhc/>. For detailed information on eligible geographic areas in Maryland see: <http://usac.org/rhc/tools/rhcdB/Rural/2005/search.asp>.

⁶⁴ Georgia Partnership for Telehealth, July 2011. *Our Mission*. Available at: <http://www.gatelehealth.org/index.php/about/our-mission/>.

⁶⁵ Georgia Partnership for Telehealth, July 2011. *About GPT*. Available at: <http://www.gatelehealth.org/index.php/about/about-gpt/>.

⁶⁶ Georgia Partnership for Telehealth, July 2011. Available at: <http://www.gatelehealth.org/>.

⁶⁷ Georgia SB 549 (2008) amending O.C.G.A. § 31-11-110 (2011)

⁶⁸ O.C.G.A. § 33-24-56.4 (2011)

and payment for covered medical care provided by means of telemedicine.”⁶⁹ Providers are required to be fully licensed in the state of Georgia in order to participate in telemedicine.

Maine

Maine's telemedicine efforts are led by Maine Telemedicine Services (MTS), a not-for profit agency associated with the Regional Medical Center of Lubec. It partners with smaller networks throughout the state, such as the Eastern Maine Health Care Systems Telehealth Network and the MaineHealth eICU VitalNetwork, as well as state governmental entities such as the Departments of Health and Human Services and Corrections. The network includes over 300 facilities throughout the state.⁷⁰ It uses video conferencing for multiple purposes, including administrative, educational, social service and clinical telemedicine. In addition to live video conferencing, all video units within the network have the capability of running PowerPoint, VHS and DVD presentations to other sites.

MTS is spearheading a number of innovative projects to explore and expand the use of telemedicine. These include mental health and psychiatry efforts, expanding telemedicine access among correctional and youth correctional facilities in the state, judicial videoconferencing, telepharmacy, home telehealth care (especially mental health care for elders with depression and anxiety), island health care (connecting residents of remote islands along the coast to specialists), video relay (American Sign Language) interpreting services, health care education for doctors and nurses (such as Grand Rounds CME), state telemedicine infrastructure development, and helping other states plan telemedicine programs statewide.⁷¹ Working collaboratively, MTS, state government and other health care leaders are attempting to build an environment in Maine that is broadly conducive to telemedicine, including favorable reimbursement and regulations.

In January 2010, the state adopted Maine Revised Statute Title 24-A §4316 requiring private insurers to reimburse services provided via telemedicine. It specifies that an insurance payer must cover services that would be reimbursed if they were provided in person, and that patient cost-sharing for telemedicine services cannot be higher than it would be for the same service in person. Maine's Medicaid program, MaineCare, has covered telemedicine services since 2000, and telemedicine is well recognized in the current Maine State Health Plan. The Governor's Office and the Maine Health Access Foundation, an independent charitable corporation that has provided over \$40 million in grants and program support, have been critical partners to the MTS in the expansion of telemedicine across Maine.

New Mexico

New Mexico has been piloting telemedicine initiatives for nearly a decade.⁷² The University of New Mexico's Project Extension for Community Health care Outcomes (ECHO) program, which hosted the hepatitis C study described in the Literature Review section of this report, encourages collaboration between specialists and rural providers to enable patients to receive specialized health care from professionals in their own communities. The project enables videoconference

⁶⁹ Ibid.

⁷⁰ Maine Telemedicine Services, *About*, July 2009. Available at: <http://mainetelemedicine.org/index.php/about/>.

⁷¹ Maine Telemedicine Services, *Recent and Current Healthways/MTS Initiatives*, July 2011. Available at: <http://mainetelemedicine.org/index.php/new/current-mts-projects/>.

