

Patient-Centered Medical Homes

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The Patient-Centered Medical Home (PCMH) is an interdisciplinary institution designed to secure and stabilize the primary care of the population. This form of care is characterized by a high degree of cooperation between individual specialist disciplines, the involvement of all participants (patient, relatives and nurses) and the constant clarification of the course of treatment. Especially in the US, which is characterized by its vastness and large rural areas, this model could improve medical care and facilitate access for people living there. However, it is necessary to generate and implement standards, particularly for the evaluation and implementation of these facilities, in order to demonstrate comparability of the performance achieved.

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1 Introduction

Frustration with the U.S. health care system is on the rise, and therefore, a variety of critiques exist including the rise of out-of-pocket costs and the lack of accessible health care. One major problem is the lack of implementation of a primary care system and the resulting overuse of emergency departments, as well as the decline in the numbers of primary care physicians (Phillips and Bazemore, 2010, p. 807; Berry and Mirabito, 2010, p. 157). Rural areas, especially, have significant problems with providing primary care (Ewing and Hinkley, 2013, p. 1). These issues require that new paths should be chosen which would encourage delivery system innovations (Berry and Mirabito, 2010, p. 158). One important and possible innovation is “patient-centered medical homes” (PCMH), which promise to reinforce the primary care system. The origin of the concept of a “medical home” was in 1967 (Klein, Laugesen and Liu, 2013, p. S82; Braddock et al., 2013, p. 141). Medical homes were designed as a coordinated-care model for children and a number of specialty pediatric clinics to manage patients with complex medical problems. These medical homes, re-imagined as the PCMH, entered the discussion on American health care because of some problems with primary care in the 2000s. One core component of this model is the formation of a primary care basis to improve the value of healthcare and reduce health care spending (Stange et al., 2010, p. 601; Klein, Laugesen and Liu, 2013, p. S82). These principles could be a real solution for the problems of primary care provision in rural areas.

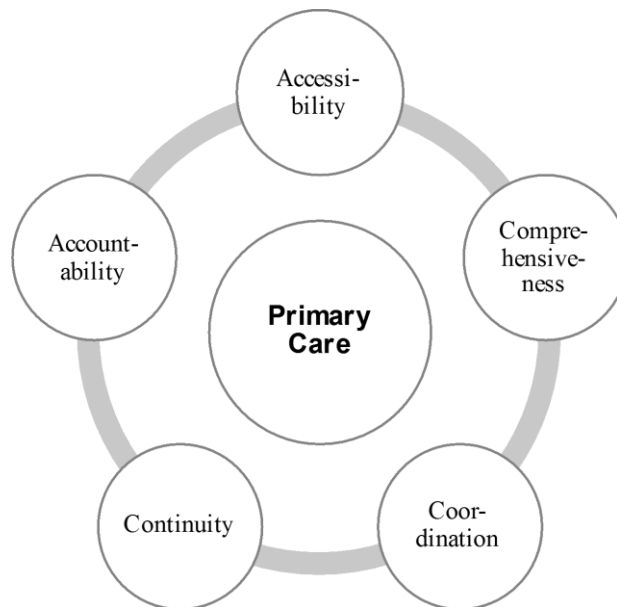
This essay aims to assess the strengths and challenges of PCMH as an innovative approach to primary care of rural areas. In the first section, an overview of primary care in general and primary care in rural areas is presented, followed by the theoretical framework of PCMH and their strengths and challenges. Finally, a critical evaluation of the suitability of the PCMH as an innovative approach to primary care of rural areas is provided.

2 Primary Care and Rural Areas in the United States

2.1 Primary Care in the United States

The U.S. Institute of Medicine (IOM) defines primary care as the provision of integrated, accessible health care services (Donaldson et al., 1996, p. 2). Additionally, primary care providers should be the first access point of the health care system (Berry and Mirabito, 2010, p. 158; Stange, 2009, p. 201). Primary care is a crucial factor for an effective and efficient health care system. Through primary care, a large majority of personal health care needs should be addressed and a sustained partnership between physician and patient should be established (Donaldson et al., 1996, p. 2). In order to reach these aims, five core attributes of primary care, as shown in Figure 5.1, are to set: accessibility, comprehensiveness, coordination, continuity and accountability (IOM, 1978, p. 16).

