

The Emergence Of Specialty Medical Homes In The U.S. Health Care System: Initial Financial Performance Data And The Financial Implications For Provider Organizations

James Jay Mackie, Ph.D., Shippensburg University, USA
Monica E. Oss, OPEN MINDS, Gettysburg, USA

ABSTRACT

The U.S. health care system is in the midst of significant change in both service delivery model and financing. Rising costs are driving payers – public and private alike – to rethink the current financing and care management strategies. One significant shift in policy is around the structure of care coordination for insured individuals – particularly individuals with complex health service and social support needs. These individuals, while small in number, are responsible for a large proportion of health care spending.

Traditionally, the care of individuals with complex conditions has been left to a wide range of medical specialists – and rarely been coordinated across all specialties. But in the past four years, health payers have moved toward ‘integrating’ care coordination with a health care team responsible for all services regardless of specialty. This integrated care coordination model – referred to as a medical home – has been rapidly adopted by many payers. And, a specialized version of the medical home model – referred to as a health home or specialty medical home – has been developed for consumers with complex needs. The model has changed both the relationship of the insured individual to the payer and to their medical specialists.

It is early in the adoption of specialty medical homes and two key financial questions are yet unanswered. The first, do specialty medical homes reduce health care spending for complex consumers. The second, what are the financial implications of a specialty medical home model for health care provider organizations. This research examines the available research literature and other published data for preliminary answers to these questions of financial impact of this emerging health care system model.

Keywords: Complex Service Needs; Medical Home; Mental Health; Health Care

 *he U.S. health care system is in the midst of significant change in both service delivery model and financing. Rising costs are driving payers – public and private alike – to rethink the current financing and care management strategies.*

For 2013, the total projected health consumption expenditure totaled \$2.7 trillion, up 3.9% from the \$2.6 trillion spent in 2012. The 2013 net cost of private health insurance premiums totaled \$174.5 billion, up 6.2% over the \$164.3 billion spent in 2012. Government administration costs were \$35.1 billion, up 4.3% over the \$33.6 billion spent in 2012. Government public health activities totaled \$77.2 billion up 2.9% from \$75.0 billion spent in 2012.

Health care spending is projected to be 19.3 percent of the U.S. Gross Domestic Product (GDP) by 2023, up from 17.2 percent in 2012.¹

The policy concerns about U.S. health care spending include concerns about the proportion of domestic spending going to health care costs and the relative amount of U.S. health care spending compared to other countries. With regard to the government spending, in fiscal year 2013, the federal government spent \$3.5 trillion, amounting to 21 percent of the GDP. Of that \$3.5 trillion, nearly \$2.8 trillion was financed by federal revenues. The remaining amount (\$680 billion) was financed by borrowing.² Of this, three health insurance programs — Medicare, Medicaid, and the Children’s Health Insurance Program (CHIP) — together accounted for 22 percent of the budget in 2013, or \$772 billion. Nearly two-thirds of this amount, or \$498 billion, went to Medicare, which provides health coverage to around 54 million people who are over the age of 65 or have disabilities. The remainder of this category funds Medicaid and CHIP, which in a typical month provide health care or long-term care to about 70 million low-income children, parents, elderly people, and people with disabilities. Both Medicaid and CHIP require matching payments from the states.

The Congressional Budget Office (CBO) predicts that the proportion of health care spending devoted to these programs will continue to rise.³ The CBO projections, based on an assumption that current law remains in place, are that spending for those programs (that is, spending net of offsetting receipts for Medicare) would grow from an estimated 4.6 percent of GDP in fiscal year 2013 to 8.0 percent in 2038; in that year, 4.9 percent of GDP would be devoted to net spending on Medicare and 3.2 percent would be spent on Medicaid, CHIP, and the exchange subsidies. Beyond 2038, CBO projects, federal health care spending would continue to climb relative to GDP but at a slower rate than has been sustained historically.

This spending has both domestic tax implications but also implications for global competitiveness. The United States spends more on health care, both per capita and as a share of gross domestic product (GDP), than any other country in the world.⁴ In 2009, U.S. spending on health care reached a record high \$2.5 trillion, or 17.6% percent of U.S. GDP. However, when U.S. spending is compared to other developed countries, the \$2.5 trillion was \$572 billion higher than expected based on the other countries’ per capita spending and percentage of GDP. In 2006, U.S. per capita health care spending was more than \$7,000, about 22% higher than the \$6,000 per capita in the comparable OECD countries.