⁷² University of New Mexico School of Medicine Project ECHO *About Us*, July 2011. Available at: http://echo.unm.edu/about_us.shtml.

sessions for local primary care providers and specialists from the University of New Mexico. The rural providers can present their patients' cases and receive treatment advice from the specialists. According to Project ECHO, "for providers, co-management of the often lengthy and involved treatments brings added depth and technical competencies and reduces professional isolation. With continued involvement providers become highly skilled in the treatment of these chronic and complex diseases, thus creating a center of excellence in their community."⁷³

The New Mexico Telehealth Act,⁷⁴ encourages health care providers to utilize telemedicine services to better serve rural areas. However, there is no current mandate to provide coverage or reimbursement for these services. "The delivery of health care via telehealth is recognized and encouraged as a safe, practical and necessary practice in New Mexico. No health care provider or operator of an originating site shall be disciplined for or discouraged from participating in telehealth pursuant to the New Mexico Telehealth Act."⁷⁵ Members of the state's legislature are currently seeking to pass a new law mandating that private insurers reimburse for telemedicine in the state; currently Medicaid covers some telemedicine services. New Mexico Medicaid policy requires that an eligible provider be with the patient at the originating site during a telemedicine-enabled session. Services rendered by the originating-site provider are covered to the same extent as when the service is provided through a traditional, face-to-face meeting. Physicians who are licensed with the New Mexico Medical Board do not require additional special licensing to provide telemedicine services within the state.

A special telemedicine license is available to out-of-state physicians who wish to treat customers in New Mexico via telemedicine. When the originating site is in New Mexico and the distant site is outside New Mexico, the provider at the distant-site must be licensed for telemedicine to the extent required by New Mexico state law and regulation. In situations where the patient is receiving care on a Native American reservation, the distant-site provider must meet federal requirements for providing services to Indian health service facilities or tribal contract facilities.

Virginia

Telemedicine efforts in Virginia are led by the Virginia Telehealth Network (VTN) and the University of Virginia's Office of Telemedicine. UVA's Office of Telemedicine has facilitated visits with thousands of patients and providers in 32 different specialties since 1993.⁷⁶ It also provides distance learning for health care professionals. Recently, VTN has adopted a broader view of telemedicine in the larger context of e-health, including the transfer of images, ability to share electronic health records, provide consultations, information on disaster readiness, clinical research, providing for health education applications, and integrating electronic health records (EHRs) and telemedicine within its purview. The University of Virginia recently received a grant from the U.S. Health Resources and Services Administration to serve as a Mid-Atlantic Telehealth Resource Center covering the District of Columbia and six states: Virginia, Delaware, Kentucky, Maryland, North Carolina and West Virginia.

⁷³ University of New Mexico School of Medicine Project ECHO July 2011. *Working to Bring Specialty Healthcare to All People*, Available at: <http://echo.unm.edu/>.

⁷⁴ New Mexico Code § 24-25 (2009)

⁷⁵ New Mexico Code § 24-25-4 (2009)

⁷⁶ University of Virginia Office of Telemedicine, *Patients*, July 2011. Available at: <http://www.healthsystem.virginia.edu/pub/office-of-telemedicine/office-of-telemedicine/patients.html>.

These two organizations have partnered to form the Rural Health Care Pilot Project; in April 2011 they released a Request for Proposal for the Virginia Acute Stroke Telehealth (VAST) network. The vision for VAST is to design and implement a robust, secure, and sustainable telemedicine network that has sufficient scalable, high capacity-links communicating from the hubs to the cloud. The goal is to support health care applications of the end-to-end networks to allow for seamless and dynamic routing of data. Leaders intend for the VAST pilot program to produce a viable stroke model that can be implemented statewide.⁷⁷

Virginia Medicaid has reimbursed for some telemedicine services since 1995; a 2010 law requires all health insurers, health care subscription plans, and HMOs to offer coverage for telemedicine services.⁷⁸ Payers may not discriminate with regards to reimbursement levels, premium payments, etc. on the basis that a service is being provided via telemedicine. According to the law, reimbursable services include the use of interactive audio, video, or other electronic media for the purpose of diagnosis, consultation, or treatment.⁷⁹ Providers are required to be fully licensed in the Commonwealth of Virginia in order to participate in telemedicine. Virginia is in the process of selecting an organization to implement its statewide health information exchange (HIE), and it is requiring the incumbent to offer plans for synergy with the state's telemedicine initiatives. In order to comply with Virginia's telemedicine law, CareFirst BlueCross BlueShield, Maryland's largest commercial insurer has revised its medical policies on telemedicine across its mid-Atlantic coverage area, including Maryland.

