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Influence of the Patient Protection and Affordable Care Act on the Development of the Patient Centered Medical Home

Anjali Rao

Wright State University - Main Campus

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on the development of the Patient Centered Medical Home

Anjali Rao

Wright State University

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Abstract

The Patient Centered Medical Home (PCMH) model of care incorporates many public health concepts. Some supporters of PCMH regard the Affordable Care Act (ACA) as legislation that will invigorate PCMH progress across the country. This policy analysis intends to understand the influence of the ACA on the development of PCMH. The policy analysis compares relevant sections of the ACA with core PCMH concepts agreed upon by major medical professional organizations. The evaluative framework uses a “traffic light” system to rate each section of the ACA based on the accuracy of the section as compared to PCMH criteria, and denotes whether or not the evidence in the PCMH literature supports the subject of each section. A modified SWOT analysis details strengths and weaknesses of each section. Even though 11% of the ACA was applicable to PCMH, only 5% of sections in ACA received a green light rating. Evidence does not support the majority of sections. Using PCMH terminology in the ACA does not guarantee PCMH development via legislative mandate. In order for policy makers and health care leaders to see robust effects of PCMH, there must be a consistency in use of PMCH terms, more evidence surrounding PCMH, and a longer period for demonstration projects.

Influence of the Patient Protection and Affordable Care Act on the development of the Patient Centered Medical Home

Policy development is a nationally accepted core function of public health (Institute of Medicine, 1988). Traditionally, public health departments focus energy on assessment and assurance. These functions include providing medical care, enforcing laws, and monitoring disease. Recently, however, public health priorities have shifted towards health policy and systems based infrastructure to ensure population health. Evaluating policy for viability, efficacy, and cost effectiveness is just as essential to successful public health initiatives as health programming.

On March 23 2010, President Obama signed into law The Patient Protection and Affordable Care Act (ACA). Arguably, ACA is the largest health policy change since the Social Security Act established Medicare in 1965. One component of ACA is the development of The Patient Centered Medical Home (PCMH).

The Ohio Family Health Survey, partially sponsored by the Ohio Department of Health, identified Patient Centered Medical Homes as a 2010 research priority. This research aims to analyze the potential influence of the Patient Protection and Affordable Act on the Patient Centered Medical Home model of care.

Background

The Patient Protection and Affordable Care Act (ACA)

In the winter of 2010, health care reform was near completion (Skocpol & Jacobs, 2010). However, the Massachusetts senatorial election created upheaval. Scott Brown, a republican senator, shocked the nation by winning the Senate seat held for 47 years by a democratic senator, in a liberal, almost exclusively democratic state. Brown campaigned on the platform to filibuster

the health care reform legislation. The Senate needed sixty votes, a supermajority, to stop a filibuster. If Brown won, he would be the 41st senator needed to sustain a filibuster. The Democrats would not have the 60 votes needed to stop the filibuster. When Senator Scott Brown secured the senatorial seat in January 2010, political pundits exclaimed that health care reform was dead. Now, Republicans had the power to filibuster to stop the bill from passing.

Panic ensued among the Democratic Party and a level of distrust emerged between the House and the Senate. Two options stood before the Democratic Party; pass the health care reform bill without any changes, or, scale back the legislation. Passing the bill without any changes would include the dreaded Cornhusker Kickback (100% federal funding for Medicaid in the future in exchange for a vote from a Nebraska senator), therefore, this option was unfavorable. President Obama feared that because of the interrelated nature of the plan, a scaled back measure would prove unsuccessful.

A wide array of national interest groups began to mobilize support for the health care reform including American Medical Association, unions, American Association of Retired Persons, and National Catholic Reporter. A large turning point occurred when two large organizations, The Center for American Progress and Health Care for America Now, turned the spotlight on Anthem Blue Cross in California. At this time, Anthem Blue Cross was instituting a 39% rate hike. President Obama seized this opportunity to highlight the threat of unregulated insurance on small businesses and individuals.

In the State of the Union address, President Obama accepted an invitation to take all questions at a Republican House retreat and arranged to have this event televised. The White House convened a televised bi-partisan summit to discuss health care reform proposals. Obama

offered his own version of the health care reform plan that was “costed out” by the Congressional Budget Office (CBO).

In March 2010, in order to reach compromises between Republicans and Democrats, the House of Representatives and Senate passed two pieces of legislation; H.R 3590, The Patient Protection and Affordable Care Act, and a sidecar bill, H.R 4872, The Reconciliation Act of 2010. Because it was a fiscal bill, the sidecar bill could pass without filibuster and contained various compromises that were not included in the health care reform bill. Some of the compromises included in the Reconciliation Act included the absence of federal funding for abortion services, re-routing money saved by providing student loans directly from federal government instead of private institutions to help pay for health care reform, higher taxes on health care industries and higher fees for wealthy Medicare beneficiaries.

According to the Congressional Budget Office (CBO), the ACA and Reconciliation Act of 2010 would “produce a net reduction in federal deficits of \$143 billion over 2010-2019 as result of changes in direct spending and revenues” (Congressional Budget Office, 2010). The CBO estimates that over a 9 year period, the ACA and Reconciliation Act will consume a total change in expenditure of \$382 billion dollars (Congressional Budget Office, 2010).

The Patient Centered Medical Home (PCMH)

Originally, The American Academy of Pediatrics introduced The Medical Home in 1967 as a central location for storing a child’s medical records. Since then, the definition has expanded. In 2007, The American Academy of Family Physicians, the American Academy of Pediatrics, the American College of Physicians, and the American Osteopathic Association formulated the joint principles of the PCMH. The document defines PMCH as:

“an approach to providing comprehensive primary care for children, youth and adults. The PCMH is a health care setting that facilitates partnerships between individual patients, and their personal physicians, and when appropriate, the patient’s family” (AAFP, AAP, ACP, & AOA, 2007).

The seven core concepts are:

1. A personal physician- the patient has an ongoing relationship with a personal physician who provides first contact, continuous and comprehensive care (AAFP et al., 2007).
2. Physician Directed Medical Practice-the physician leads a team of individuals who collectively take responsibility for ongoing care of patients (AAFP et al., 2007).
3. Whole Person Orientation- the physician is responsible for providing for all the patient’s health needs. This included care for all stages of life; acute care, chronic care, preventive services; and end of life care (AAFP et al., 2007).
4. Care is Coordinated and/or Integrated- all elements of the complex health care system (subspecialty care, hospitals, nursing homes, home health agencies) and the patient’s community are coordinated. Care is facilitated by registries, information technology and health information exchange (AAFP et al., 2007).
5. Quality and Safety- evidence based medicine and clinical decision-support tools guide decision-making. Physicians accept accountability for continuous quality improvement. Patients actively participate in decision-making and feedback. Practices voluntarily go through a recognition process (AAFP et al., 2007).
6. Enhanced Access-care is available through systems as such as open scheduling, expanded hours, and new options for communication between patients, physicians, and practice staff (AAFP et al., 2007).

7. Payment Reform-payment appropriately recognizes the benefit provided to patients who have a PCMH. Payment should reflect the value of work outside the face to face visit, support adoption of health information technology, support enhanced communication, recognize case mix differences in the patient population, allow physicians to share in cost savings, and allow for additional payments for achieving quality measures (AAFP et al., 2007).

Purpose Statement

The ACA delineates provisions that potentially support PCMH. Certain sections of the legislation establish community health teams to support PCMH, dictate a state option to provide health homes for enrollees with chronic conditions, and support primary care training and enhancement. However, simply referring to PCMH within the text of the legislation does not ensure sustainable development of PCMH in accordance with the professional consensus definition of PCMH. Analysis of the legislation will decipher if sections of the legislation relevant to PCMH have the potential to create healthier patient populations while addressing challenges faced by patients' primary care physicians.

1. How does the Patient Protection and Affordable Care Act influence the development of the Patient Centered Medical Home model of care?
2. To what degree do the relevant sections of the Patient Protection and Affordable Care Act correspond with Patient Centered Medical Home criteria and address current common challenges facing patients and primary care physicians?
3. To what degree are the relevant sections of the Patient Protection and Affordable Care Act supported by evidence?

Literature Review

In 2001, The Institute of Medicine called for health care that “establishes a partnership among practitioners, patients, and their families to ensure that decisions respect patients wants, needs, and preferences and that patients have the education and support they require to make decisions and participate in their own care” (Robert Graham Center, 2007). This is the essence of a Patient Centered Medical Home.

The consensus of professional medical organizations in support of Medical Home Models stems from research proving that higher levels of primary care lead to better health outcomes. Current definitions of primary care include four basic characteristics that include accessibility of care, long-term person focused care, comprehensive care, and coordination of care. With the exception of quality and payment reform, this definition is almost identical to the seven concepts of a medical home, and therefore one can infer that evidence that establishes the importance of primary care to people’s health is also applicable to a medical home.

In a 2004 evidence review, Starfield and Shi (2004) found the greater extent to which a wide range of services are provided by primary care, the greater association with better health outcomes at lower costs. A study that examined the relationship between strength of primary care and mortality in 18 OECD (Organization for Economic Cooperation and Development) countries found the stronger the primary care orientation in the country, the lower the all-cause mortality and potential years of life lost. The relationship persists after controlling for other variables such as gross domestic product per capita, total physicians, percentage of elderly, per capita income, and alcohol and tobacco consumption (Starfield & Shi, 2004). The inverse relationship between primary care and mortality holds true in the United States. A 5-year follow-up study of adults in a national probability sample survey showed that “those who had a

primary care physician as their regular source of care had one third lower costs and were 19% less likely to die”(Starfield, Shi, & Macinko, 2005).

Not only does primary care decrease mortality, it also increases the number of people receiving preventative services. As Starfield and Shi (2004) state, “receiving optimal primary care [such as a medical home] further increases the likelihood of [utilization of preventative medicine]. Furthermore, primary care models decrease disease specific rates. A study showed that higher continuity of primary care is associated with better control of diabetes (as cited in Starfield & Shi, 2004). Another case-control study verified the positive effect of primary care on specific diseases. In 1992, a case control study found that after adjusting for race and education, men whose hypertension was not controlled were more than four as times likely not to have a primary care source compared with those whose hypertension was controlled (Starfield & Shi, 2004).

Comparisons between the United States and Canada support the concept of a comprehensive care, a large component of PCMH. As Mao noted in a 2002 paper published in the *American Journal of Public Health*, “One of the most frequently cited differences between Canada and United States is the degree to which comprehensive health care is freely available at the point of use” (Manuel & Mao, 2002). Comparisons of avoidable mortality show the rate of decline was more rapid in Canada than the United States, and the lowest avoidable mortality were in disease groups that primary care plays a major role such as asthma, cervical cancer, hypertension and maternal mortality (Manuel & Mao, 2002).