Concerns about this comparative and future expense have caused both policymakers and payers to reexamine assumptions about how health care services are financed and delivered. Traditionally, the U.S. health care system has relied largely on fee-for-service (FFS) financing that pays health care provider organizations based on the volume of services delivered.⁵ For example, in 2008, FFS plans comprised 78 percent of all employer-sponsored insurance plans in the United States.⁶ In addition, planning and coordination of services has been by disease state and medical specialty. FFS payment contributes to fragmentation of the health care delivery system. When providers are paid on the basis of service volume rather than on the basis of taking responsibility for an episode of patient care, there is little incentive to coordinate with other providers to deliver care efficiently. Lack of

¹ Sisko, A., Keehan, S.P., Cuckler, G, Madison, A.J., Smith, S.D., Wolfe, C.J., Stone, D.A., Lizonitz, J.M., and Poisal, J.A. (2014, September). *National Health Expenditure Projections 2013-2023, Forecast Summary*, *Health Affairs*, Retrieved from <http://content.healthaffairs.org/content/early/2014/08/27/hlthaff.2014.0560>.

² Center on Budget & Policy Priorities (March, 2014). *Policy Basics: Where Do Our Federal Tax Dollars Go?* Accessed on November 15, 2014 at <http://www.cbpp.org/cms/?fa=view&id=1258>.

³ Congressional Budget Office (September 18, 2013). *Federal Spending on the Government’s Major Health Care Programs Is Projected to Rise Substantially Relative to GDP*. Accessed on November 15, 2014 at <http://www.cbo.gov/publication/44582>.

⁴ Bradford, J.W., Knott, D.G., Levine, E.H., and Zemmel, R.W. (December, 2013). Accounting for the Cost of U.S. Health Care, McKinsey Center for U.S. Health System Reform. Accessed on November 15, 2014 at http://healthreform.mckinsey.com/Home/Insights/Latest_thinking/Accounting_for_the_cost_of_US_health_care.aspx.

⁵ Bipartisan Policy Center (September 2012). *What is Driving U.S. Health Care Spending?* Accessed on November 14, 2014 at <http://bipartisanpolicy.org/sites/default/files/BPC%20Health%20Care%20Cost%20Drivers%20Brief%20Sept%202012.pdf>.

⁶ U.S. Bureau of Labor Statistics (October 2010). *Features and associated costs of fee-for-service medical plans. Program Perspectives*. Volume 2, Issue 5.

care coordination often leads to overtreatment and is estimated to cost the United States between \$158 and \$226 billion annually.⁷

In addition to the issues of FFS payment, service fragmentation, and lack of care coordination, another significant factor in U.S. health care spending is that proportion of spending on chronic health care conditions is rising and that these costs are not evenly distributed among the insured population in the United States. More than 75% of U.S. health care spending is for people with chronic health conditions.⁸ Two-thirds of total health care spending is accounted for by care for the 25% of Americans with multiple chronic conditions. The average individual with multiple chronic conditions has 36 physician visits each year and fills prescriptions for more than 50 different medications.^{9 10 11 12}

In 2012, 117 million Americans, or about half (49.8%) of all adults, had one or more chronic condition and one of four adults had two or more chronic conditions.¹³ And, in the same year, about 5% of individuals with four or more chronic conditions accounted for 29.7% of the total health care expenditures among U.S. civilian non-institutionalized population. Mean annual costs among the 5% of high-cost individuals with four or more chronic conditions were \$78,198 per person.¹⁴

This pattern of spending is true across all payer types. About one-third of Medicaid beneficiaries have three or more chronic diseases and are responsible for about two-thirds of program costs.¹⁵ And, in Medicare, beneficiaries with five or more chronic diseases account for 66% of program expenses.¹⁶ These individuals with multiple chronic conditions have complex health service and social support needs – and their high cost is reflective of their needs. These are people who often have complex or significant service needs. In fact, these individuals with complex needs make up only 5 percent of the population but use almost 50 percent of total health care spending.¹⁷ In the U.S. health system, the most expensive of these chronic conditions include heart disease, cancer, trauma, mental disorders, pulmonary conditions, mood disorders, diabetes, asthma, and hypertension.¹⁸

When comorbid chronic physical and behavioral disorders are present, the health care resources needed to address both issues increases. For example, a recent analysis found that annual Medicaid costs for an individual with

⁷ Berwick, D., and A. Hackbart. "Eliminating Waste in U.S. Health Care." *Journal of the American Medical Association*. 2012;307(14).