While many states are implementing telemedicine programs and related legislation, the approaches have varied and are often homegrown in response to local needs. Still, principles for best practices and effective strategies are emerging. Most current state laws that require reimbursement for telemedicine are similar to Virginia's — they cover medical services provided synchronously via multimedia such as live video conferencing. Asynchronous or "store-and-forward" applications of technology—where, for instance, a video of a patient might be recorded and sent to a psychiatrist at a remote location for review later — are not reimbursable under current state laws. Commonly available technologies, such as e-mail and Skype are generally not accepted as media for reimbursable telemedicine services. Broadly, this approach is consistent with Medicare's policies for reimbursement, although Medicare fee-for-service requirements include geographic and service limitations (Medicare's approach is described later in this report). An important principle that most of the state laws have in common is that insurers may not create barriers to care or reimbursement solely because the care is being provided via telemedicine.

⁷⁷ Virginia Telehealth Network, *Virginia Acute Stroke Telehealth (VAST) Network*, July 2011. Available at: <http://ehealthvirginia.org/strokenetwork2.html>.

⁷⁸ § 38.2-3418.16 Code of Virginia. *Coverage for Telemedicine Services*. Available at: <http://lis.virginia.gov/cgi-bin/legp604.exe?101+ful+CHAP0222>.

⁷⁹ Ibid.

Appendix C: Environmental Scan of Telemedicine Initiatives in Maryland⁸⁰

Count	Project	Lead partner / Other partners	Date	Funding	Services	Technology	Barriers
1	Western Maryland Regional Medical Center	Western Maryland Regional Medical Center with Washington Hospital Center ; UM Cancer Center; Sheppard Pratt	Jan 2000	Absorbed Cost: \$18,000	Cardiology, Mental Health, EMS, Radiology	Desktop, interactive video	Reimbursement, inoperability, provider licensing
2	TeleBehavioral Services	Sheppard Pratt Health System with Worcester and Wicomico County Health Departments; Atlantic General Health Center	January 2005 - Present	Local funding. Some federal funding in the past through HRSA, USDA	Mental health diagnostics, medication management	Interactive video	Accessibility of broadband vendor in rural locations; provider licensing; staffing
3	Radiology Integrated Web Based PACS	Western Maryland Health System with Frostburg Medical Center	2005 - 2010 (Project complete)	Private nonprofit funding with some patient payers Annual: \$500,000	EMS, General Medicine, Radiology; Diagnostics and Imaging	Web based software	Funding
4	MAPSS Perinatal Telemedicine Project	University of Maryland School of Medicine/DHMH MCH with MAPSS/ St. Mary's Hospital, local health departments	2005 - Present	State (DHMH) grants. No third-party payer.	Provides patient management in OB/GYN and perinatal genetic counseling	Interactive video	Reimbursement of Medicaid; network security and time delays; expansion plans to other rural areas; provider licensing

⁸⁰ In 2010 the Maryland Rural Health Association was sub-contracted to inventory telemedicine projects in Maryland via an environmental scan (scan). The scan targeted 95 facilities including all Maryland acute care hospitals, Federally Qualified Health Centers, individual departments within the University of Maryland Medical System, the Johns Hopkins Health System and MedStar Health, as well as local health departments, state correctional institutions, and projects within the Maryland Department of Health and Mental Hygiene. Of this group, 30 facilities representing 53 different clinical sites responded. In addition, 12 of the 95 facilities reported having no involvement in telemedicine of any kind. In August 2011, the MHCC surveyed hospitals and included the results within the table. More information about the Maryland Rural Health Association and the scan is available online at: http://mdruralhealth.org/maryland_telehealth_survey.html.