The ample evidence proving benefits of a robust primary care system and the evidence that consistently suggests that the United States does not focus on patient centered primary care, combined with the professional consensus of the Medical Home overwhelmingly suggest that the

Medical Home Model of Care could help improve the health of Americans. A 2005 article from the *Annals of Internal Medicine* states, “rather than uncoordinated, episodic care, we need to offer care that is well organized, coordinated, integrated, characterized by effective communication, and based on continuous healing relationships” (Robert Graham Center, 2007). Effectively, this position calls for a Patient Centered Medical Home.

Personal Physician

According to Starfield, Shi, and Macinko (2005), the “United States has a surplus of specialists, but not of primary care physicians...and if this maldistribution is corrected... [there will be] lower costs, improve[d] health, and reduce[d] inequities in the population’s health”. In a comprehensive literature review, Starfield et al. (2005) brought to attention studies in the 1990’s which showed that “those states with higher ratios of primary care physicians to populations had...lower rates of all cause mortality, mortality from heart disease, cancer, stroke, infant mortality even after controlling for socio-demographic measures”.

Later studies confirmed these findings for disease specific mortality. In a 2003 Shi et al. study, researchers looked at cerebrovascular stroke mortality and supply of primary care physicians (Starfield et al., 2005). After adjusting for income, educational level, unemployment and race, “the supply of primary care physicians remained significantly associated with reduced mortality” (Starfield et al., 2005). A 2005 study examined mortality and primary care physician supply at the county level. The researchers found “non urban areas with a greater number of primary care physicians experienced a 2 percent lower all cause mortality, 4 percent lower heart disease mortality, and a 3 percent lower cancer mortality” than areas in with less primary care doctors (Starfield et al., 2005). Another study observing cervical cancer mortality at the county level found “a one-third increase in the supply of family physicians was associated with a twenty

percent lower mortality rate from cervical cancer,” even after controlling for educational level and income (Starfield et al., 2005).

An increased supply of primary care physicians has a positive effect on equity of care. The Starfield et al. (2005) review cites an aggregate study of eleven years of state-level data. The researchers found that the “supply of primary care physicians...[was] significantly related to lower all-cause mortality rates in both African American and white populations, after controlling for income equality and socioeconomic characteristics”(Starfield et al., 2005).

Not only does the evidence show that a strong primary care system would improve all-cause and disease specific mortality as well as reduce health disparities, there is also literature to quantify the effects of increasing the primary care physician supply. In 2000, the state mean for office-based primary care physicians was eight primary care physicians per 10,000 people (Macinko, Starfield, & Shi, 2007). Macinko, Starfield, and Shi (2007) conducted a meta-analysis of 10 studies from 1985 to 2000 that met strict inclusion criteria and found at the county level, “an increase of 1 primary care physician would result in an estimated decrease of 1.74 percent (1.71-1.77) for heart disease mortality and a 10.79 percent (8.79-12.78) decrease in all cause mortality.

Theoretically, one can assume that physicians already practice medicine with a patient centered focus. It is unlikely that a physician would not want to take care of her patient in the best possible manner. Furthermore, patients want a strong interpersonal relationship with their physician. In a review of thirty studies, four of which were clinical trials, researchers found a consistent and positive relationship between a strong interpersonal physician-patient relationship and patient satisfaction (Saultz & Albedaiwi, 2004). However, in practice, patients do not feel they have a *personal* physician, even if the patient has a primary care physician. For example, in

the Primary Care Assessment Survey, a validated patient completed questionnaire, only 29% of patients felt their physician's knowledge of them as a whole person, including their values and beliefs, was excellent or very good (Safran, 2003). The majority of patients rate physicians knowledge about their life circumstances as good, fair, poor or very poor (Safran, 2003). This disconnect arises because physicians are trying to provide the best care for patients in a system that does not support patient centered care.

Physician Directed Medical Practice

According to the Patient Centered Primary Care Collaborative, a non-profit organization comprised of major employers, consumer groups, patient quality organizations, health plans, labor unions, hospitals and clinicians dedicated to advancing PCMH, physician directed practice is a term describing a team approach to health care. The personal physician leads a team of individuals who collectively take responsibility for the ongoing care of patients. The Robert Graham Center for Policy Studies in Family Medicine and Primary Care described an operational definition of a physician directed medical practice. The definition states "specialists, pharmacists, mental health providers and others can provide focused recommendations when they are needed, while repetitive low complexity tasks should be handled by members of the primary care team other than the physician" (Robert Graham Center, 2007). Every member of the team should practice to his/her highest level of licensure. A PubMed search recovered many articles and policy statements calling for more studies to evaluate physician directed practice, but minimal evidence of benefits. Due to the revived national interest in health systems as a research priority, policy makers can expect more evidence in the future. However, the peer-reviewed literature supports a team-based approach to chronic conditions, even if the term "physician directed practice" is not used. Diabetes, for example, is a chronic condition usually managed in

episodic office visits. In a study by Carter, Nunlee-Bland, and Callender (2011), researchers randomized patients in an urban primary care clinic in Washington, DC to a control group or a treatment group. The treatment group had access to self-management, health education and social networking modules. These modules mirrored possible components of a functional PCMH. The modules included, but were not limited to teleconferencing with a health education nurse, access to online health education modules and home health equipment that transmitted glucose measurements directly to the physician's office, all under the care of a physician. The patients in the treatment group were 4.5 times more likely to achieve the desired target Hemoglobin A1C measure than patients in the control group (Carter, Nunlee-Bland, & Callender, 2011). The patient's biometrics improved, as did their attitudes about their disease and doctor. One patient commented that "[he] appreciated being able to spend half an hour twice a month with a skilled health care provider" (Carter et al., 2011).

The literature also supports interdisciplinary primary care. As defined by *Journal of American Geriatrics Society*, interdisciplinary primary care is a model in which "a team composed of a primary care physician and one or more health care professionals, such as nurses, social workers, nurse practitioners, and rehabilitation therapists, who communicate frequently with each other, provide comprehensive care (Boult et al., 2009). An extensive Medline literature review from 1997-2008 found 16 high quality studies, of which 9 were randomized controlled clinical trials, that addressed interdisciplinary primary care team outcomes. An overwhelming majority of the studies found statistically significant improved incomes. Eleven out of 11 studies found improved quality of care, 9 out of 9 studies found improved quality of life, 6 out of 9 studies found improved functional autonomy. A smaller portion of the reviewed studies found lowered health care utilization and costs (Boult et al., 2009).

Whole Person Orientation

The Robert Graham Center policy statement describes whole person orientation as taking responsibility for a person's health care needs, which "[include] care for all stages of life; acute care, chronic care, preventative services, and end of life care" (Robert Graham Center, 2007). A health care team should consider a person's needs in the context of a person's values, mind and body wellness, as well as a person's social determinants of health. As is well established by the World Health Organization, health is not merely just the absence of disease, but also includes emotional, mental, and social well being. When a "healthy life" is conceptualized as a combination of limitations of activity and perceived health status, Starfield and Shi (2004) state that "although blacks in the national sample have a poorer "healthy life" score than whites, this is not the case in the Community Health Centers sample, where there is no such difference". The federal government funds Community Health Centers (CHC) and in order to receive grants, the CHC must meet specific criteria for high-quality primary care that are similar to a medical home model. This evidence suggests that a medical home model will be effective at providing whole person care.

Providing care in a manner that incorporates whole person orientation increases positive health outcomes. Ferrante, Balasubramanian, Hudson, and Crabtree (2010) examined association of PCMH concepts with receipt of preventative services. The researchers examined 24 practices in New Jersey that participated in a randomized controlled intervention study. The researchers conducted a secondary cross sectional analysis. Through chart audits, the researchers examined the effect of whole person care by measuring well visits, chronic diseases, and acute care visits. A regression model that controlled for age, sex, race, education, insurance, and self-reported health status calculated a global PCMH score. A high PCMH score was associated with

a higher receipt of preventative services. Whole person care was significantly associated with higher receipt of preventative services. In addition, the features of PCMH that had the most impact on preventative services were whole person orientation and having a personal physician (Ferrante, Balasubramanian, Hudson, & Crabtree, 2010).

Whole person orientation factors in the social determinants of health. Public health departments are in a unique position to interconnect with PCMH through this association. An expert document provided by the World Health Organization (WHO) specified the core components of primary care are “health education, environmental sanitation...maternal and child health programs,...prevention of local endemic diseases, appropriate treatment of common diseases and injuries, provision of essential drugs, promotion of sound nutrition and traditional medicine” (De Maesenner, Willems, De Sutter, Van de Geuchte, & Billings, 2007). According to WHO literature review, the community oriented primary care (COPC) experience integrates public health and primary care and results in positive health outcomes (De Maesenner et al., 2007). Evidence from a thirty-year research study at a COPC in Jerusalem supports this claim. According to the researchers the “integration of public health responsibility with individual based clinical management...[is] the cornerstone of the COPC approach (Epstein, Gofin, Gofin, & Neumark, 2002). The COPC process closely mirrors the current United States Public Health Model. It involves a community diagnosis, prioritization, detailed problem assessment, intervention programming, implementation, evaluation, and reassessment. However, when compared to the U.S public health model, “the repetitive nature of this cycle differentiates the COPC approach from that of community based entities aimed at a specific disease process and conducted over a limited period” (Epstein et al., 2002). At the COPC in Jerusalem, the community identified heart disease and childhood growth and development as priorities. The

health team implemented multi-factorial methods to address these issues that included participation from community organizations and traditional primary care teams. Over 30 years, programs improved childhood development, reduced disparities, and effectively reduced smoking and hypertension (Epstein et al., 2002). The authors believe that the COPC model's was based on appropriate use of professional resources and a system that enabled integration of routine clinical practice with epidemiological, social and behavioral expertise (Epstein et al., 2002). PCMH in conjunction with public health departments are in a position to mirror COPC methods to cultivate whole person orientation.