⁸ Anderson G. Chronic conditions: making the case for ongoing care. Baltimore, MD: John Hopkins University; 2004.

⁹ Minott, J. (2008, November). *Reducing Hospital Readmissions*. Retrieved from Academy Health: <http://www.academyhealth.org/files/publications/ReducingHospitalReadmissions.pdf>

¹⁰ Chronic Conditions: Making the Case for Ongoing Care. (2004, September). Retrieved from Partnership for Solutions: <http://www.partnershipforsolutions.org/DMS/files/chronicbook2004.pdf>

¹¹ Anderson, Ph.D., F. G., & Wilson, K. B. (2006). *Chronic Disease in California: Facts and Figures*. Retrieved from California Healthcare Foundation: <http://www.chcf.org/publications/2006/10/chronic-disease-in-california-facts-and-figures>

¹² Benjamin, M. M. (2010, Sep-Oct). *Multiple Chronic Conditions: A Public Health Challenge*. Retrieved from U.S. National Library of Medicine National Institutes of Health: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2924996/>

¹³ Ward B.W., Schiller J.S., Goodman R.A. Multiple chronic conditions among US adults: a 2012 update. *Prev Chronic Dis*. 2014;11:130389. Retrive from Centers for Disease Control and Prevention: <http://dx.doi.org/10.5888/pcd11.130389>.

¹⁴ Cohen, Steven B. (September, 2014). *Differentials in the Concentration of Health Expenditures across Population Subgroups in the U.S., 2012*. Agency for Healthcare Research and Quality. Accessed on November 14, 2014 at <http://www.openminds.com/wp-content/uploads/indres/092314mepssb450hlthspenddif.pdf>.

¹⁵ Kronick, R.G., Gilmer, T.P., Bellan, M., and Somers, S.A. (October, 2007). *The Faces of Medicaid II: Recognizing the Care Needs of People With Multiple Chronic Conditions*. Center for Health Care Strategies. Accessed on November 14, 2014 at <http://www.openminds.com/wp-content/uploads/indres/102207chcsmedicaidcc.pdf>.

¹⁶ Gruber, Neil (November, 2005). *Disease Management in the 21st Century*. Accessed on November 14, 2014 at <http://onlinelibrary.wiley.com/doi/10.1002/9780470041000.cedt103/abstract>.

¹⁷ Conwell, L. &. (2005, March). *Characteristics of Persons with High Medical Expenditures in the U.S. Civilian Noninstitutionalized Population, 2002*. Retrieved from Medical Expenditure Panel Survey, Agency For Healthcare Research and Quality: http://meps.ahrq.gov/mepsweb/data_files/publications/st73/stat73.pdf

¹⁸ Stanton, M. M. (2006, June). *The High Concentration of U.S. Health Care Expenditures: Research in Action, Issue 19*. Retrieved from Agency for Healthcare Research and Quality: <http://www.ahrq.gov/research/findings/factsheets/costs/expriach/index.html>

diabetes are just under \$10,000. However, when the diabetes is coupled with another chronic physical condition or severe mental illness, the annual costs are almost double.¹⁹

The challenges around better management of care for individuals with chronic conditions and complex needs will increase with the aging of the population. In the United States, about 67 percent of adults over the age of 64 have two or more chronic conditions.²⁰

THE EMERGENCE OF SPECIALTY MEDICAL HOMES TO OPTIMIZE HEALTH CARE UTILIZATION OF INSURED INDIVIDUALS WITH COMPLEX NEEDS

To address the need of individuals for coordinated access to health care services and related supports for health care conditions, the concept of the medical home has emerged over the past four decades. In the beginning, this concept was used to describe a single source of medical information for a patient, but over time grew to include a partnership approach with families to provide primary care that is accessible, family-centered, coordinated, comprehensive, continuous, and culturally sensitive.²¹

The term ‘medical home’ was first introduced in 1967 by the American Academy of Pediatrics (AAP).²² Then during the 1990’s as the concept of the medical home evolved, the Institute of Medicine (IOM) began embracing the precepts about primary care and specifically mentioned medical homes in reports which later influenced family medicine.²³ Over time, the medical home model has come to signify a care model in which the patient has a designated primary care provider who leads a care team responsible for coordinating the patient’s overall ongoing health care needs.²⁴ This medical home construct is defined by a set of core features including a personal physician; a ‘whole person’ orientation; care delivery coordination and integration; quality and safety measures; enhanced access; and payment reform.²⁵