Count	Project	Lead partner / Other partners	Date	Funding	Services	Technology	Barriers
5	Maryland Tele-psychiatry Network Includes sites of Pathways, Inc in SMC; Garrett LHD; Dorchester County Wellness Center; Maple Shade Youth and Family Services; Kent County's A. F. Whitsitt Center; Caroline Mental Health Clinic	Midshore Mental Health Systems With University of Maryland School of Medicine Department of Psychiatry; DHMH Mental Hygiene Admin.; Garrett County CSA; St. Mary's County (SMC) Dept. of Human Services	May 2008 Started delivering services Dec 2008 - Present	Federal (73%) and State (27%) grants Annual Funding: \$180,000 New COMAR 10.21.30 will reimburse Medicaid once CMS approves for some eligible sites	Provides mental health diagnostic and patient management	Interactive video	Firewalls to local health depts.; redundancy; reimbursement is partially getting solved but billing process (rates and codes) needs to get CMS approval for Medicaid federal match
6	Remote Access in Otolaryngology	Johns Hopkins Medicine with Johns Hopkins International	Sep 2008 - Sep 2009 (Project complete)	Private, non-profit funding; no third-party payer	Otolaryngology imaging, patient management, diagnostic services	Desktop software and robotics	Reimbursement and resources for remote access in receiving services
7	Verizon Emergency Department Robot Project	Johns Hopkins Medicine With Howard County General Hospital	Jan - Dec 2009 (Project complete)	Verizon Foundation Grant (Private) Project: \$125,000	Neurology and linguistic translation	Interactive video and robotics	Firewalls, interoperability, and reimbursement
8	Good Samaritan Hospital's National Burn Reconstruction	Good Samaritan Hospital/National Burn Reconstruction Center; U.S. Army Institute of Surgical Research Burn Center (San Antonio, TX)	2009 (Project complete)	Verizon Foundation Grant (Private) and Northrop Grumman Electrical Systems Project: 25K start up	Videoconferencing allowed plastic surgeon to visit with burn surgeons with and without patient interaction.	Desktop software and interactive video	Securing private connections
9	Maryland eCare	Maryland e-care (Hub at Christiania Hospital in Wilmington, DE) Atlantic General, Calvert Memorial, Union, St. Mary's hospitals; Civista Medical Center; Washington County Health System	Jun 2009 - Present	Partial grant from Maryland CareFirst; individual hospitals; no third party payer	Clinical critical care patient management and monitoring for Intensive Care Unit patients. Diagnostics, imaging, monitoring	Desktop software, interactive video, and web-based software	N/A