Figure 1: Five core attributes of primary care



Source: Own figure, based on IOM, 1978, p. 16.

Access to needs-based primary care services can maintain and improve health care, which is characterized by lower rates of illness and premature death (Starfield, Shi and Macinko, 2005, p. 457; Ewing and Hinkley, 2013, p. 1). Moreover, countries which have implemented an advanced primary care system achieve lower health care costs, enhanced outcomes and greater satisfaction overall. Population health in the U.S. federal states with improved primary care services is better than in those without (Macinko, Starfield and Shi, 2007, p. 123; Starfield and Shi, 2002, p. 213). However, due to various reasons, there is a lack of implementation of a primary care-centered health care system in the United States, and as a result, when scoring the availability and use of primary care, the U.S. has very low ratings (Sandy et al., 2009, p. 1,136, p. 1,140; Bates, 2010, p. 998).

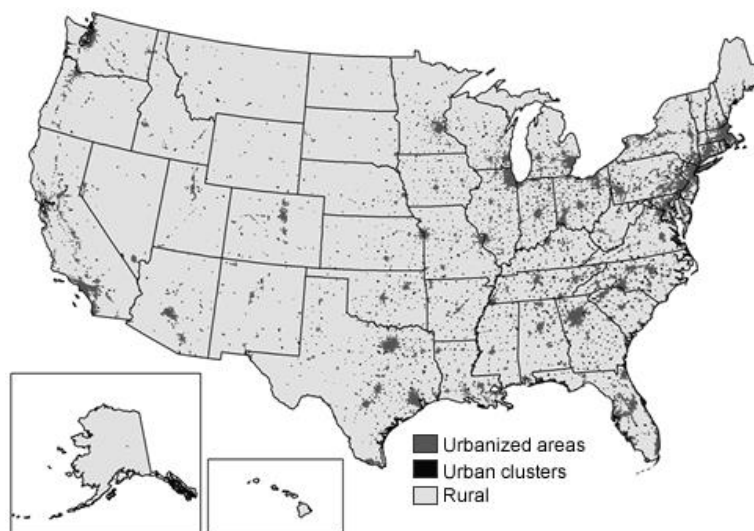
The reasons for the poorly developed primary care system in the U.S. are multi-layered and are based on political, economic, policy and institutional factors. One reason is the lack of national policies regarding the proportion of generalists versus specialists, which leads to a dominance of hospitals, especially of teaching hospitals and their focus on specialist care. More important is the failure of public policy to prevent the disintegration of primary care (Sandy et al., 2009, p. 1,140). Due to the focus on specialist care, the number of primary care physicians is declining, which in turn hampers the efforts to meet the current demand. Additionally, the high fragmentation of the health care system and the regular use of the emergency room as an access point to primary care complicate the implementation. Another issue and a source of dissatisfaction lies in the long waiting times for primary care, which can vary significantly from just a few days to a few months

(Berry and Mirabito, 2010, pp. 157-158). However, there are plenty of reasons for optimism due to the growing recognition of the importance of primary care (Sandy et al., 2009, p. 1140). The high costs of U.S. health care system may be reduced by a well-developed primary care system (Berry and Mirabito, 2010, p. 157; Reid et al., 2009, p. e71).

2.2 Rural Areas

First of all, it is essential to define the term “rural areas” due to the stark differences which distinguish rural and urban areas in the U.S. (USDA, 2017b). The different regions can be defined on the basis of administrative, land-use, as well as economic indicators. Therefore the results vary considerably in terms of socio-economic factors and well-being (Cromartie and Bucholtz, 2008). The U.S. Census Bureau defines rural areas as those areas that are outside of urban areas and urban clusters. The definition of urban areas is based on the population density and other measures of dense development (Ratcliffe et al., 2016, pp. 1-2). According to the National Rural Health Association (NRHA) approximately 20 percent of U.S. citizens live in rural areas (though due to the different definitions, the percentage can vary from 17 to 19 percent) (NRHA, n.D.; Cromartie and Bucholtz, 2008). The following figure illustrates the distribution of rural and urban areas.

Figure 2: U.S. Census Bureau’s urban and rural areas, 2010



Source: USDA, 2017b; U.S. Census Bureau, 2015.