The overarching policy concerns about the expense of uncoordinated care, the rise in the cost of chronic conditions and the Patient Protection and Affordable Care Act (PPACA) have caused expansion of the use of medical home construct by all types of payers.²⁶ The PPACA includes numerous provisions for enhancing primary care and medical homes, such as primary care payment increases through Medicare and Medicaid, expansion of insurance coverage, and significant investments in medical home pilots. And, in 2011, as a result of ACA, CMS launched the Pioneer Accountable Care Organization (ACO) Model and Advance Payment ACO Model, which offers shared savings and other payment incentives for selected organizations that provide efficient, coordinated, patient-centered care. Since then, 43 states have adopted policies and programs to advance the medical home.²⁷ As

¹⁹ Boyd, C., Leff, B., Weiss, C., Wolff, J., Hamblin, A., & Martin, L. (2010, December). *Faces of Medicaid: Clarifying Multimorbidity Patterns to Improve Targeting and Delivery of Clinical Services for Medicaid Populations*. Retrieved from CHCS: Center for Health Care Services, Inc.: http://www.chcs.org/publications3960/publications_show.htm?doc_id=1261201

²⁰ Ameringer, C. F. (2012). *Chronic Diseases and the High Price of U.S. Healthcare*. Retrieved from The Honor Society of Phi Kappa Phi: <http://www.phikappaphi.org/docs/default-source/online-extras-spring-2012/chronic-diseases-article.pdf>

²¹ Robert Graham Center, Policy Studies In Family Medicine and Primary Care. (2007, November). *The Patient Centered Medical Home: History, Seven Core Features, Evidence and Transformational Change*. Retrieved from American Optometric Association: <http://www.aoa.org/documents/advocacy/Patient-Centered-Medical-Home-History.pdf>

²² Sia, C. T. (2004). *History of the Medical Home Concept*. Retrieved from Pediatrics: http://pediatrics.aappublications.org/content/113/Supplement_4/1473.long

²³ Institute of Medicine. (1996). *Primary Care: America's Health in a New Era*. Retrieved from National Academies Press: http://nap.edu/catalog.php?record_id=5125

²⁴ American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, & American Osteopathic Association. (2007, February). *Joint Principles of the Patient-Centered Medical Home*. Retrieved from Patient-Centered Primary Care Collaborative: http://www.aafp.org/dam/AAFP/documents/practice_management/pcmh/initiatives/PCMHJoint.pdf

²⁵ American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, & American Osteopathic Association. (2007, February). *Joint Principles of the Patient-Centered Medical Home*. Retrieved from Patient-Centered Primary Care Collaborative: http://www.aafp.org/dam/AAFP/documents/practice_management/pcmh/initiatives/PCMHJoint.pdf

²⁶ Patient-Centered Primary Care Collaborative. *Major Milestones For Primary Care & The Medical Home*. Accessed on November 14, 2014 at <http://www.pcpcc.org/content/history-0>.

²⁷ National Academy For State Health Policy. *Medical Home & Patient-Centered Care*. Accessed on November 14, 2014 at <http://www.nashp.org/med-home-map>.

of November 2014, there were over 8,000 medical homes that have received certification by the National Commission on Quality Assurance (NCQA).²⁸

While the medical home has been applied by many payers to the broader insured populations, concerns have arisen about applying the construct to individuals with complex needs. This is a group of individuals with multiple complex chronic conditions (mental illness, autism, diabetes, obesity, high blood pressure, addiction, etc.) that present challenges in navigating and coordinating interactions with multiple professionals – primary care professionals, specialists, therapists, and laboratories. To address the specific needs of these individuals, the construct of the specialty medical home has arisen (also referred to as a ‘health home’ or ‘behaviorally focused medical home’).

These specialty medical homes provide “whole person” care with a model that meets the specific needs of individuals with complex support needs. The model typically includes an interdisciplinary clinician-led team approach to delivering and coordinating care which puts individuals, their families, and caregivers at the center of all decisions concerning the individual’s health and wellness. This interdisciplinary care team manages all aspects of care including scheduling specialty appointments; sharing information from one provider to another; assessing and providing assistance with activities of daily living in the community; and assuring the delivery of or access to ongoing medication treatment. The model assures people with significant service needs have access to physical and behavioral health professionals, as well as the supportive community and social services needed to receive the right care in the right setting at the right time.