Care is Coordinated/Integrated

Care should be coordinated across all elements of the complex health care system and the patient's communities (Robert Graham Center, 2007). This involves interconnecting specialty care, hospital, home health agencies, nursing homes and family and community based services. Chronic conditions are complex, multi-factorial, and compose a majority of the disease burden (Lemmens, Nieboer, & Huijsman, 2009). Coordinated care improves health outcomes in chronic diseases. The Disease Management Association of America defined disease management as "a system of coordinated health care interventions and communications for populations with conditions in which patient self-care efforts are significant" (Lemmens et al., 2009). In a systematic literature review of controlled trials, researchers examined the effectiveness of multiple interventions as compared to single interventions in the context of integrated disease management in asthma and COPD. Of the 36 studies included, 19 studies performed triple interventions that specified changes in patient behavior, professional behavior and organizational behavior. The triple interventions were a surrogate marker for coordinated care. This is because a multi-factorial approach involves patients, physicians and systems interacting in a precise

manner, which is similar to the PCMH definition of coordinated care. According to the review, pooled data showed that triple intervention programs significantly improved quality of life outcomes. A meta-analysis of the data favored multiple interventions in a statistically significant manner for SGRQ scores (St. George's Respiratory Questionnaire). Furthermore, a meta-analysis showed that the odds of hospital admission was 0.58 (CI 0.40-0.83) less in patients' receiving triple interventions when compared to patients receiving single interventions (Lemmens et al., 2009).

In the PCMH model, coordinated care expands the current managed care concept of "care coordination." In the current model, primary care physicians are gatekeepers to a world of specialists. Care is fragmented and communication between physicians is infrequent and slow at best. The PCMH model of coordinate care should not limit access to specialty care, but should encourage inter-professional cooperation. The PCMH model assures that "effective primary care provides the well-connected nodes in the health care network" (Robert Graham Center, 2007). When care is coordinated with formalized health systems patients, primary care physicians and specialists benefit. A three-year program with 230 general practitioners in Spain evaluated the application of a coordinated program between nephrology and primary care. The specialists and primary care physicians participated in a program that shared clinical information, in-person and email communication with specialists, and continuous training programs in an effort to improve criteria for referring patients and to facilitate communication. The researchers found improved referral criteria between primary care and specialists and improved prioritization of visits. Both specialists and primary care physicians were satisfied with the process (García García et al., 2011).

Care that is coordinated across a community, including public health entities and physician groups, decreases health care utilization. San Francisco transformed its traditional safety net system into a comprehensive health care program called Healthy San Francisco. The original system was the traditional array of hospitals clinics and community health centers. The Healthy San Francisco program offered a program that had transparent pricing, defined benefits, expanded network of providers that included public health programs, and primary care homes. Healthy San Francisco “[was] not an insurance program per se, but rather a program through which a specified group of providers within a local network deliver a specified package of services” (Katz & Brigham, 2011). The participants in this program visited the emergency department for unnecessary visits at a rate of 7.9% as compared to a rate of 15% of Medicaid recipients (Katz & Brigham, 2011).

Integrated care decreases hospital costs. An article published in the *Archives of Pediatric and Adolescent Medicine* studied pediatric patients with chronic medical issues enrolled in a multidisciplinary clinic. The researchers found a significant reduction in total Medicaid costs for patients enrolled in the multidisciplinary clinic (Casey et al., 2011). The multidisciplinary team “ensure[d] that each patient receive[d] all the necessary medical, nutritional, and developmental care...[with] coordination of care with primary care providers, subspecialists, hospitalists and community-based services”(Casey et al., 2011). According to the study, “the mean annual cost per patient per month decreased by \$1,766 for inpatient care and overall cost to Medicaid per patient decreased by \$1,179. The cost savings were statistically significant at a p value <0.001 (Casey et al., 2011).

Quality and Safety

A large portion of quality and safety depends on effectively utilizing health information technology (HIT). HIT's role should be to enable multidisciplinary disease management and care coordination by "compil[ing] patient centric information related to care delivered by multiple clinicians, hospitals and ancillary services,...trigger alerts and reminders...and support...important measures related to both quality and efficiency (Marchibroda, 2008). In the March 2011 issue of *Health Affairs*, Buntin, Burke, Hoaglin, and Blumenthal reviewed Medline from July 2007 to February 2010 for HIT articles of which 154 met inclusion criteria. The researchers reviewed each study for positive and negative outcomes. Overall, 92% of HIT articles reported positive outcomes or no difference in outcomes in at least one outcome measure that included access, preventative care, care process, patient satisfaction, patient safety, effectiveness of care, provider satisfaction, and efficiency of care (Buntin, Burke, Hoaglin, & Blumenthal, 2011). For example, one study that included forty one Texas based hospitals found that hospitals with more-advanced HIT had "fewer complications, lower mortality, and lower costs than hospitals with less advanced HIT" (Buntin et al., 2011). However, even studies that reported positive outcomes due to HIT identified challenges to HIT implementation. Many of the negative findings related to work flow issues of implementing a HIT such as "order entry, staff interactions, and provider to patient communication, and variability in computer literacy" (Buntin et al., 2011).

Although HIT is an important component of PCMH, it is not the "magic bullet" that assures PCMH success. A cross sectional analysis associating PCMH principles with preventative services found that HIT was the PCMH component least associated with the receipt of preventative services. In fact, out of four HIT indicators (use of electronic medical records,

use of health information technology, use of clinical decision tools, and continuous quality improvement) only use of clinical decision tools was statistically significant in increasing the receipt of preventative services (Ferrante et al., 2010). The components of the PCMH that had the highest association with receipt of preventative services were “high touch” principles (personal physician and whole person orientation) not high tech principles (Ferrante et al., 2010).

Researchers have found an association between PCMH models and health care quality. When 9,200 patient health care system in Seattle, Washington undertook conversion to a PCMH and measured changes for one year, quality of care increased and patient’s reported higher satisfaction ratings (Reid et al., 2009). In this longitudinal prospective study, the investigators implemented many components of PCMH and measured twenty-two indicators specified by the Healthcare Effectiveness Data and Information Set (HEDIS). These quality indicators, including measures of chronic care, medication monitoring, and screening, are commonly measured and can be operationalized using automated data. Although the PCMH clinic performed better on each outcome measure compared with the control clinics at baseline, the composite quality gains were between 1.2% and 1.4% greater than those at the baseline clinic after implementation of PCMH (Reid et al., 2009). 1.6% of patients achieved statistically significant improvement on 100% of all the quality indicators (Reid et al., 2009).

Patient and physician satisfaction are also important quality indicators. In the same Seattle study, only 10% of PCMH staff reported burnout as compared to 30% of staff in control clinics, and patients in the PCMH reported a significantly better experience than control patients with doctor patient interactions, access to care, care coordination, and patient activation and involvement (Reid et al., 2009).

Although Institute of Medicine has explicitly called for quality in terms of safe and effective and efficient health care, there are challenges to identifying and measuring quality that might be a barrier for PCMH implementation. Rittenhouse, Thom, and Schmittiel (2009) examined the long-term policy relevant research agenda on PCMH outcomes and identified specific challenges that affect quality measures. The researchers suggest that traditional outcome measures such as mortality, stroke, or renal failure, “may be too far removed temporally from the primary care process for them to be attributed to a particular practice” (Rittenhouse, Thom, & Schmittiel, 2009).

Enhanced Access

Enhanced access should ensure access to care “is available through systems such as open scheduling, expanded hours, and new options for communication between patients, their personal physician, and practice staff (Robert Graham Center, 2007). However, patient must have access to health care services first before they can consider improved access to physician services. Uninsured Americans are less likely to adequately treat chronic conditions, and more likely to suffer undiagnosed chronic conditions (Wilper et al., 2009). According to researchers evaluating the Third National Health and Nutrition Examination Survey (NHANES), “the chronically ill uninsured are ...less likely to have a usual source of medical care, decreasing their likelihood of receiving preventative and primary care” (Wilper et al., 2009). The study followed a large cohort of Americans and analyzed variables using chi square and cox proportional hazards analysis. The researchers found lack of health insurance was significantly associated with mortality at a hazard ratio of 1.80 (1.44-2.26) when adjusted for age and gender. When the model was adjusted for gender, age, race, ethnicity, poverty/income ratio, education, unemployment, smoking, alcohol use, self rated and physician rated health and BMI, lack of

insurance significantly increased risk of mortality at a hazard ratio of 1.40 (1.06-1.84) (Wilper et al., 2009). It is important to note that health insurance status is not analogous to access. In fact, studies have shown that health insurance is “only one of several factors that enable access to health services” (Starfield & Shi, 2004). Although insurance status enables medical care, Starfield noted that insurance status does not ensure proper use of services or quality medical care.

A quasi-experimental study that compared control clinics to PCMH observed clinics using improved access techniques had increased patient satisfaction, increased quality measures, fewer ER visits, and improved pre-visit outreach (Reid et al., 2009). Patient outreach changes such as emergency visit and inpatient follow up, group visit outreach and chronic disease outreach improved, and point of care changes such as email and phone visits, and patient web portal functions also increased. The study found that patients enrolled in the PCMH clinic were more likely to use group visits, more likely to use electronic health risk assessments, more like to have a telephone call or email after an emergency room visit when compared to control clinics (Reid et al., 2009). PCMH patients reported a significantly better experience with access to care compared to control clinics (Reid et al., 2009).

Payment Reform

According to the Robert Graham Center (2007), “the current healthcare payment system rewards drivers of consumption and utilization,....the current financial disincentives toward adequate primary care will have to be eliminated, and a new financing system that rewards continuity, patient-centered care and accountability will be needed if the PCMH is to be realized”. Accountable Care Organizations (ACO’s) are one method of proposed payment reform. The purpose of ACO’s is to lower the rate at which Medicare costs escalate within a

particular geographic area. ACO's incentivize hospitals and physicians to lower costs because all providers would share in cost savings (Goldsmith, 2011). However, ACO's contain many challenges. ACO's assume a strong connection between hospitals and physicians. However, one third of physicians do not bill for hospital related services and hospitals do not rely on community based physicians to provide services because hospitals hire hospitalists or specialists (Goldsmith, 2011). In order to help bridge this gap, experts expect that Health Information Technology (HIT) will help manage care across hospitals and non hospital populations, but large scale implementation of HIT will be a slow process. The structure of ACO's serves to change fee for service incentives that promote volume based reimbursement to outcomes based reimbursement. However, according to a 2011 article in *Health Affairs*, ACO's are "unlikely to catalyze major change...because the rewards...are grafted on top of a payment system that still rewards individuals for increasing the volume of clinical services" (Goldsmith, 2011). ACO's will find it difficult to manage costs because of "shadow capitation" (Goldsmith, 2011). Shadow capitation occurs when expenses and cost savings are calculated after the patient has received care. Because patients are not required to join ACO's, there is a little incentive for patient's to stay with the same provider or cooperate in cost saving activities. The fluctuating nature of patient population combined with shadow capitation will be a barrier to ACO's (Goldsmith, 2011). In *Health Affairs*, Goldsmith proposes a flexible alternative to ACO's. The author suggests a "modular contracting strategy that breaks the cost of health services into three categories...[and] does a better job of limiting providers contractual risk to the changes they need to make to improve the quality of care and reduce its cost "(Goldsmith, 2011). The model defines three categories of health services that warrant three different payment approaches. The first health service is primary medical care. The longitudinal care delivered by a primary care

physician would be risk-adjusted per capita monthly fee. Unscheduled care, such as emergency room visits, would receive payment in the traditional fee for service method, and specialty care would receive payment in severity adjusted payment per episode (Goldsmith, 2011). According to the author, the flexible contracting would “link providers risk to a more easily quantifiable and manageable elements of health costs” instead of holding providers accountable for populations health cost over a full year (Goldsmith, 2011). If insurers standardized contracting methods, administrative costs could be lowered since providers would not have to navigate different insurance regulations for each patient and for each service (Goldsmith, 2011). The authors insist that a modular approach to payment reform is more effective than ACO’s because it does not require as much provider integration or infrastructure spending and encourages delivery reorganization, and is not based on fee for service system (Goldsmith, 2011).