Generally, rural areas face specific and distressing obstacles: high poverty rates, less-educated inhabitants, increased numbers of uninsured people, effects of the demographic shift such as the increasing elderly rural population, as well as the additional rise in demand for primary care as an impact of the Affordable Care Act (NRHA, n.D.;

Ewing and Hinkley, 2013, pp. 1-2; Bates, 2010, p. 998; USDA, 2017a). Consequently, the health of rural populations and their health-specific issues are significantly different from those in urban areas. When measuring health, the results show a health disadvantage for the rural population, especially in terms of the premature mortality rate (before 75 years) is higher (Eberhardt and Pamuk, 2004, p. 1,682).

When looking to the obstacles of primary care, rural areas have a lower primary care physician ratio with 39.8 physicians per 100,000 inhabitants than urban areas (53.3 physicians per 100,000) (Hing and Hsiao, 2014, p. 4). Due to this uneven distribution, there is concern about the health care of the population in rural areas. Moreover, the lack of accessible and efficient primary care in rural areas can be explained by the large geographical areas which have to be served by physicians. Rural health care is therefore characterized by long travel times and the partial deficit in hospitals and other health care facilities (Ewing and Hinkley, 2013, p. 1; RHHub, 2017). A further impact is the aging rural physician workforce due to a demographic shift. As a consequence, approximately 28 percent of the primary care physicians in rural areas are going to retire during the next few years (Fordyce, Doescher and Skillman, 2013, p. 6).

Meeting the current demand for primary care is a significant issue which will continue to worsen in the near future, and the availability of primary care is a growing concern (Ewing and Hinkley, 2013, p. 1).

In conclusion, primary care services will face several obstacles, especially with respect to the availability of accessible and efficient primary care in rural America and the recent demographic trends. As a result, several states of the United States have tried to reinforce the role of non-physician providers in the supply of primary care (Ewing and Hinkley, 2013, p. 1). In the development of new approaches, the Rural Policy Research Institute Health Panel defined five core attributes similar to the key components of primary care that should be considered: affordability, accessibility, high quality of care, community focus and patient-centeredness as well as patient engagement (Mueller et al., 2016, p. 3).

3 The Patient-Centered Medical Home

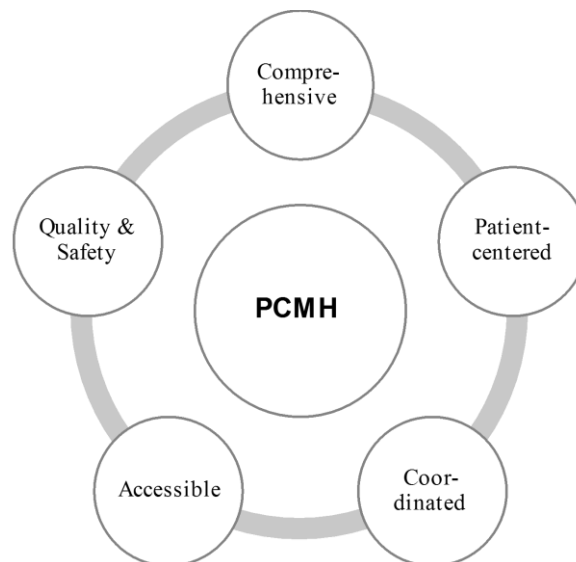
3.1 Definition of the Model

The PCMH was developed as an alternative primary care model with the aim of cost reduction, improved supplier coordination and higher quality of care, resulting in better health outcomes (Klein, Laugesen and Liu, 2013, p. S82). It is an attempt to reinvigorate the delivery of outpatient healthcare and is one of the keystones of a national health care reform (Braddock et al., 2013, p. 141). A medical home is not simply a place, but a concept which delivers the core functions of primary care (AHRQ, n.D.). Moreover, medical homes provide the opportunity to have a personal physician who coordinates

each step of treatment and serves as a liaison for comprehensive care (Starfield and Shi, 2004, p. 1,495). This structure removes the doctor from the traditional role as a gate-keeper.

A further important distinction of medical homes, which enables the proactive and patient-oriented design of patient panels, is the formation of interdisciplinary teams with the support of health information technology (Klein, Laugesen and Liu, 2013, p. S83). The PCMH, specifically, is a team-based model which is integrated into the community. A further aim is to optimize the basic attributes of the primary care system, which should encourage new ideas about the provision of primary care and changes to the health system (Stange et al., 2010, p. 602). The five key attributes of the PCMH, as shown in Figure 5.3, are based on the five key attributes of primary care and will be explained in detail in the following section (AHRQ, n.D.).