Like standard medical homes, specialty medical homes coordinate individual care – from wellness and prevention to management of acute episodes of service and recovery. However, unlike other medical home models, the specialty medical home is specifically designed to address the particular issues of people with complex service needs, including cognitive and behavioral disorders. In this model, the behavioral care specialists often serve as primary care coordinators and are provided unique training and resources.

There are eight key functional components of the specialty medical home:²⁹

1. Comprehensive care management
2. Care coordination
3. Health promotion
4. Comprehensive transitional care from inpatient to other settings of service
5. Engagement of individuals self management and recovery
6. Family support services
7. Referral to and coordination with community and social support services
8. Use of health information technology to coordinate care

Initial analyses of this approach suggests that it may lead to both better health outcomes and lower cost.³⁰³¹

²⁸ National Commission on Quality Assurance. *Growth Of Recognized Medical Homes*. Accessed on November 14, 2014 at <http://www.ncqa.org/HomePage.aspx>.

²⁹ New York State Department of Health. (2012, January). *NYS Health Home Provider Qualification Standards For Chronic Medical and Behavioral Health Patient Populations*. Retrieved from New York State Department of Health: http://www.health.ny.gov/health_care/medicaid/program/medicaid_health_homes/provider_qualification_standards.htm

³⁰ URAC Patient Centered Health Care Home Education And Evaluation Program. (2010). Retrieved from URAC: https://www.urac.org/publiccomment/documents/Public_Comment_PCHCH_Definition.pdf

³¹ Defining the PCMH. (n.d.) Retrieved from AHRQ Agency for Healthcare Research and Quality: <http://www.pcmh.ahrq.gov/page/defining-pcmh>

PAYER ADOPTION OF THE SPECIALTY MEDICAL HOME CONCEPT & INITIAL FINDINGS OF FINANCIAL IMPACT

A wide range of health care payers have already embraced the medical home concept including commercial insurance organizations, Medicare, and Medicaid. To date, there are about 90 commercial for-profit health plans participating in the medical home model.³² And, dozens of employers have embraced medical home benefits including; Boeing, IBM, Intel, Safeway, and Lockheed just to name a few. As of January 2014, there were 28 state Medicaid plans participating in medical home initiatives.

With the emerging body of evidence suggesting the behaviorally-focused medical home can be successful in meeting the parallel goals of improving individual health and reducing health system costs, the question for many payer organizations is what constitutes “best practices” in the design and development of behaviorally-focused medical homes. While some states are developing their own standards of formally recognizing these medical homes, others are looking to national accreditation organizations for recognition.³³ And, the National Committee for Quality Assurance (NCQA) has developed some of the first standards for formal recognition as a medical home. The six NCQA standards include requirement for system design that would:

- Enhance access and continuity
- Identify and manage patient populations
- Plan and manage care
- Provide self-care support and community resources
- Track and coordinate care
- Measure and improve performance³⁴

Organizations are granted accreditation at varying levels dependent upon adherence to these six standards and additional unique criterion.

The construct of the specialty medical home is relatively new. The first of these programs launched in 2011 with the Missouri Medicaid under the term “health home”.³⁵ Since then 26 states and the District of Columbia have stated intention to launch similar programs in their Medicaid program.³⁶ In addition to the Medicaid health plans, Medicare plans and commercial health insurance plans have also launched pilot programs to test the concept. These investments are not insignificant. In fact, payments for these specialty medical homes range from \$8.50 per member per month (pppm) to \$442.21pppm.³⁷

The performance of medical homes in both improving quality and reducing total costs of care has been, at best, mixed. In a review of 46 medical home initiatives across the United States, which summarized primarily industry reports, the medical home model appeared to reduce overall costs and spending by reducing inpatient visits, emergency room use and hospital readmissions, and pharmaceuticals costs. But a recent study in *The Journal of the American Medical Association* (JAMA) found that the effects over three years of a multi-payer medical home pilot, which had received National Committee for Quality Assurance (NCQA) certification, were not associated with

³² *Behavioral Health Homes For People With Mental Health & Substance Use Conditions: The Core Clinical Features*. (2012, May). Retrieved from Substance Abuse and Mental Health Services Administration: http://www.integration.samhsa.gov/clinical-practice/CIHS_Health_Homes_Core_Clinical_Features.pdf

³³ *The Medical Home Model of Care*. (2012, September). Retrieved from National Conference of State Legislatures: <http://www.ncsl.org/research/health/the-medical-home-model-of-care.aspx#Accreditation>

³⁴ (2011). *Standards and Guidelines for NCQA's Patient-Centered Medical Home (PCMH)* 2011. Washington, DC: National Committee for Quality Assurance (NCQA).