Count	Project	Lead partner / Other partners	Date	Funding	Services	Technology	Barriers
10	Pediatric Diagnostic Telemedicine Program	St. Mary's Hospital with Children's National Medical Center in Washington, D.C.	Jul 2009 - Present	Blended funding Annual Cost: \$20,000 Some reimbursement	Pediatric cardiology and neurology services via diagnostic and imaging	Desktop and web-based software	Time delays, Funding
11	Maryland Telehome Care Network	University of Maryland School of Medicine; Garrett Co. Health Department; Chesapeake-Potomac Home Health Agency (delivery sites) Eastern Shore AHEC; Western Maryland AHEC (implementation partners)	Oct 2009 - Present	Initial Pilot supported by Cigarette Restitution Fund Other Tobacco Related Diseases in partnership with Garrett County Health Department Home Health Agency Federal grants (1M)(NIH/ARRA funds)	Chronic disease management plans would like to expand the network to other rural areas of the state.	Interactive video, handheld wireless monitoring devices	Last Mile; Reimbursement of Private Payers; State Leadership
12	Bridge to Hope	Mid Shore Mental Health Systems in partnership with Allegany County Health Department	Dec 2009 - Present	\$40,000 state Maryland Community Health Resources Commission	Mental Health and Addictions Treatment	Interactive video	Interoperability of Equipment and firewalls of Health Dept.
13	Pediatric Critical Care	Johns Hopkins Medicine with Howard County Hospital	2009 - Present	Private (\$5,000 Annually)	Pediatric Emergency Medicine	Patient Management with video and web based software	Reimbursement and physician utilization, last mile
14	Telehomecare for Community Dwelling African Americans	Johns Hopkins School of Nursing with Johns Hopkins Congestive Heart Failure Clinic	Apr 2010 - Present	Federal NIH grant. No reimbursement; Annual cost: \$100,000	Cardiology and chronic disease management; diagnostic, imaging, patient management	Intel HealthGuide Tele-monitoring/ Tele-homecare Device	Financial planning; Tele-connectivity, low computer literacy amongst some patients
15	University of Maryland Greenebaum Cancer Center (UMGCC) Telemedicine Program	University of Maryland Medical System Greenebaum Cancer Center	Apr 2010	Grants. Professional fees, where applicable. No reimbursement; Annual Cost: \$200,000	Cardiology, Emergency, mental health, neurology, OB/GYN, Genetic Counseling, Critical Care monitoring	Desktop, wireless, interactive video, robotics, web-based	Security, time delay

Count	Project	Lead partner / Other partners	Date	Funding	Services	Technology	Barriers
16	Assistive Technology Research Center at NRH	National Rehabilitation Hospital (Washington, D.C.) provides services in the DC/Baltimore region (Medstar)	Fall 2010	Federal grant (100%) No Reimbursement Annual: \$150,000	Mental health, therapy-speech language pathology; patient monitoring	Desktop software	Financial, staff, technology, reimbursement
17	Dermatlas-consult.org	Johns Hopkins Division of Pediatric Dermatology	Current	Looking for funding pending negotiations with some third party payers	Dermatology consults	Consultation to Primary Care Providers with web-based software	Physician utilization; reimbursement of Medicaid and private payers
18	Maryland Telestroke	University of Maryland Medical System and Johns Hopkins Medicine	2011	Private, nonprofit funding; party payer	Neurology diagnostic, imaging, and patient monitoring	Web-based, handheld wireless monitoring devices, video	Licensing of providers and ongoing funding
19	Internal Telemedicine Initiative	Holy Cross Hospital	Current	Internally funded	Diagnostic (including radiology and dermatology) emergency (including stroke), imaging (planned), patient remote monitoring (planned)	Desktop software, interactive video, web-based software	None provided
20	Internal Tele-Psych Initiative	Doctors Community Hospital	Current	Internally funded	Psychiatry	Interactive video, web-based software	None provided
21	Internal Telehealth Initiative	Carroll Hospital Center	Current	Internally funded	Patient home/ remote monitoring, stroke	Handheld wireless monitoring devices	None provided
22	ICU management of critically ill patients in an urban underserved hospital	Bon Secours Hospital of Baltimore and R Adams Cowley Shock Trauma Center	2004 - Present	Federal start up grant	Remote management of critically ill patients when staff is off site	Semi-autonomous, remote controlled mobile device with interactive video	Payment for physician services