Another method of payment reform for PCMH is the subscription approach. In the subscription model “patients would enroll in the medical home, and the physicians would be paid a risk-adjusted amount per enrolled patient per month” (Goldsmith, 2011). Subscription is not full capitation because physicians are not held responsible for costs that are out of their control, such as hospitalization or pharmaceuticals. In order to keep the subscription model viable, PCMH payments should be simple, avoid gatekeeping, and promote physician payment through expanding patient populations through improved care coordination and not through increased office visits or tests (Goldsmith, 2011).

A 350,000 member health plan in upstate New York implemented the risk adjusted per enrolled patient per month (subscription model) as part of an effort to establish PCMH. The plan selected three primary care practices with the objectives to increase primary care physicians’ income, align incentives to improve the quality of care, and promote medical homes (Feder,

2011). In the first year “the rate of cost growth of the three pilot practices was 67% that of other practices in the region...[and] made important improvements on several HEDIS metrics” (Feder, 2011). The model, implemented by Harvard’s Alan Goroll, used a Primary Care Activity Level score which measured the “uses of historical diagnoses to predict the amount of primary care resources to manage that member for a year” (Feder, 2011). The model predicted costs within 2.6 percent of what practices actually billed (Feder, 2011). Physicians also received a bonus structure based on performance on a combination of HEDIS quality measures and hospitalization rates/emergency department rates. At the end of the first year of the experiment, practices saw bonuses ranging from \$10,000-\$30,000 (Feder, 2011).

Methods

This is a policy analysis of The Patient Protection and Affordable Care Act, (ACA) as prepared by the Office of the Legislative Counsel for use by the U.S. House of Representatives, as amended through May 1 2010. I did not conduct interviews or collect human subject data. I based the analysis on The Center for Policy Analysis’s method for evaluating health care reform and a literature review. I obtained academic and professional literature through a search of the electronic database, Pub Med. Search criteria were limited to articles in English that contained full free text. I used broad search terms, including, but not limited to “PCMH,” “and” “physician,” “coordinated care,” “access,” “payment reform,” “primary care,” and “quality.”

I outlined PCMH criteria by utilizing expert consensus documents, provided a description of each criterion, and summarized current problems facing each criterion based on the literature review (Table 1). I chose relevant sections of the ACA to undergo analysis by reading each section title in the table of contents of the ACA and listing sections that corresponded with each PCMH criterion by (Table 2).

I read each section that corresponded to PCMH criteria (Table 2). I assigned each section a degree of applicability depending on its degree of applicability to core PCMH concepts. A section with 1st degree of applicability directly affects PCMH, 2nd degree indirectly affects PCMH, 3rd degree of applicability is directly relevant to PCMH, and 4th degree is indirectly relevant to PCMH. Sections with 3rd or 4th degree of applicability were not analyzed any further and were crossed out (Table 2).

Sections of ACA that received 1st or 2nd degree of applicability to PCMH underwent a modified SWOT (Strength, Weaknesses, Opportunities, Threats) analysis. Although commonly used to measure business opportunities, I used a modified SWOT analysis for a policy analysis because a SWOT analysis provides a framework for reviewing and measuring the efficacy of a strategy/proposition. The strategy I reviewed was the ACA. The subject of the modified SWOT analysis is the conditions supporting the development and implementation of the PCMH model of care. I chose to modify the SWOT analysis by concentrating on strengths and weakness and forgo opportunities and threats. Strengths and weakness measure internal components of the ACA where as opportunities and threats evaluate the external marketplace. I assessed strengths and weaknesses of the ACA in supporting the development and implementation of PCMH by extrapolating information from the literature review of relevant PCMH articles. In this way, a part of a section of the ACA was outlined as a strength if it will support evidence based PCMH components. I outlined as section as a weakness if it undermined evidenced based PCMH components. The literature review did not incorporate articles relevant to the external health care market place, therefore an evaluation of opportunities and threats would be purely speculation, not evidence based. Consequently, opportunities and threats were not assessed. I conducted a modified SWOT analysis for each PCMH criterion.

I further evaluated each section using a visual representation of the net strengths and weaknesses. After incorporating both strengths and weaknesses, each section was given a red, yellow, or green light based on if the section was specific to PCMH by answering the questions:

1. Do the PCMH components of the section precisely illustrate core PCMH concepts and address PCMH problems outlined in original criteria/problem statement?
2. Does the section contain many false positive references to PCMH?

I delineated sections directly supported by evidence in the literature review with an “E.”

I conducted a descriptive analysis to assess the quantity of sections of the ACA that referred to PCMH, and within those sections that referred PCMH, to know the quantity of sections were specific to influencing the development and implementation of PCMH in a manner specific to PMCH criteria.

Results

Table 1. Description of PCMH criteria and synthesis of major challenges		
Criterion	Description	Problem
Personal Physician	Each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous and comprehensive care.	Patient's see a variety of physicians' for complaints that should be addressed by a primary care physician. The personal physician does not always provide first contact care. Patients without a personal physician have worse outcomes as compared to patients who have continuous and personal relationships with their physician (Rosenthal 2008).
Physician Directed Medical Practice	At the practice level, the personal physician leads a team of individuals who collectively take responsibility for the ongoing care of patients.	Physicians and staff do not work efficiently or effectively. Instead of seeing patients, physicians spend an excessive amount of time doing clerical work and staff are not utilized to their potential. Patients with chronic conditions who do not receive team based care have worse health outcomes as compared to patients who receive interdisciplinary team care (Boult et. al 2009, Rosenthal 2008).
Whole Person Orientation	The personal physician is responsible for providing all the patient' health care needs. When necessary, the physician should take responsibility for appropriately arranging care with other qualified health professionals. This includes care for all stages of life; acute care, chronic care, preventive services; and end of life care.	Physicians see patients as a derivative of their disease process. Social determinants of health and are given minimal importance (Safran 2003).
Care is Coordinated/Integrated	Care is coordinated across all elements of the complex health care system and the patient's community. Registries, information technology and health information exchange facilitate care to assure patients get the indicated care when and where they need it.	Patient care is fragmented. The result is duplication of services, waste of health care resources, and patient and physician frustration. Patients who receive fragmented care do not experience benefits of care coordination: improved health outcomes, increased cost savings, and better patient satisfaction (Rosenthal 2008, Katz 2011, Lemmens et al., 2009, Casey et al. 2011).
Quality and Safety Clinical Medicine	Evidence based medicine and clinical decision support tools guide decision-making.	Specialists adhere to disease algorithms but fail to incorporate a patient's co-morbid conditions, preferences or resource availability. Primary care physicians meet guidelines for behavioral risk factors such as diet and exercise, but do not meet disease specific guidelines (Rosenthal 2008).
Quality and Safety Systems Quality Improvement	Physicians accept accountability for continuous quality improvement through voluntary engagement in performance measurement and improvement.	There is variation among physicians' quality improvement measures. Even when practices measure quality, little evidence explains variations between benchmarks and practice outcomes (Rosenthal 2008).

Table 1 (cont'd). Description of PCMH criteria and synthesis of major challenges		
Criterion	Description	Problem
Quality and Safety Systems Quality Improvement	Patients participate in decision-making. Practices seek patient feedback to ensure patient's expectations are being met.	The managed care model positions primary care physicians as gatekeepers. Physicians, not patients, control patient care (Rosenthal 2008).
Quality and Safety Systems Quality Improvement	Practices go through a voluntary recognition process by an appropriate non-governmental entity to demonstrate they have capabilities to provide services that are consistent with PCMH.	Current evidence for fully implemented PCMH is limited. Challenges include inconsistent terminology and various interpretations of PCMH concepts.
Quality and Safety Health IT	Health care providers appropriately utilize information technology to support optimal patient care, performance measurement, patient education and enhanced communication.	Health IT is a vehicle that could facilitate many PCMH components. However, health IT does not guarantee better health outcomes. Barriers to widespread implementation of Health IT include cost and incompatibility of various systems (Buntin 2011, Ferrante 2010).
Enhanced Access	Care is available through systems including open scheduling, expanded hours and new options for communication between patients, their personal physician, and practice staff.	Insurance status enables but does not ensure appropriate access to care. The limited business hours of primary care practices force patients to misuse emergency rooms and urgent care. Barriers to enhanced access include patient accessibility to computers and ability to navigate electronic communication (Reid et al., 2009).
Payment Reform Services	Reform should allow for fee for service payment for face-to-face visits.	Current payment systems do not value extra tasks carried out by primary care physicians and staff. However face to face visits are still the basis of primary care.
Payment Reform Services	Payment reform should reflect the value of physician and staff work that falls outside of the face-to-face visit. This includes recognizing the value of physician work associated with remote monitoring of clinical data.	Insurers base payments on face-to-face visits. Physicians and staff are not compensated for time spent on the phone, charting, following up on lab results, paperwork/forms brought up by patients, calling pharmacy's for prescriptions and chart review from home.
Payment Reform Services	Payment reform should pay for services associated with coordination of care within a given practice and between consultants, ancillary providers, and community resources.	Insurers do not compensate primary care physicians for time spent coordinating care. There is no incentive to coordinate transitions from hospital care and consultants to primary care. This can result in duplication of services and poor patient outcomes (Rosenthal 2008).
Payment Reform Products	Payment reform should support adoption of health information technology for quality improvement.	Organizations assume start up costs. Often, cost of change exceeds profits for small hospitals and practices. Large organizations offer health IT to compete with other large health systems, and not necessarily to maximize patient health outcomes.