³⁵ Missouri Department of Mental Health, MO HealthNet Division. (2012, October). *Missouri Community Mental Health Center Healthcare Homes*. Retrieved from Missouri Department of Mental Health, MO HealthNet Division: <http://dmh.mo.gov/docs/medicalexecutive/CMHC-SixMonthReview.pdf>

³⁶ OPEN MINDS. (2014, March 19). *How Are Medicaid Health Homes Reimbursed For Services?*. Retrieved from OPEN MINDS: http://www.openminds.com/wp-content/uploads/indres/MktIntelligenceReport_health-home-rates_031814-1003am-lm.pdf

³⁷ OPEN MINDS. (2014, March 19). *How Are Medicaid Health Homes Reimbursed For Services?*. Retrieved from OPEN MINDS: http://www.openminds.com/wp-content/uploads/indres/MktIntelligenceReport_health-home-rates_031814-1003am-lm.pdf

reduced emergency department, hospital, or ambulatory care service utilization or total costs. Despite any demonstrated efficacy, the practices in the pilot did accumulate average bonuses of \$92,000 per primary care physician during the 3-year intervention – and the authors suggested the need for ‘further refinement’ of the medical home model.³⁸ NCQA responded to the JAMA study by pointing out that the study was based on an early NCQA model and that the primary care practices in the study did not have financial incentives tied to cost reductions.³⁹ However, initial pilot studies of the specialty medical home concept suggest that changes in patient care patterns and reductions in cost are available. Five of these pilot studies are summarized below.

Rethinking Care Program

While the behaviorally-focused medical home concept is a new one, recent data documents the effects on patient outcomes and health spending. One model of care was tested in New York under the *Rethinking Care Program* – the three-year Chronic Illness Demonstration Project (CIDP).⁴⁰ The goal of the program was to lower the cost of Medicaid fee-for-service beneficiaries with complex service needs. The CIDP initiative was designed to reduce hospitalization and emergency room visits among individuals by having a care coordinator help link the individual to primary care, preventive care, and mental health and substance abuse services.

Preliminary outcome data on the CIDP model found that individuals in the program for at least two years experienced:

- A 45% reduction in the number of hospital admissions
- A 15% decrease in emergency room visits

Another model developed under the *Rethinking Care Program* was developed by Community Care Behavioral Health and UPMC for You. These behavioral and medical managed care organizations integrated data and care coordination to improve services for over 7,000 individuals with serious mental illness. The program also shared data and coordinated services with providers and members. Results of the program, relative to a comparison group, included:

- 12% reduction in emergency department visits
- 5% reduction in mental health admissions

NEW HAMPSHIRE CITIZEN HEALTH INITIATIVE

Another example of the effectiveness of this model is the New Hampshire Citizens Health Initiative Multi-Stakeholder Medical Home.⁴¹ The pilot involved collaboration between the state’s medical home network, the Center of Medical Home Improvement, New Hampshire Medicaid, and four private New Hampshire managed care organizations - Harvard Pilgrim, CIGNA, Anthem, and MVP Healthcare. The pilot utilized nine service provider sites, covered 39,000 insured members, and had 130,000 unique patient visits per year.