Figure 3: Five core attributes of PCMH



Source: Own figure, based on AHRQ, n.D.

1) *Comprehensive Care*

The core attribute *Comprehensive Care* is defined as the care of a large majority of physical and mental conditions both acute and chronic, as well as a focus on prevention and wellness. This demands a cooperation of the different suppliers of care. In other words, this means building a team-based care system, which includes medical providers, pharmacists, behavioral health providers and other care coordinators. Because of the different case complexities, different interdisciplinary levels and, consequently, different teams are required. These teams can be settled in clinics or operate as virtual teams, thereby connecting patients and providers in the community (AHRQ, n.D.; Maragakis and O'Donohue, 2015, p. 4).

2) *Patient-centered Orientation*

Health care in a PCMH is marked by patient-oriented performance and a relationship-based system. Consequently, it is not only the patient with his or her unique condition who is at the center of interest, but also his or her informal background, culture, values and personal situation, which should be understood and respected. His or her family is also involved so that they can assist in the treatment process and the management of care (AHRQ, n.D.; Maragakis and O'Donohue, 2015, p. 4).

3) *Coordinated Care*

The PCMH coordinates and contains all necessary elements of comprehensive health care, including specialty care, hospital, home health care, and community of service and supports. The importance of *Coordinated Care* emerges from the need for a smooth process when patients are discharged from the hospital. Furthermore, open and clear communication between the patients, their family, the medical home, and members of the broader care team is an outstanding characteristic of medical homes (AHRQ, n.D.).

4) *Accessible Service*

A further goal of the PCMH is to shorten waiting times for urgent cases. Therefore, the PCMH offers increased in-person hours, a 24-hour service via telephone or electronic access to medical staff, as well as other alternative communication methods such as e-mail. The medical home practice focuses on the individual preferences of their patients regarding method of access (AHRQ, n.D.).

5) *Quality and Safety*

The last attribute of the PCMH involves the use of evidence-based practices and clinical decision-support devices to accompany treatment, since quality and quality improvement are of particular concern. In order to support decision-making with patients and families, technologies such as electronic health records are used. In this way, performance can be measured and, if necessary, improvements can be made. In addition, patient satisfaction plays an important role. Quality and safety data, along with improvement activities, are subsequently published, which is a good indicator of a system-level commitment to quality (AHRQ, n.D.; Maragakis and O'Donohue, 2015, p. 6).

3.2 Strengths of Patient-Centered Medical Homes

The implementation of PCMHs can change the primary care system fundamentally, and therefore change the role and the processes of patients and physicians (Cassidy, 2010,

p. 5). When the aims of the PCMH model are considered, several strengths can be identified such as quality of care, patients’ experience, cost of care and professional working experience (Maragakis and O’Donohue, 2015, p. 11). However, not every setting can qualify as a PCMH. Six program standards developed by the National Committee for Quality Assurance must be met to achieve PCMH recognition, as shown in Figure 5.4.

Figure 4: PCMH Content and Scoring

PCMH Content and Scoring (6 standards and 27 elements)			
1. Enhance Access and Continuity	Pts	4. Plan and Manage Care	Pts
A. *Patient-Centered Appointment Access	4.5	A. Identify Patients for Care Management	4.0
B. 24/7 Access to Clinical Advice	3.5	B. *Care Planning and Self-Care Support	4.0
C. Electronic Access	2.0	C. Medication Management	4.0
		D. Use Electronic Prescribing	3.0
		E. Support Self-Care and Shared Decision Making	5.0
2. Team-Based Care	Pts	5. Track and Coordinate Care	Pts
A. Continuity	3.0	A. Test Tracking and Follow-Up	6.0
B. Medical Home Responsibilities	2.5	B. *Referral Tracking and Follow-Up	6.0
C. Culturally and Linguistically Appropriate Services (CLAS)	2.5	C. Coordinate Care Transitions	6.0
D. *The Practice Team	4.0		
3. Population Health Management	Pts	6. Measure and Improve Performance	Pts
A. Patient Information	3.0	A. Measure Clinical Quality Performance	3.0
B. Clinical Data	4.0	B. Measure Resource Use and Care Coordination	3.0
C. Comprehensive Health Assessment	4.0	C. Measure Patient/Family Experience	4.0
D. *Use Data for Population Management	5.0	D. *Implement Continuous Quality Improvement	4.0
E. Implement Evidence-Based Decision-Support	4.0	E. Demonstrate Continuous Quality Improvement	3.0
		F. Report Performance	3.0
		G. Use Certified EHR Technology	0
Scoring Levels:	Level 1: 35-59 points Level 2: 60-84 points Level 3: 85-100 points	*must pass elements Pts = points	

Source: Own figure, based on NCQA, 2014a, p. 3.