Table 1 (cont'd). Description of PCMH criteria and synthesis of major challenges		
Criterion	Description	Problem
Payment Reform Products	Payment reform should support provision of enhanced access to communication such as secure email and telephone consultation.	Current payment only considers face-to-face visits.
Payment Reform Systems	Payment Reform should recognize case mix differences in the patient population.	Insurers reimburse physicians based on inflexible fee schedules rather than case complexity (Feder 2011). Physicians are reluctant to accept large numbers of Medicaid patients.
Payment Reform Systems	Physicians should share in savings from reduced hospitalizations associated with physician-guided care management in the office setting.	Insurance companies capture the cost savings. Physicians have no incentive to minimize hospitalizations (Goldsmith 2011).
Payment Reform Systems	Payment reform should allow for additional payments for achieving measurable and continuous quality improvements.	Insurers base payments on volume of services; quality outcomes are not taken into consideration (Rosenthal 2008).

Column 1 of Table 1 outlines the seven major components that formulate PCMH.

Column 2 of Table 1 provides a brief description of each PCMH criterion. Column 3 of Table 1 provides a synthesis of the literature describing the challenges preventing development and implementation of PCMH.

Table 2. Corresponding Sections of H.R. 3590 to PCMH Criteria

General	Personal Physician	Physician Directed Practice	Whole Person Orientation
1332	5201*	3108*	2713 (1001)*
2601	5203	3114	1323
2703*	5301*	5101*	2406*
2704	5310	5102*	3111*
2953	5503*	5103	3113
3021*	5504	5202	3506*
3025	5505	5204*	4103*
4101	5506	5205*	4104*
5405*	6407*	5206*	4106
		5208*	4202*
		5302*	4206*
		5308	
		5309*	
		5507	

Coordinated/Integrated Care	Enhanced Access	Quality and Safety	Payment Reform
2401*	5605	2717 (1001)*	1343*
2402*	10502	1561*	2705
2602*	10504	2701*	2706
2951		3002*	2707
3026*		3011*	3001
3502*		3012	3007*
3503*		3013*	3101
4001		3014	3102
4002		3015*	3104
4003		3501*	3131
4101*		3508	3134*
4201*		4105*	3135
10333		4302	3201*
		6105	3511
		6106	4401*
		6107	5501*
		6301*	10304
		10303*	
		10327*	
		10330*	
		10331	
		10332	

*Sections with 1 or 2 degrees of applicability to PCMH criteria, included in further analysis
 --Sections with 3 or 4 degrees of applicability, not included in further analysis

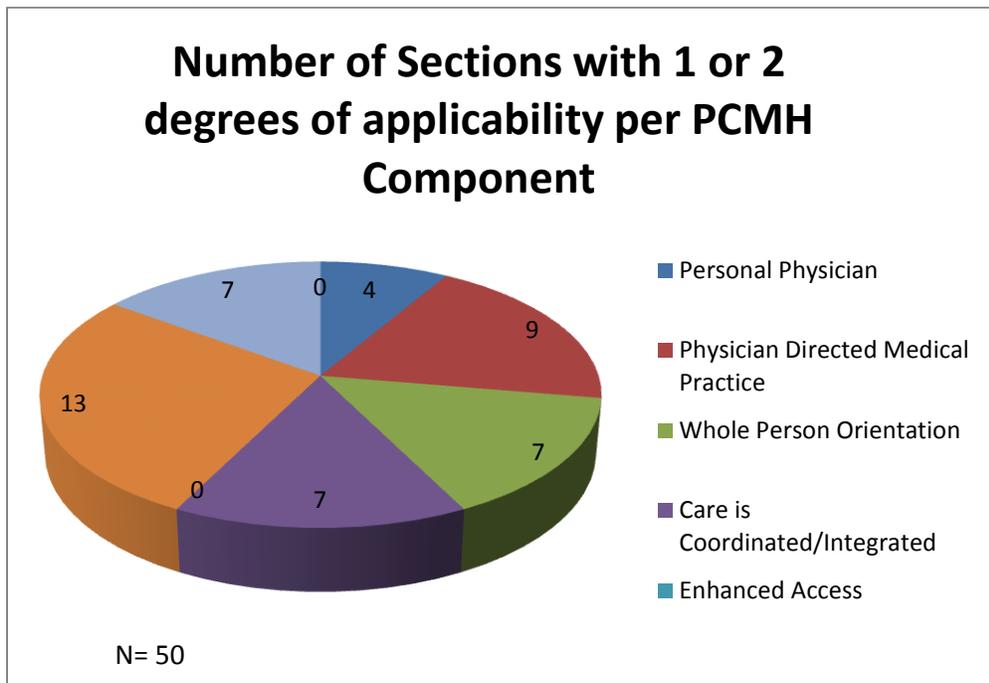


Figure 1.

Table 2 lists each section of the ACA that has a section title that relates to each PCMH component outlined in Table 1 respectively. Sections that maintain a 3rd or 4th degree of applicability to PCMH components were not included in any further analysis. The starred sections are included in further analysis because they possess a 1st or 2nd degree applicability to PCMH. There were 50 sections that met criteria for 1st or 2nd degree of applicability. Figure 1 is a visual representation of the 50 sections broken down by PCMH component. Of those 50 sections, four sections discussed were relevant to personal physician, nine sections discussed physician directed practice, seven sections discussed whole person orientation, seven sections were relevant to care that is coordinated, zero sections discussed enhanced access, 13 sections discussed quality and safety, and seven sections discussed payment reform.

Table 3 through Table 10 displays a modified SWOT analysis of each PCMH component with sections that maintain 1st or 2nd degree of applicability to PCMH. The strengths and

weaknesses of each section are outlined. Sections with green lights are “true positives.” This means that the section title suggests a first or second degree of applicability and after analysis of the section, the section precisely illustrate core PCMH concepts and address PCMH problems outlined in original criteria/problem statement (Table 1). Sections with a yellow light contain some components of PCMH but do not sufficiently address PCMH problems in Table 1.

Sections with a red light do not illustrate core PCMH components and do not address problems in the Table 1 even though the section titles suggest a first or second degree of applicability.

Therefore, the sections with a red light denote false positives.

	Section	Description	Appropriations	Strengths	Weaknesses
 E Starfield 2004	2703	State option for medical assistance for individuals with chronic conditions who select a designated health home. Payment is made to health home.	Limit of \$25M to states in planning grants	<ul style="list-style-type: none"> -Payments are not limited to per member per month systems. Alternate methods of payment can be considered -Emergency departments must refer patients with chronic conditions to designated health home providers -Requires states to develop a methodology for tracking savings from improved care coordination across continuum of care -Requires states to develop a proposal for use of HIT to improve care coordination across continuum of care -Independent evaluation of outcomes (hospital re-admissions, ER visits) for states that have opted to participate in coordinated care through health home 	<ul style="list-style-type: none"> -States can have option to participate in health home -Definition of health home and health home services are general. It includes providers, community clinics and a team of health care professionals. In this non specific definition, almost every clinic can be defined as a health home without incorporating PCMH components -No consequences outlined for poor quality/ poor health outcomes for health homes -Short time frame for evaluation and reports. Congress mandates a report by 2014 and independent evaluation needs to be completed by 2017 -Does not specify payment given to health homes. Appropriations are for planning grants, not for payment
	3021	Establishment of CMI to test innovative payment and service delivery models		<ul style="list-style-type: none"> -Specifies PCMH model of care as a delivery model option -Selection of models to be tested include models that include many integral PCMH components including <ul style="list-style-type: none"> *supporting care coordination through HIT *funding home health providers who provide care in cooperation with teams -Encourages community based health teams to support small practice PCMH. This supports PCMH as flexible model that can be incorporated in many different practices rather than a rigid template -Models should be patient centered -Models should utilize HIT and remote monitoring settings -Emphasis on team based interventions 	<ul style="list-style-type: none"> -PCMH models are linked to high need chronic care individuals only. This neglects subset of patients who do not fit this category. -Many other possible models for delivery methods -Encourages models in which physician is not leader of patient care team. (example- Patients can access physical therapy without referral of physician) -PCMH components are secondary considerations to possible service delivery methods. The PCMH components are not legislative mandates
	5405	Creates funding for health hubs and health extension agents that provide assistance to primary care practices to implement quality improvements and system redesign by incorporating PCMH concepts	\$120M for fiscal year 2011, 2012 and SSMBN for 2013, 2014	<ul style="list-style-type: none"> -Grants to establish state hubs. A hub will contract with primary care health extension agents to support primary care practices -A defined activity of the primary care health extension agents is to assist PCP to implement PCMH 	<ul style="list-style-type: none"> -Program lasts for 6 years but funding is through 2014. Therefore, for most effective use of funding, full implementation plans must be submitted before 2012. This is an extremely short time frame to coordinate with different stakeholders -No definition of PCMH principles

Generalized PCMH concepts

Out of the 50 sections that had 1st or 2nd degree applicability to PCMH, three sections referred to general PCMH concepts. Two out of the three sections, or 67% received a true positive green light rating. One out of three sections is supported by evidence. None of the sections are supported by evidence.

Table 4. *Modified SWOT Analysis - Personal Physician*

	Section	Description	Appropriations	Strengths	Weaknesses
 E Starfield 2005 Macinko et al., 2007	5201	Primary Care loans for Medical Students		-Incentivizes medical students to join primary care to increase primary care physician supply	-Not all physicians trained in primary care will work as a first contact physician
 E Starfield 2005 Macinko et al., 2007	5301	Grants to accredited organizations to plan, develop, and participate in primary care training	\$125 M per fiscal year for 2010-2014	-Specific priority given to PCMH or PCMH components	-Other groups also given a priority -Only 5 years to use appropriations
	5503	Distribution of additional residency programs		-Increase the number of residency positions to schools that submit an application -Remove residency positions if positions are not filled -Priority given to areas of U.S with low physician to population ratio.	-Net increase in positions will be zero -Increases in residents are not limited to primary care physicians. At least 75% increase in primary care or general surgery residency
	6407	Required face to face encounter with physician for Medicaid home health service/equipment		-Incentive to have primary care physician	-Could be a barrier to care, therefore not patient centered

Personal Physician

Out of the 50 sections of the ACA had 1 or 2 degrees of applicability to PCMH, four sections discussed personal physician. 75% of the sections received a yellow light and were deemed to have limited PCMH compatibility. Two out of four sections, section 5201 and 5301, are supported by evidence. The evidence supports increasing the primary care physician supply and utilizing primary care models to improve health outcomes (Starfield et al., 2005, Macinko et al., 2007).