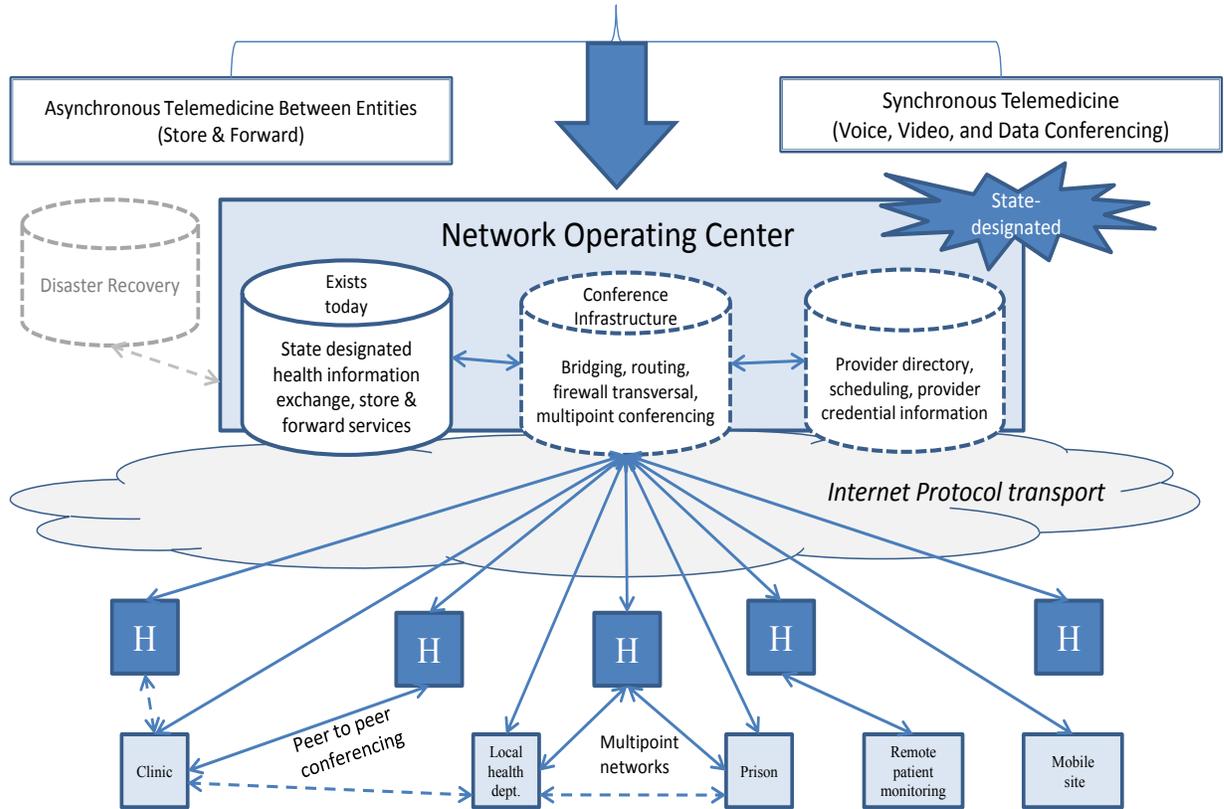
Appendix D: Clinical Scenarios from the Clinical Advisory Group⁸¹

1. Mary M. is a 28 year-old working mother from the Eastern Shore who experienced increasing difficulty caring for her newborn baby while suffering from extreme feelings of inadequacy and guilt. She became increasingly depressed and sought care from her primary care physician. Psychiatrists are relatively scarce in Mary's area. Through a telemedicine consultation set up by her physician in his office, Mary was diagnosed by a psychiatrist in Baltimore with post-partum depression and prescribed an antidepressant and scheduled for continued counseling through the local mental health center. As she steadily improved, the psychiatrist continued to monitor Mary and her care through periodic telemedicine consultations. Mary did not have to travel the long distance required to receive the care of the psychiatrist, and she was able to continue to care for child and continue working.
2. John P. is a 57 year-old diabetic with hypertension who experienced the onset of right-sided weakness and difficulty speaking. His symptoms resolved, and then returned several times over the next two hours, so he called 911 and he was transported to a community hospital that was 10 minutes from his suburban home. At the hospital, he was quickly assessed by the triage nurse and taken for a CT scan. The emergency physician made a diagnosis of acute stroke, and had several questions about the CT scan results and the best management of John's condition given the several hours of delay before diagnosis. Because time was of the essence and there was no neurologist available at the hospital, via a telemedicine link, a neurologist at one of the academic centers in Maryland reviewed the CT scan, observed and interviewed the patient, and discussed the case with the emergency physician. It was then decided to treat John P. with fibrinolytics. John P. experienced an excellent neurologic recovery and has received follow-up care that has reduced the threat of another stroke.
3. Sarah G. is a 45 year-old Baltimore City resident with a number of medical problems, including hypertension and diabetes. She has been admitted to the hospital and was seen in the emergency department multiple times a year in the past to control both her diabetes and hypertension. After her most recent admission, she was enrolled in a new program that provided her with additional patient education and a home health nurse who made regular visits initially. Once her condition was stabilized, home health personnel continued to monitor Sarah through a telemedicine link to her home. They were able to monitor her blood pressure and blood sugars three times a week and reduce the number of follow-up visits as her condition continued to improve. Sarah has continued to see her primary care physician, has not required any further hospital admissions or emergency department visits in the past 18 months, and is feeling much better.