The two-year project ended in December of 2011 and documented positive outcomes, although the study had many limitations and the results should be considered preliminary. These initial results, which will require confirmation, included:

³⁸ Friedberg, M. S. (2014, February 26). *Association Between Participation in a Multipayer Medical Home Intervention and Changes in Quality, Utilization, and Costs of Care*. Retrieved from The Journal of the American Medical Association: <http://jama.jamanetwork.com/article.aspx?articleid=1832540>

³⁹ National Committee for Quality Assurance. (2014, February 26). *NCQA Responds to Study: Association Between Participation in a Multipayer Medical Home Intervention and Changes in Quality, Utilization, and Costs of Care*. Retrieved from National Committee for Quality Assurance: <https://www.ncqa.org/Newsroom/Statements/NCQARespondstoJAMAStudy22014.aspx>

⁴⁰ Meyer, H. (2012, December). *New York’s Chronic Illness Demonstration Project: Lessons for Medicaid Health Homes*. Retrieved from CHCS: Center for Health Care Strategies, Inc.: http://www.chcs.org/usr_doc/NY_RCP_CIDP_Profile_122112.pdf

⁴¹ Walters, B & Ryer, J. (2013). *Medical Home Project*. Retrieved from NH Citizens Health Initiative: <http://citizenshealthinitiative.org/medical-home-project>

- One-third reduction of emergency visits
- Hospital admissions reduced by 18%
- Emergency room use reduced by 15%
- \$93 (15%) per member per month savings

WASHINGTON STATE MEDICAL HOME REDESIGN

In Washington State, a medical home redesign was implemented by Group Health, an integrated health plan and care delivery system. One of the 20 clinics Group Health owns and operates compared the quality, utilization, and cost outcomes for individuals with selected chronic illnesses at the prototype site with outcomes for individuals with the same chronic illnesses at the other 19 sites which served as control sites.

When compared with the control sites after two years, the prototype site had outcomes including:

- Fewer combined emergency and urgent care visits
- 6% fewer all-cause hospitalizations
- Lower inpatient costs (\$14 per month)

Overall, the pilot showed the capacity to decrease utilization and reduce total health care costs in a subpopulation of individuals with common chronic illnesses.⁴²

MISSOURI HEALTH HOME INITIATIVE

The Missouri health home state plan amendment was approved in October of 2011, effective as of January 1, 2012. Missouri operates 27 community mental health center (CMHC) healthcare homes designed for individuals with mental health or substance abuse conditions who are also have one other chronic condition such as asthma, cardiovascular disease, diabetes, substance abuse disorder, developmental disability, or are overweight with a body mass index (BMI) over 25. These CMHC healthcare homes serve more than 17,882 individuals across the state.

Preliminary results of this health home pilot include:^{43 44}

- Total Medicaid savings of \$83.26 PMPM
- Total emergency room and hospital cost savings of \$48.81 PMPM
- Reduction in the percentage of patients with at least one hospitalizations
 - From 23.9% in 2011 to 15.7% in 2012 for individuals enrolled in primary care health homes
 - From 33.7% in 2011 to 24.6% in 2012 for individuals enrolled in CMHC health homes

Overall, results of the Missouri pilot were positive and show reductions in hospitalizations and readmissions, as well as reducing per member per month costs.⁴⁵

⁴² Liss, PhD, D. T., Fishman, PhD, P. A., Rutter, PhD, C. M., Grembowski, PhD, D., Ross, MA, T. R., Johnson, MS, E. A., & Reid, MD, PhD, R. J. (2013, October 22). *Outcomes Among Chronically Ill Adults in a Medical Home Prototype*. Retrieved from AJMC.com: <http://www.ajmc.com/publications/issue/2013/2013-1-vol19-n10/outcomes-among-chronically-ill-adults-in-a-medical-home-prototype/1>

⁴³ Galbreath, L. M. (2013, June 27). *Medicaid Health Home Implementation in Missouri: A Year Later*. Retrieved from Substance Abuse & Mental Health Services Administration: http://www.integration.samhsa.gov/about-us/CIHS_Presentation_Slides_062713.pdf

⁴⁴ Missouri Department of Mental Health, MO HealthNet Division. (2012, October). *Missouri Community Mental Health Center Healthcare Homes*. Retrieved from Missouri Department of Mental Health, MO HealthNet Division: <http://dmh.mo.gov/docs/medicaldirector/CMHC-SixMonthReview.pdf>

⁴⁵ Galbreath, L. M. (2013, June 27). *Medicaid Health Home Implementation in Missouri: A Year Later*. Retrieved from Substance Abuse & Mental Health Services Administration: http://www.integration.samhsa.gov/about-us/CIHS_Presentation_Slides_062713.pdf