	Section	Description	Appropriations	Strengths	Weaknesses
	3108	Permitting physician assistants to order post hospital extended care services		-Physician assistant can practice to highest level of license	-Minor semantic change to already existing Social Security Act
	5101	Establishes a National Health Care Workforce Commission. The commission will review health care work force supply and demand issues and will be a national resource to coordinate, evaluate and encourage innovations for the health care workforce	Can request sums necessary to carry out function	-Large commission that coordinates with many different departments including HHS, Labor, Homeland Security and Veterans Affairs. This will compromise a wide variety of professional perspectives. -Initial high priority area is to create an integrated health care workforce that maximizes skill sets of health care professionals across disciplines -Establishes power to get data, published or unpublished, from any department or agency of the Executive Branch to carry out the commission's function -Can award money to organizations for original research if data is inadequate	-Large commission coordinating with many different departments -Majority of people on commission must be non health care providers -Reports compiled in a very short amount of time (on a yearly basis)
	5102	State health care workforce development program. Establishes state partnerships with community members to develop and implement workforce policies	\$8 M for fiscal year 2010.SSMBN for each subsequent fiscal year for development \$150 M for fiscal year 2010 SSMBN for each subsequent fiscal year for implementation	-Priority is to identify federal and state policies to develop a comprehensive and coherent health care workforce, identify barriers, and plans to resolve barriers -Performance benchmarks must be established - Program must plan for development and implementation	-Various other outlined priorities -State partnership must match at least 15% of the grant for development grants, and 25% of the grant for implementation grants
	5204	Public Health Workforce loan repayment program	\$195,000 for each fiscal years 2010-2015 up to \$35,00 per individual	-Incentive for individuals to work in public health at Federal, State, local or tribal level -Potential to increase the number of staff available for PCMH	-Maximum of 5.5 individuals helped per year, if individuals given maximum assistance
 E Boulton et al., 2009	5205	Allied health workforce retention and recruitment			- A semantic amendment to Higher Education Act of 1965 -Does not identify how legislation will ensure recruitment and retention of allied health programs
 Boulton et al, 2009	5206	Grants to provide additional training for mid career public health and allied health professionals	\$60 M for fiscal year 2010, SSMBN for fiscal years 2011-2015	-Incentive for mid-career public health and allied health professionals to receive additional training -Potential to increase the number of staff available for PCMH	-Does not specify that increase in workers should be used in outpatient primary care teams
	5208	Development of nurse managed comprehensive primary care clinics	\$50M for fiscal year 2010 and SSMBN for fiscal years 2011-2015	- By increasing access to a point of care, program increases probability that patient will see a physician at some time in the future	-Does not promote physician directed medical practice -Does not promote a team based approach to preventative care or chronic care -Exacerbates fragmentation of care for vulnerable populations

 E Boulton et al., 2009	5302	Tuition assistance for training opportunities for direct care workers including workers in nursing homes, skilled care facilities, long terms care settings, home and community based settings	\$10 M for period between fiscal years 2011-2013	-Potential to increase supply of staff available for PCMH -Individual receiving grant must work in field of geriatrics, disability services, chronic care management or long term services. This ensures staff availability in fields that commonly encompass PCMH	
	5309	Nursing retention grants given to accredited nursing schools to promote career development	SSMBN for fiscal years 2010-2011	-Specifically mentions grants should be given to enhance patient care directly related to nursing activities. Patient care will be affected by enhancing collaboration and communication among nurses and other health care professionals and by promoting nurse involvement in the organizational and clinical decision making process.	-Other areas of nursing priority can receive funds

Physician Directed Medical Practice

Out of the 50 sections of the ACA that had 1 or 2 degrees of applicability to PCMH, nine sections discussed Physician Directed Practice, second only to sections referring to Quality and Safety. 56% of sections received a green light, meaning that they were specific to PCMH and were considered true positives. The evidence supports three out of nine sections. Sections 5205, 5206 and 5302 incentive an increase in the supply of non physician workers in the health care industry and further training for direct care workers. The literature supports interdisciplinary primary care to improve quality of care, quality of life and functional autonomy (Boulton et al., 2009). Section 5302 received a green light and is evidence based. It specifies that individuals receiving grants for tuition assistance as direct care workers must work in fields common to PCMH, including geriatrics, chronic care management or long term services. Section 5208 received a red light. Not only does it fail to illustrate core PCMH components, but it directly refutes physician directed practice because it calls for nurse managed clinics with no specified connection to physicians.

Table 6. Modified SWOT Analysis - Whole Person Orientation					
	Section	Description	Appropriations	Strengths	Weaknesses
	1001 Amend. 2713	Extension of coverage for preventative health services		-Health insurance plans must provide coverage for services that meet USPSTF recommendations level A and B without cost sharing with patients -Health insurance plans must provide coverage for CDC recommended immunizations without cost sharing with patients	
	2406	Senate concurs with Supreme Court decision Olmstead vs. L.C. Individuals with disabilities have the right to choose community based long term care instead of institutional long term care		-Recognition that community based long term care is more cost effective than institutional long term care -Recognition that half of states spend less than 25% of Medicaid long term care dollars on community based care -Call to action for 111 th congress to address long term services -Proclamation that long term services should be made available in the community	-111 th congress session runs from Jan 2009-Jan 2011. This is a short window to address long term care -No legislative imperative, merely a suggestion
	3111	Payment for bone density tests		-Payment is 70% of the product of relative value of service, conversion factor, and geographic adjustment factor -Participate with Institute of Medicine study on the ramifications of Medicare payment reductions for DEXA scans	-Change in payment is specified for 2010 and 2011 only -Unsure if required payment is higher or lower than previously determined DEXA payment
	3506	Program that facilitates shared decision making between patients and provider. Tools to aid decision making should incorporate patients' beliefs, preferences and circumstances.	SSMBN for each fiscal year	-Grants awarded, in coordination with CDC and NIH, to develop and produce patient decision aids -Grants awarded to develop Shared Decision Making Resource Centers. Resource centers will develop best practices for patient decision aids and technical assistance for providers	-Aims to consider social determinants of health but mainly addresses patient education. Patient education is only one barrier to healthful life.
	4103	Medicare coverage of annual wellness visit		-100% payment and no deductible for annual wellness visit. This is an incentive for practices to provide and patients to seek preventative care -No time limit for 100% coverage after Jan 1 st 2011	-Does not consider patients who are not covered under Social Security Act
	4104	Medicare coverage of preventive services		-100% payment and no deductible for preventative services recommended with grade A or B by USPSTF. This is an incentive for practices to provide and patients to seek preventative care -No time limit for 100% payment after Jan 1 st 2011	-Does not consider patients not covered under Social Security Act
	4206	Demonstration project to reduce risk factors for preventable conditions at community health centers for at risk-populations	SSMBN No time period designation	-Formulation of individual wellness plans that consider nutritional counseling, physical activity, stress management and compliance assistance. Researchers will compare results against a control group. This will increase the available research on whole person orientation of care.	-Maximum of 10 community health centers can participate in this project. Will reduce "N" for study results

Whole Person Orientation

Out of 50 sections of the ACA that had 1 or 2 degrees of applicability to PCMH seven sections discussed whole person orientation. 57% of those sections received a green light, 33% received a yellow light, and 11% received a red light. None of the sections were supported by literature. Section 4206 received a green light. It supports core PMCH components and aims to address problems in Table 1, however, it is not supported by evidence. The section calls for a demonstration project that incorporates targeting social determinants of health as a method to reduce risk factors for preventable conditions. Therefore, it will increase future evidence for health care that incorporates whole person orientation.

Table 7. *Modified SWOT Analysis - Care is Coordinated/Integrated*

	Section	Description	Appropriations	Strengths	Weaknesses
	2401	Establishes community based attendant services to help individuals accomplish ADL's and IADL's		-State must establish continuous quality assurance system that incorporates feedback from individuals and providers	-Does not link physicians to community based services. Although the provider is involved, the states quality assurance program is independent of physicians.
	2402	Removal of barriers to providing home and community based services		-States must develop regulations that improve coordination among federally and state funded programs for home and community based services	-State and federal programs provide a wide range of services. Does not specify role of primary care outpatient offices
	2602	Establishment of Federal Coordinated Health Care Office to coordinate dual eligible individuals (Medicare and Medicaid)		-Aims to improve care continuity to ensure safe and effective transitions between dual eligible individuals -Supports state efforts to coordinate long term care with acute care for dual eligible individuals	-Does not address individuals without Medicare/Medicaid
 E Garcia Garcia et al., 2011	3026	Improve care transition for high risk Medicare beneficiaries	Proportion of \$500 M for 2011-2015	-Targets patients who need coordination of services the most based on severity of condition (ex- chronic condition, cognitive impairment)	-Involves hospitals and an external community based organization to provide care transition services." An extra party becomes involved, PCMH is not involved -Eligible entities must have high re-admission rates. If you lower re-admission rates through this program, entities will lose funding.
 E Lemmens et al., 2009	3502	Establishing community health teams to support PCMH		-Specifies all major components of PCMH as defined by professional organizations -Specifies data collection and evaluation of patient outcomes -Outlines relationship between health teams and primary care providers	-Grants are given to state designated entities, not to PCMH. Therefore it is unclear who will direct PCMH activities. -Unclear how community health teams and providers will communicate

	3503	Grants for medication management (MTM) services by licensed pharmacists for individuals with chronic conditions		<ul style="list-style-type: none"> -In order to be eligible for grants, must coordinate with health teams referenced in sec 3502 -Treatment plan, goals, follow up and medication changes must be agreed upon by physician and patient -Must assess changes in patient and provider satisfaction and health outcomes 	-No required system for communication. High probability that burden of communication will still fall on the patient. Communication between MTM and provider might still be slow and inconsistent.
	4201	Competitive grants to state/local government agencies for implementation, evaluation, and dissemination of evidence based community preventative health activities	SSMBN for each fiscal year 2011-2014	<ul style="list-style-type: none"> -Requires proof of relationship with health care provider in the community -Focuses on social determinants of health within a patient's community 	-Engaging health care provider does not ensure coordination. There is a high probability that services will be duplicated.

Care is Coordinated/Integrated

Of the 50 sections that had 1 or 2 degrees of applicability to PCMH, seven sections discussed care that is coordinated/integration. 43% of these sections received red lights, 29% received green lights and 29% received yellow lights. Three out of the nine sections are supported by evidence. Section 3502 received a green light and is supported by evidence. The section aims to create community health teams to support the development of PCMH. Not only does this section outline all the major components of PCMH, but it also specifies a relationship between community health teams and PCMH. A multi-factorial systems based approach to care, with patients, physicians and systems interacting in a precise delineated manner decreased hospital admissions and improved quality of life outcomes (Lemmens et al., 2009).