In order to maintain the performance of PCMH, three different levels of PCMH status are defined. These standards target the key aspects of primary care. The respective settings can obtain points based on the number of factors that the provider fulfills. Quality and performance are constantly monitored (Maragakis and O’Donohue, 2015, pp. 8-9). It is a method to increase standardization and to help PCMHs develop a good reputation. The more elements that are fulfilled by the PCMH, the higher becomes the point value. The point value determines the classification in the scoring level, and the PCMH then gets the certification. By this system the standardization, and therefore the certification, of such facilities should be easier and clearer (NCQA, 2014b, p. 21).

A positive change in the working environment of physicians is the smaller number of patients to be treated, which reduces the scope of work and leads to a reduction in the risk of burnout (Cassidy, 2010, p. 5; Reid et al., 2009, p. e76). A further goal of the PCMH is to improve the patient experience, the obtainment of which has been shown in multiple studies (Maragakis and O’Donohue, 2015, p. 12). A better patient experience

resulted in significant improvement in doctor-patient interaction and access to care (Reid et al., 2009, p. e75). While some studies showed no significant change or no change in multiple aspects, it can be generally assumed that due to their interdisciplinary nature, the well-trained teams will enhance the organization and coordination of the treatment path as well as patient satisfaction through a high level of information exchange (Solimeo, Stewart and Rosenthal, 2016, pp. 378/379; Hoff, Weller and DePuccio, 2012, p. 637; Jaen et al., 2010, p. S57; Zutshi et al., 2014, p. 48).

The term *quality of care* can be split in this context into the factors processes of care, health outcomes and mortality. Both the procedures in the care processes, as well as health outcomes can improve (Reid et al., 2010, p. e77; Grumbach, Bodenheimer and Grundy, 2009, p. 1; Zutshi et al., 2014, p. 48). However, the effects on mortality do not have statistically significant results (Maragakis and O'Donohue, 2015, p. 12). Another important issue is that in primary care, patients with chronic diseases such as diabetes, cardiovascular problems, asthma and hypertension are predominant, and they often need time-intensive care and regular check-ups. With the conversion and integration of PCMHs, an improvement of care and health outcomes for these patients may be reached. Moreover, multi-morbid middle-aged patients can be treated more effectively due to the interdisciplinary nature of PCMHs (Hornberger and Freeman, 2015, pp. 46-47). It is precisely these chronically ill patients, who require more help with the correct treatment of their illnesses and advice on preventative behavior, who stand to benefit most from the PCMH model. In addition, the interdisciplinary nature of PCMHs can lead to a reduction of redundant services while increasing preventive services (Hoff et al., 2012, p. 622). A further quality enhancing factor of the PCMH is evidence-based medicine, which is supported by the core attributes (Rogers, 2008, p. 370).

PCMH can achieve a reduction in health expenditures through increased use of primary care, and thus, a reduction in emergency and specialty care (Maragakis and O'Donohue, 2015, p. 12). With regard to the use of emergency service, in some studies positive effects were shown with the PCMH model. However, the actual objective of effective cost reduction could not be clearly demonstrated in the investigation (Zutshi et al., 2014, p. 48).

In principle, the PCMH model can be presented as an efficient model for the US health system. Significant cost savings could be generated and preventive activities expanded and strengthened. Patients and their families are involved in the entire treatment process and are always kept up-to-date (Klein, Laugesen and Liu, 2013, p. S89).