⁸¹ The Clinical Advisory Group developed a set of clinical scenarios which are intended to illustrate the impact telemedicine can have on ordinary citizens.

Appendix E: Statewide Telemedicine Network Architecture

Maryland Statewide Telemedicine Network: Conceptual Architecture



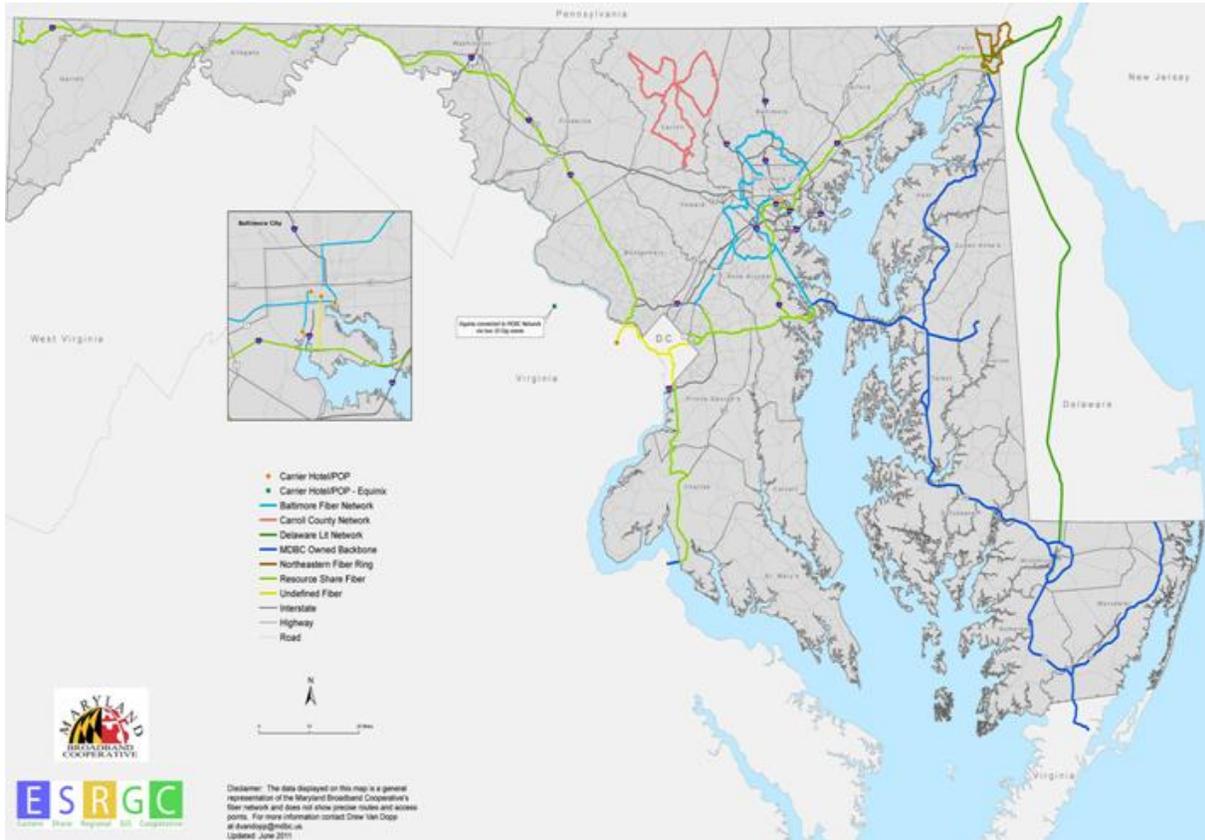
Appendix F: Core Technology Standards

The American Telemedicine Association has published core technology standards which may be used as a guide by organizations selecting and implementing telemedicine technology:

1. Organizations shall ensure that equipment sufficient to support diagnostic needs is available and functioning properly at the time of clinical encounters.
2. Organizations shall have strategies in place to address the environmental elements of care necessary for the safe use of telehealth equipment.
3. Organizations shall comply with all relevant safety laws, regulations, and codes for technology and technical safety.
4. Organizations shall have infection control policies and procedures in place for the use of telehealth equipment and patient peripherals that comply with organizational, legal, and regulatory requirements.
5. Organizations providing telehealth services shall have policies and procedures in place to comply with local legislated and regulatory rules for protection of patient health information and to ensure the physical security of telehealth equipment and the electronic security of data.
6. Organizations shall have appropriate redundant systems in place that ensure availability of the network for critical connectivity.
7. Organizations shall have appropriate redundant clinical video and exam equipment for critical clinical encounters and clinical functions.
8. Organizations shall meet required published technical standards for safety and efficacy for devices that interact with patients or are integral to the diagnostic capabilities of the practitioner when and where applicable.
9. Organizations providing telehealth services shall have processes in place to ensure the safety and effectiveness of equipment through on-going maintenance.⁸²

⁸² American Telemedicine Association, September 2007. *Core Standards for Telemedicine Operations*. Available at: http://www.americantelemed.org/files/public/standards/CoreStandards_withCOVER.pdf.

Appendix G: Maryland Broadband Cooperative Network 2011⁸³



⁸³ Maryland Broadband Map. Available at: <http://www.mdbroadbandmap.org/Map.aspx>.