	Section	Description	Appropriations	Strengths	Weaknesses
 E Reid et al., 2009	2717 Amend (1001)	Health insurers must report quality measures in order to improve health outcomes		-Specifies use of medical home model -Specifies use of patient centered hospital discharge planning -Specifies use of HIT to improve patient safety -Ability to impose penalties for noncompliance	-Defines medical home model as per section 3602 of ACA. However, section 3602 does not define PCMH.
	1561	HIT grants for patient enrollment in Federal and State programs		-Capability for individuals to apply, recertify and manage eligibility online This will simplify submissions and assist with retention of eligible individuals	-Might require that states use federal protocols for HIT in order to receive HIT grants. Potential to stifle technology updates
 E Rittenhouse et al., 2009	2701	Development of a core set of health care quality measures for Medicaid patients	\$60 M for each fiscal year 2010-2014	-Core set of quality measures must have standardized reporting format -Quality measures must be revised and strengthened after a period of time -Time restrictions for development, dissemination, and revision of measures	-Does not limit services to only those that are evidence based
	3002	Incentives for physicians to submit quality measures		-After 2015, physicians who do not submit quality measures will be paid 98% of fee. -Quality measures must demonstrate meaningful use of EHR	
	3011	Establish national strategy to improve health outcomes		-Priority is to improve health outcomes and patient centeredness -Priority is to enhance use of health care data to improve quality -Priority is to improve dissemination of best practices -Establishment of benchmarks to achieve national priorities -Development of strategies to align public and private payers with regard to quality	
 E Rittenhouse et al., 2009	3013	Grants for development of quality measures	\$75M for each fiscal year 2010-2014	-Priority given to entities to develop quality measures that allow assessment of care coordination across continuum of providers -Priority given to entities to develop quality measures that allow assessment of patient-centeredness, patient experience and satisfaction	-Unclear if quality measures are developed by CMS or other eligible entities
	3015	Grants for data collection and analysis of QI data that is available to public and providers	SSMBN for each fiscal year 2010-2014	-Grants eligible to entities capable of collecting data for specific populations by strategies such as disease registries. Disease registries can be a component of PCMH -Quality measures are reported on a publicly available website	-In order to receive grants, reporting certain quality measures is mandatory, not voluntary -Entities who receive grants must match \$1 for every \$5 federal dollars. This could be a barrier for smaller hospitals/providers to participate as eligible entities

	3501	Development of The Center for Quality Improvement and Patient Safety	\$20 M for fiscal years 2010-2014	-Create strategies for quality improvement through development of tools and methodologies that reduce variations in the delivery of health care -Support activities that assist health care providers in communicating with other providers and patients -Priorities of Center are partially based on patient and provider assessment	- Priorities infer, but do not specifically identify the implementation of EHR -The section referenced for meaningful use of EHR (sec 3000) is not found in the printed version of H.R. 3590
	4105	Evidence based coverage of preventive services in Medicare		-No payments made for a preventative service that has not received grade A, B, C or I by USPSTF	
	6301	Establishment of Patient Centered Outcomes Research Institute	Graduated amount per year starting with \$10M for fiscal year 2010, \$50M for 2011, \$150M for 2012	-Priority includes research for quality of care -Priorities should take into account goals established by National Strategy for Quality Care	-Outlined research strategies and funding follow traditional medical research format. Specified research includes randomized clinical trials for medications, molecular treatments, and strategies for peer review. Establishment of procedures seems redundant to well established practices in medical research.
	10303	Development of outcome measures		-Development of outcome measures at physician and hospital level for top 5 acute and chronic conditions and preventative care. This might serve as a model/benchmark for physicians in practice to use. -Outcome measures are revised every three years	
	10327	Improvements to physician quality reporting system		-Quality percent is added to payment as an incentive	-In order to qualify for payment incentives, must submit quality measurements for one year only -In order to qualify for payment physician must participate in Maintenance Certification Program. This program is almost identical to CME requirements so seems redundant.
 E Buntin et al., 2011	10330	Modernize the computer and data systems for CMS		-Call to establish a strategy and budget to improve CMS computer systems	-Only specifies CMS computer modernization. This does not incentivize private providers to update computer systems.

Quality and Safety

Of the 50 sections that had 1 or 2 degrees of applicability to PCMH, the most number of sections, 13, were dedicated to quality and safety. Of the 13 sections, 62% received a green light, 15% received a yellow light and 23% received a red light. Six out of the 13 sections are evidence based. Sections 10330 and 1561 discuss HIT. 10330 discusses modernizing CMS computer systems and is

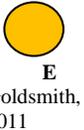
supported by literature that states that more advanced HIT results in positive health outcomes (Buntin, 2011). 1561 is refuted by HIT evidence. Section 1561 discusses grants to develop HIT for patient enrollment so that individuals can manage eligibility online. Evidence suggests that even though HIT supports better health outcomes, the challenges to HIT implementation are order entry and variability in computer literacy. These are the main tasks associated with section 1561. Amendment 2717 of section 1001 discusses a quality reporting system that incorporates major PCMH components such as care coordination, chronic disease management patient safety, health and wellness. According to the literature, PCMH model increased HEDIS quality indicators. Sections 2701 and 3013 discuss grants for development of new quality measurements. The literature suggests that new quality measurements are needed because traditional disease specific mortality and morbidity indicators may not accurately measure primary care processes because of time lag between intervention and disease process (Rittenhouse et al., 2009).

Table 9. *Modified SWOT Analysis - Enhanced Access*

	Section	Description	Appropriations	Strengths	Weaknesses
	None applicable				

Enhanced Access

Of the 50 sections that had 1 or 2 degrees of applicability to PCMH, no sections discussed enhanced access to care.

Table 10. Modified SWOT Analysis - Payment Reform					
	Section	Description	Appropriations	Strengths	Weaknesses
	1343	Risk adjustment for the individual or small group market		-Payment to insurers whose actuarial risk is higher than average state risk -Charge to insurers whose actuarial risk is lower than average state risk These changes recognize case mix differences in the population	-Does not account for actuarial risk in large markets. Unlikely to incentivize physicians to accept Medicaid patients
	2706	Demonstration project for establishment of Pediatric Accountable Care Organization for the purposes of receiving incentive payments	SSMBN	-Encourages physicians to save costs because ACO's can share in cost savings	-4 year time frame for demonstration project. This seems like a small amount of time to see a large amount of cost savings
	3007	Value based payment modifier for physician fee schedule		-Establishes a modifier for physicians based upon the quality of care compared to cost. Health outcomes can be part of quality measures -Quality and cost measures should account for geographic, demographic, socioeconomic and health status of patients	-Legislation states that payment modifier should promote systems based care. However, systems based care is not defined
	3134	Re-assigning values to certain codes under the physician service fee schedule		-Establishes a process to re-evaluate and validate relative value units for physician work	-Assigning value for time and professional judgment are one of many suggestions, not a requirement
	3201	Performance bonus for MA plan		-Performance bonus if MA plans establish care management programs that establish financial policies that promote systematic coordination of care by PCP across full spectrum of specialties and sites of care, such as medical homes -Performance bonus if MA plans establish HIT programs that include clinical decision support systems -Bonus amount is based on number of programs implemented	-No widespread performance bonuses, only MA plans -Variety of other program options that make MA plans eligible for performance bonus other than care coordination with medical homes -Performance bonus only factors quantity of implemented programs, not quality
	4401	Sense of senate regarding CBO scoring for prevention and wellness programs		-Senate feels that cost of prevention programs are hard to estimate because results usually fall outside 5-10 year budgeting window. Therefore, congress should work with CBO to develop better methodology to score prevention and wellness programs	-Sense of senate expresses a majority opinion. It is not a law, is not enforceable. A sense of senate is a political tactic.
	5501	Incentives to physicians to provide primary care services and general surgery services		-General incentive for primary care physicians. It provides for an extra 10% on a monthly or quarterly basis for primary care services	- Does not specify payment for quality measures or non visit based/procedure based services - Incentive for general surgery in health professional shortage areas -Incentive is for a short time period from 2011-2016. Short term incentives are unlikely to persuade physicians to choose primary care specialties.

Payment Reform

Of the 50 sections that had 1 or 2 degrees of applicability to PCMH, seven sections discussed payment reform. 43% had limited applicability to PCMH and received a yellow light, 29% received a green light and 29% received a red light. Of the seven sections, no sections were evidence based.

Table 11. <i>Descriptive Analysis of ACA sections pertaining to PCMH</i>		
	Frequency	Percent
Total number of sections in ACA	441	100%
Sections associated with PCMH concepts in ACA	98	22%
Sections with 1 or 2 degrees of applicability to PCMH in ACA	50	11%
Sections considered "true positive" after analysis (green dots) in ACA	23	5%
Sections considered "false positives" after analysis (red dots)	11	2%
Sections considered "true negatives" after analysis in ACA	48	11%
Number of sections considered "false negative" after analysis	N/A	N/A

Table 12. <i>Analysis of Sections with 1 or 2 degrees of applicability to PCMH in ACA (N= 50) by PCMH components</i>				
	True Positive	Limited PCMH compatibility	False Positive	Total
				
Generalized PCMH components (N=3)	67%	33%	0%	100%
Personal Physician (N=4)	0%	75%	25%	100%
Physician Directed Medical Practice (N=9)	56%	33%	11%	100%
Whole Person Orientation (N=7)	57%	29%	14%	100%
Care is Coordinated/Integrated (N=7)	29%	29%	43%	100%
Enhanced Access (N=0)	N/A	N/A	N/A	N/A
Quality and Safety (N=13)	62%	15%	23%	100%
Payment Reform (N=7)	29%	43%	29%	100%

Tables 11 and 12 are a descriptive analysis of ACA sections pertaining to PCMH. 22% of all sections in the ACA have section titles that are associated with PCMH concepts. 11% of all sections in the ACA have 1 or 2 degrees of applicability to PCMH. Of the 11%, 5% of ACA sections were considered true positives (green lights) and 2% of the sections were false positives (red lights).

Discussion

The current health care delivery model effectively solves acute medical problems. For example, physicians, hospitals and health systems, including public health systems, handle infectious disease and acute cardiovascular events in an evidence based algorithmic manner. Researchers compiled a fund of largely molecular based scientific knowledge of antibiotics and medications that target a specific disease process. Public health departments, in cooperation with hospital systems, enacted preventative measures such as education materials to encourage proper hand-washing, droplet precautions in hospitals and automatic external defibrillators (AED) in public places such as shopping malls and airports. These systems based changes reflect our knowledge of acute disease processes and known strategies for prevention of catastrophic events.

Due to the success of acute care management, the burden of disease processes has changed from acute problems to chronic care management. The current paradigm of acute disease cure does not support effective chronic disease management. For example, obesity is a non-infectious epidemic. However, a single medication cannot stop the epidemic.

Family medicine physicians encounter daily challenges because of the ineffectiveness of the current acute care paradigm. For example, communication between specialists and primary care physicians is slow and inefficient. In addition, there is a little incentive for family medicine physicians to focus on preventative medicine because family medicine physicians do not share in

the cost savings of decreased hospital re-admissions or admissions due to preventative health.