3.3 Challenges of Patient-Centered Medical Homes

There are, however, some limitations and gaps in the system. Well-organized practices are faced with the problems of underfunding – PCMH are introduced within the scope of the Medicaid care (Klein et al., 2013, p. S84) – and underemployment. There is still

a need for further development in the implementation of the model and the efficient use of existing resources in order to ultimately achieve top performance (Klein, Laugesen and Liu, 2013, p. S89). Another problem may be rejection of this model by the primary care workforce, as well as a fear of change. Moreover, the PCMH is still in its early stages, and therefore unintended consequences cannot be foreseen. The lack of resources such as money and time can block the implementation of changes to the health care system (Hoff, Weller and DePuccio, 2012, p. 641; Rogers, 2008, p. 372). Because of the partially negative relationship with the term "medical home," this system was a source of confusion for some patients. To reduce this misunderstanding, a new terminology has been considered: advanced basic care. However, the organization of health care for young and healthy people is made more difficult since it would not represent a cost-effective model for them. A proposal for a more effective solution would be the cooperation of PCMH with other integrated care models (Cassidy, 2010, p. 5).

Due to the large number of payment models that underpinned the PCMH, a series of debates were raised to decide which model is the best (Berenson et al., 2016, pp. 2-3). When looking at the supply side more closely, some payment methods limit personal contact between the service providers and the patient, which could solve the problem with time, but in turn, counteracts the PCMH principle of promoting communication. On the demand side, the patient is encouraged to visit medical homes for care. A moderate cost participation and value-oriented insurance design promote a more cost-efficient processing of the available services. Through management approaches, care providers and payers are given the authority to monitor and manage patient care (Berenson et al., 2016, p. 7). This model, including the key attributes of PCMHs, should help to reduce the administrative costs. Because of the high number of health insurance providers and their different methods of reimbursement and individual contracts, the PCMH should be responsible for the standardization, centralization and coordination of work of providing care to reduce the level of complexity and optimize the medical care for all people (Martin et al. 2004, p. S12, Neumann, 2014, pp. 37/38).

The individual PCMH models differ in their structure, culture as well as existing resources, and are independent in the design of their interdisciplinary teams. Unfortunately, no uniform standards are currently being followed and a direct comparison of performance is hampered. Therefore, a balance between standardization and innovation is needed. If the objectives of uniformity, and the implementation of a standardized model as well and multi-regional acceptance are to be met, the PCMH should be further developed through more rigorous evaluations (Klein, Laugesen and Liu, 2013, p. S87).

4 Discussion and Conclusion

Considering the previous analysis, it can be concluded that the fundamental pillars of the PCMH model take into account the core attributes of primary care. The PCMH represents a comprehensive, patient-centered, coordinated and accessible primary care model. However, patient-centeredness and the community play a greater role within the PCMH as can be seen from the core attributes (see 3.1). The PCMH is a successful innovation, and therefore is an important part of health care reform. Optimizing the PCMH model could fundamentally change the status of primary care in the health care process and can help to enhance the degraded position of primary care (Bates, 2010, p. 998).

Although, as shown above, the PCMH has many strengths and innovative approaches, it could be an overrated approach due to the fundamental political, economic and social barriers in the health care system (Sandy et al., 2009, p. 1,141). The implementation of PCMH models could be hampered by the different structures of the individual states of the U.S. and the differing values both within and across these states. A further obstacle for realization could be a lack of uniform electronic health record systems, especially of rural regions (Bates and Bitton, 2010, p. 619). In addition, a necessary infrastructure for PCMH should be implemented at the respective providers' locations in order to utilize the potential of the model (Klein, 2009, p. 128). This, in turn, requires a high level of commitment from providers and patients. The latter must proactively participate in managing their health, which could lead to difficulties in patient adherence, especially among those with low socioeconomic status. Consequently, these obstacles and the high costs could lead to incomplete implementation, especially in rural areas, and a full integration is necessary for comprehensive improvements. Furthermore, the high fragmentation of the American health care system poses a problem that is unlikely to be solved by merely further developing a new system (Sandy et al., 2009, p. 1,140). New systems also require a sufficiently high number of patients to implement them, and due to the very low partial patient volume, adverse effects on reliability, validity and utility may be a problem (Moscovice, Johnson and Burstin, 2017, p. 259). Additionally, especially in rural areas, the dwindling workforce of primary care physicians is an obstacle which cannot be solved simply by the implementation of another system. This workforce needs to have special skills for their new role as care integrators and also support the changes to the system (Mueller et al., 2016, p. 4). This may be a special problem among the elderly health care workforce in rural areas.