Appendix H: Glossary

Telemedicine:

As currently defined in COMAR 10.32.05: the practice of medicine from a distance, in which intervention and treatment decision and recommendations are based on clinical data, documents, and information transmitted through telecommunications systems.

Telehealth:

Often used as a synonym for telemedicine, and also includes non-clinical practices such as continuing medical education and nursing call centers (American Telemedicine Association). The use of telecommunication techniques for the purpose of providing telemedicine, medical education, and health education over a distance.

Telecare:

Telecare is a term given to offering remote care of elderly and vulnerable people, providing the care and reassurance needed to allow them to remain living in their own homes. Continuous, automatic and remote monitoring to manage the risks associated with independent living (American Telemedicine Association).

Telelearning:

A telelearning system facilitates the provision of education and training services to health care professionals or patients. It is typically a room-based videoconferencing system with some additional attachments, such as a scanner, VCR, a document camera or a computer (American Telemedicine Association).

Telementoring:

The use of audio, video, and other telecommunications and electronic information processing technologies to provide individual guidance or direction. An example of this help may involve a consultant aiding a distant clinician in a new medical procedure (American Telemedicine Association).

Telemonitoring:

The process of using audio, video, and other telecommunications and electronic information processing technologies to monitor the health status of a patient from a distance (American Telemedicine Association).

Telepresence:

The method of using robotic and other instruments that permit a clinician to perform a procedure at a remote location by manipulating devices and receiving feedback or sensory information that contributes to a sense of being present at the remote site and allows a satisfactory degree of technical achievement. For example, this term could be applied to a surgeon using lasers or dental hand pieces and receiving pressure similar to that created by touching a patient, so that it seems as though the patient is actually present, permitting a satisfactory degree of dexterity (American Telemedicine Association).