RHODE ISLAND HEALTH HOME INITIATIVE

Rhode Island has implemented two statewide Medicaid health home programs which include 7 community mental health organizations and 2 specialty mental health centers which enroll approximately 5,200 individuals with serious mental illness. The Rhode Island program also includes four comprehensive evaluation diagnosis assessment referral re-evaluation Family Centers (CEDARRs) which enroll approximately 2,700 children and youth. This program enrolls individuals with two chronic conditions, individuals with one chronic condition that are at-risk for a second, and individuals with one serious mental illness.⁴⁶ A study on the pilot program looked at hospital admissions, emergency department visits, and six process measures of quality of care. The process measures included three for diabetes mellitus and three for colon, breast, and cervical cancer. The pilot practices mean recognition score from the National Committee for Quality Assurance increased from 42 points to 90 points out of a possible 100 points. The pilot program was also associated with reduced ambulatory care/sensitive emergency department visits.⁴⁷

While the evolution of these initial pilot studies project a positive financial result from investment in behaviorally-focused medical homes, large scale prospectively designed studies are not yet concluded. Until that time health plan managers will be judging the effectiveness of these specialty interventions within their own plan population.

SUMMARY

As specialty medical homes mature – and there is more analysis of the health economic effects of these initiatives – it is likely that adoption will increase and that the ‘best practice’ management model will continue to evolve. There are a number of drivers of payer interest in these including, but not limited to, the payers desire to move ‘management’ of patient care to clinical professionals and use value-based (rather than fee-for-service) reimbursement models. But, the long-term impact of these specialty medical homes will likely determine the ‘price point’ for these patient management services.

This shift to integrated, clinician-led patient care coordination has significant implications in both the management and business models of provider organizations. From a cost perspective, the new model requires provider organizations to develop new administrative infrastructure – with new expenses for both personnel and information technology⁴⁸. In addition, the financing model – most often a fixed fee per patient per month -- used for specialty medical homes involves a ‘cap’ on payment for care coordination services regardless of the amount of individual patient need for services⁴⁹. And, finally, this model that moves patient care coordination to the provider organization level dramatically changes patient service referral patterns⁵⁰. The long-term financial impact of this market change on health care provider organizations won’t be fully apparent until payer reimbursement models and price points are standardized.

⁴⁶ Schuffman, DD., Varadian, M. (2013, June 12). Health Homes One Year Later: An Update On Missouri & Rhode Island. Retrieved from OPEN MINDS: <http://www.openminds.com/wp-content/uploads/indres/061213piihalthomesoneyear.pdf>

⁴⁷ Rosenthal MB, Friedberg MW, Singer SJ, Eastman D, Li Z, Schneider EC. Effect of a Multipayer Patient-Centered Medical Home on Health Care Utilization and Quality: The Rhode Island Chronic Care Sustainability Initiative Pilot Program. *JAMA Intern Med.* 2013;173(20):1907-1913. Retrieved from JAMA Internal Medicine: <http://archinte.jamanetwork.com/article.aspx?articleid=1735895>.

⁴⁸ “The Cost of Sustaining a Patient-Centered Medical Home: Experience From 2 States,” Michael K. Magill, MD, David Ehrenberger, MD, Debra L. Scammon, PhD, Julie Day, MD, Tatiana Allen, CRC, Andreu J. Reall, MBA Candidate, Rhonda W. Sides, CPA, and Jaewhan Kim, PhD, 10.1370/afm.1851, Annals of Family Medicine, September/October 2015 vol. 13 no. 5 429-435.

⁴⁹ The Payment Reform Landscape: Payment For Non-Visit Functions And The Medical Home, Suzanne Delbanco, Health Affairs Blog, May 6, 2014, accessed on October 13, 2015 at <http://healthaffairs.org/blog/2014/05/06/the-payment-reform-landscape-payment-for-non-visit-functions-and-the-medical-home/>

⁵⁰ “The Medical Home: Disruptive Innovation For A New Primary Care Model,” Keckley, Paul and Howard Underwood, Deloitte Center For Health Solutions, 2008, access on October 13, 2015 at <http://www.dhcs.ca.gov/provgovpart/Documents/Deloitte%20-%20Financial%20Model%20for%20Medical%20Home.pdf>

AUTHOR INFORMATION

Dr. Jay Mackie is Associate Professor and Chair of the Department of Accounting, Management Information Systems and Information Technology for Business Education. Please contact Dr. Mackie with any questions or comments regarding this paper. E-mail: jimack@ship.edu

Monica E. Oss is Chief Executive Officer of *OPEN MINDS* in Gettysburg, Pennsylvania.
E-mail: monicaoss@openminds.com