Public health, in cooperation with physicians and health systems, must create a new paradigm to tackle chronic disease management rather than acute disease cure.

The PCMH is a health care delivery model that tackles the unique complexities of treating chronic conditions. It aims to create a multi-factorial system that provides evidence based medical care, payment reform supported by quality measures, decision support through HIT, and a parallel emphasis on treating molecular and non-molecular based (social determinants of health) pathology for disease processes.

PCMH is relatively new concept that is gathering momentum. TransforMed and NCQA (National Committee for Quality Assurance) are two major organizations working on the development and implementation of PCMH. TransforMed is a national collaboration project that tests pilot PCMH around the country. NCQA is a nonprofit organization dedicated to improving health care quality and has a process to accredit primary care practices as PCMH.

The ACA is a legislative effort that impact's the development and implementation of PMCH. 22% of sections in the ACA referred in some way to PCMH, but only 11% were directly or indirectly related to PCMH concept. Still, this is not an insignificant amount. Interestingly, very few sections used the specific phrase Patient Centered Medical Home. For example, section 2703 refers to "health home" not PCMH. According to the definition health home specified in the legislation, almost all clinics and providers would qualify as a "health home" without incorporating any PCMH components. The few sections that mention specifically mention PCMH and outline specific PCMH components also specify restrictions to implementation. For example, section 3021 discusses testing of innovating payment and service delivery models, including PCMH. However, PCMH models will receive payment only if linked

to high need chronic care individuals, restricting PCMH use in larger patient population and limiting PCMH development.

A trend within the legislation was a mismatch between appropriations and time. For example, section 5405 supports development of PCMH by creating health hubs and health extension agents to assist primary care practices to incorporate PCMH concepts. The legislation outlines appropriations for this specific task. However, the time-frame for the appropriations ends in 2012 for an earmarked amount of money, and ends in 2014 for requesting such sums as may be necessary. Therefore, although there is legislative support and appropriations for development of PCMH, the time-frame limits proper development. Four years is a small amount of time to develop health extension agents, develop PCMH, and create working relationships between health extension agents and health hubs. Section 2706 establishes pediatric Accountable Care Organizations. However, there is only a 4 year time frame for this demonstration project. Most likely, there is not enough time for all incorporation of all PCMH components to see results and cost savings.

Another trend that emerged within the legislation is the lack of specificity to the true definition of PCMH. There are many sections in the legislation with the potential to create an environment in which PCMH can flourish, but do not specify PCMH components. For example, sections 5204, 5205, 5206 and 5302 discuss increasing the health care work force. Although there are earmarked appropriations and a specific strategy for funding, only section 5302 specifies the health care fields within which individuals receiving grants must work. Therefore, although PCMH will presumably require more health care workers per patient, there is no guarantee that the increase in health care worker supply will be utilized by PCMH.

Two of the most relevant sections to PCMH are sections 3502 and section 3011. Section 3502 establishes community health teams to support PCMH. Section 3502 most directly outlines PCMH components as defined by the professional consensus definition. However, the legislation gives grants to a third party community health team, not to PCMH, so it is unclear who will direct PCMH activities. In addition, there are no appropriations or specified evaluation for this section. Section 3011 establishes a national strategy to improve health outcomes. Although it does not specifically mention PCMH, it mentions specific PCMH components such as patient centeredness, measuring health outcomes, and enhanced data. The framework for the national strategy is reminiscent of Healthy People 2010 and 2020. By creating a national strategy with establishment of national priorities and benchmarks, all interested parties can work towards a common goal.

There was an inconsistency in the definition of PCMH terms as shown by the number of items crossed out in Table 2. Although the section titles seem to address PCMH components, reading of the section shows that, in fact, the legislation does not coincide with PCMH components. The PCMH component “enhanced access,” is the most notable example. After further examination, no sections discussed enhanced access. Undoubtedly, this is due to differences in definition of enhanced access. The legislation’s definition of enhanced access represents access to health care services via health insurance. Enhanced access in relation to PCMH suggests enhanced access to established health care providers through open access scheduling, HIT email appointments, and 24/7 primary care. The inconsistency of definitions was also apparent in coordination of care. In the legislation, coordination of care is defined as coordinating between large agencies or as the intersection between large provider organizations and clinics. PCMH definition of coordinated care means coordinated care at point of service.

Evidence does not support a majority of the sections. One reason for this trend is the minimal evidence available on PCMH components. Another reason for the lack of evidence could be the type of legislation outline in each section. A large number of sections identified methods or bureaucratic structural framework. For example, a number of sections within quality and safety called for the development of quality measures. Although most experts would agree that quality is a goal of health care, there is minimal evidence that reports which kind of quality indicators are most effective.

Recommendations

In order to increase the internal validity of this policy analysis, I would recommend repeating the analysis with a committee compromised of medical and legal experts. The legal experts could address complexities about the structure of the legislation and technical terms. Since the red, yellow, green light system was a subjective rating, a committee analysis would help rate each section when there is uncertainty of the PCMH specificity. In addition, I would read all the sections of the ACA to ensure that any other sections in the ACA do not directly oppose PCMH. In order to increase external validity, I would recommend more PCMH research. In order to increase effectiveness of PCMH components of legislation, I would recommend a longer time period for PCMH demonstration projects and appropriations. In addition, I recommend a consistency in definition of PCMH terms. Accuracy of PCMH terms is important when writing legislation. A miscommunication in the definition of PCMH terms causes a misdirection of funds. Funds are directed to initiatives that do not support the professional consensus definition of PCMH.

Limitations

A limitation of this policy analysis was the method of choosing which sections to analyze. I chose sections by reading section titles that reflected core components of PCMH. Therefore, the only sections that I analyzed were those that intended to support PCMH. However, the analysis did not assess for sections that would inhibit PCMH. For example, section 5208 discusses the development of nurse managed comprehensive clinics. This refutes the PCMH concept of physician directed practice. It is unknown how many other sections might inhibit PCMH. Another limitation of the methodology was that if a section referred to another section of another piece of legislation, such as Public Health Service Act, I did not look up the text of the cited legislation. Another limitation was the scope of the literature review. The search was limited to articles in English that contained full free text. In addition, many terms used in the query are new terms, so articles that capture the essence of PCMH but do not use PCMH terminology could be missed. Another limitation is that the policy analysis shows the potential impact of the ACA. I did not focus on the structure of the implementation. For example, a lot of sections specified a division of responsibilities. Due to the bureaucratic nature of the policy, the actual implementation could be different based on how well each agency implements each section. Therefore, the analysis focused on the potential impact of the policy.

Public Health

The policy analysis on the influence of ACA on the development of PCMH directly relates to public health. Specifically, it encompasses the core public health field of public health practice. PCMH helps physicians and other medical personnel to incorporate public health principles into a physician practice. For example, certain chronic diseases such as Type II diabetes, obesity, asthma and hyperlipidemia affect large populations, are influenced by the built

environment and social determinants of health, and can be successfully prevented with public health prevention techniques. PCMH utilizes many public health strategies to combat chronic diseases and create a healthier patient population. PCMH connects public health professions, such as dietitians, nutritionists, health behavior specialists, social workers, mental health professionals and community resources with patients more efficiently at the point of care. By studying the influence of the ACA on PCMH, I am assessing seven of the ten essential public health functions. Policy analysis helps research new insights and innovations for solutions to health problems, and by definition, the ACA is a plan to help support the health of individuals and communities. PCMH aims to integrate public health strategies into the current acute care system to improve the health of communities. PCMH monitors the health status of communities through advanced HIT and disease registries and informs people about health issues via patient education. In addition, PCMH mobilizes community partnerships by emphasizing whole person orientation and links people to health services by the use of coordinated care. Additionally, PCMH assures a competent health care workforce through physician directed medical practice. Because of the direct connection between PCMH and core public health functions, finding ways to develop PCMH will also strengthen development of community public health.

Conclusion

The Patient Centered Medical Home (PCMH) model of care incorporates many public health concepts. Some supporters of PCMH regard the Affordable Care Act (ACA) as legislation that will invigorate PCMH progress across the country. Even though 11% of the ACA was applicable to PCMH, only 5% of sections in ACA received a green light rating. Evidence does not support the majority of sections. Using PCMH terminology in the ACA does not guarantee PCMH development via legislative mandate. In order for policy makers and health

care leaders to see robust effects of PCMH, there must be a consistency in use of PMCH terms, more evidence surrounding PCMH, and a longer period for demonstration projects.

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Appendix 1 - Alphabetical Key to Abbreviations

ACA: Patient Protection and Affordable Care Act

ACO: Accountable Care Organization

ADL: Activities of Daily Living

Amend. : Amendment

B: Billion

CBO: Congressional Budget Office

CDC: Centers for Disease Control and Prevention

CME: Continuing Medical Education

CMI: Center for Medicare and Medicaid Innovation

CMS: Centers for Medicare and Medicaid Services

DEXA: Dual-energy x-ray absorptiometry

EHR: Electronic Health Record

ER: Emergency Room

HHS: Health and Human Services

HIT: Health Information Technology

IADL: Instrumental Activities of Daily Living

M: Million

MA: Medicaid Assistance

MTM: Medication Management

N: Number of cases or observations

NIH: National Institutes of Health

PCMH: Patient Centered Medical Home

PCP: Primary Care Physician

QI: Quality Improvement

SSMBN: Such sums as may be necessary

U.S.: United States

USPSTF: United States Preventative Services Task Force

Appendix 2 - Public Health Competencies Met

Analytic/Assessment Skills

1. Defines a problem
2. Identifies relevant and appropriate data and information sources
3. Applies ethical principles to the collection, maintenance, use, and dissemination of data and information
4. Makes relevant inferences from quantitative and qualitative data
5. Recognizes how the data illuminates ethical, political, scientific, economic, and overall public health issues

Policy Development/Program Planning Skills

6. Collects, summarizes, and interprets information relevant to an issue
7. Articulates the health, fiscal, administrative, legal, social, and political implications of each policy option
8. Develops mechanisms to monitor and evaluate programs for their effectiveness and quality

Communication Skills

9. Communicates effectively both in writing and orally, or in other ways
10. Solicits input from individuals and organizations
11. Listens to others in an unbiased manner, respects points of view of others, and promotes the expression of diverse opinions and perspectives

Basic Public Health Sciences Skills

12. Identifies the individual's and organization's responsibilities within the context of the Essential Public Health Services and core functions
13. Understands the historical development, structure, and interaction of public health and health care systems
14. Identifies and applies basic research methods used in public health
15. Applies the basic public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental public health, and prevention of chronic and infectious diseases and injuries
16. Identifies and retrieves current relevant scientific evidence
17. Identifies the limitations of research and the importance of observations and interrelationships