However, the PCMH has many promising features to address the long-time national challenge of health care workforce shortage (Collins, 2016, p. 99). Especially in rural areas, the urgency to find solutions for maintaining an adequate primary health care workforce has risen (Collins, 2016, p. 99). With the opportunity to change the image of

primary care through the PCMH, the profession of primary care physician could be reinvigorated with the interdisciplinary approach and the increased involvement of health technologies. Even if the popularity of becoming a primary care physician changes with the PCMH model, there may be further steps needed to attract more students to rural areas. One solution may be to intensify the recruitment of students from these rural communities to complete their education and community-based residency training. During this training, the students could be placed into underserved areas (Carolina GME Advisory Group, 2014, pp. 12/13). Another approach to increase the number of students working in rural areas is the loan repayment programs of different states (Carolina GME Advisory Group, 2014, p. 32). As a result of these and other efforts, more medical students may decide to become primary care physicians, which in turn could solve the problem of declining numbers of physicians, and ease the demand-supply situation within rural areas. In conjunction with the PCMH these approaches could reduce the workforce shortage.

A further problem of primary care, especially in rural areas, that the PCMH may solve is the inadequate payment provided to primary care physicians. The income gap between specialist and primary care physician is steadily rising, leading many graduates to frequently avoid primary care careers (Berenson and Rich, 2010, p. 613; Bodenheimer, 2006, p. 862) because a significant decisive factor for the choice of a specialty is the chance to earn money (Carolina GME Advisory Group, 2014, pp. 31/32). Due to the integral payment reform feature of the PCMH, the number of students who are interested in this profession could rise (Berenson and Rich, 2010, p. 613). This new payment model would be especially beneficial in rural regions with a workforce shortage. For example, this model could address the considerable increase in the number of working hours and the long travel distances in rural areas. There are already some rural physician grant programs that use an enhanced reimbursement as a retention strategy for physicians leading primary care teams in rural areas. This represents an ongoing incentive to work in rural areas as a primary care physician (Carolina GME Advisory Group, 2014, pp. 31/32). With payment reform and efforts to enhance the attractiveness of working in rural areas, the PCMH could help ensure better primary care provision in rural areas.

The PCMH is an interdisciplinary approach and increases the involvement of health care technologies, and can therefore help to improve the coverage of extensive areas, and in particular, of the elderly. Through the increased use of telemedicine, the coordination with specialty care providers can be eased in rural areas. The rural primary care physicians could benefit from the advanced practice of urban specialty doctors in case of a complex indication areas, and the patients can achieve better and faster treatment (Carolina GME Advisory Group, 2014, p. 35). The travel times for the physicians may even be partly reduced. In addition, the high involvement of family members and the high

level of information exchange among all participating parties could improve health status and patient adherence, particularly in rural regions where the elderly people are often dependent on family support and sometimes live a long distance from the nearest hospital. The PCMH provides a highly coordinated and patient-centered model with high dependency.

The PCMH is already implemented in approximately twenty-one states. The PCMH model of Arkansas was designed as a flexible model, which can adapt to variations in the efficiency of primary care processes (Müller et al., 2016, p. 9). With this model and a benefit system linked to provider participation, the primary care and the health of rural populations was reinforced by overcoming a number of hurdles. The implementation of a PCMH model in Alaska brought a recorded reduction in the use of the emergency room, which in turn reduced costs (Driscoll et al., 2013, p. S48). The implementation of a PCMH model by the Veterans Health Administration also resulted in an improvement in the primary care system, including an increase in telephone and electronic encounters, as well as an improvement in post-hospitalization follow-up (Rosland et al., 2013, p. e263).

Finally, the PCMH's core attributes represent the key components of an effective rural health system, and community and patient-centeredness play a great role within both rural health systems and PCMH. Additionally, the approach of the PCMH both at the micro (processes) and macro (society) perspective offers a comprehensive concept that could solve the problems particularly of rural areas. These are indicators that the PCMH can be an innovative approach for changing the U.S. rural health system.

To conclude, the PCMH is a promising and innovative care concept in primary care in general, and especially for primary care in rural areas. However, additional studies are needed to further refine the efficacy of the model and adapt it to the appropriate needs so that the triple aim of health care (better quality, improving experience, reducing cost,) can be achieved sustainably (Zutshi et al., 2014, p. 1, p. 56).

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