EXSUM QUANT II Impact of PCMH on Well Child Compliance

Question:

What is the effect of PCMH implementation on child wellness as measured by the well-child Health Effectiveness Data and Information Set (HEDIS) measure?

Domain/Competencies:

Performance Measurement & Improvement

Leadership and Organizational Management: Strategic planning/Change Management

Method of research/Model: This study adapted Aday and Anderson's (1973) conceptual model to form the basis for our empirical model and research design. The five factors that constitute our conceptual model include, Health Policy, Characteristic of Health Delivery System, Utilization of Health Services, Characteristics of Population at Risk, and Consumer Satisfaction (see Figure 1). Additionally, Figure 2 displays the Characteristics of Population at Risk including Demographics, Social Structure, Beliefs, Family, Community, Perceived and Evaluated. These characteristics are placed within broad categories: *Predisposing*, *Enabling*, and *Illness Level* variables.

Three of the four factors of our Conceptual Model were included in our Empirical Model. First, the Characteristic of the Healthcare Delivery System is the implementation of PCMH within the military health system, and serves as our primary independent variable of interest. In this study, we look at nine PCMH clinics and two non-PCMH comparison groups. Second, the Utilization of Health Service's category is represented by our dependent variable – well-child visit compliance score. Third, Characteristics of the Population are the control variables in our study and are comprised of occupation (Sponsor Rank Group), Residential Mobility, Region of Country, and Diagnosis (Health Risk Score) which are populated data fields available through our data source, Management and Analysis Reporting Tool (M2 Data MART).

We conducted a quasi-experimental, retrospective, and cross-sectional study to compare non-PCMH clinics to PCMH clinics with respect to the well-child HEDIS compliance measure. Using a repeated measures design, we collected the frequency of well-child visit compliance of Tricare Prime dependent beneficiaries (n=2,145) born between observations period one (1 September 2008 – 31 August 2009) and period two (1 September 2012 – 31 August 2013) at one of the 11 selected primary care enrollment sites. We then conducted a univariate analysis of descriptive statistics followed by a logistical regression analysis to study the impact of PCMH on well-child visit compliance. The independent control variables for this study were observation date, enrollment site region, sponsor beneficiary status, sponsor rank group, and beneficiary risk level.

Overview:

Measuring child wellness is an important quality of care component for the National Commission on Quality Assurance (NCQA). The child wellness HEDIS measures center on access to primary care and utilization of health sustaining treatments (i.e. immunization status), but to date, no studies have been

published that show the impact of the PCMH model on child wellness in the private sector as well as in the Military Health System.

In 1967, the American Academy of Pediatrics introduced the concept of the PCMH in order to address an increasing demand of health care, scarce resources, rising costs, and decreasing patient satisfaction resulting from lower quality health outcomes (Kugler, 2012). As part of the "*Future of Family Medicine*" project, Family Medicine adopted the PCMH model in 2002 and since that time, the concept has been endorsed by many professional organizations including the American Academy of Family Physicians, the American College of Physicians, and the American Osteopathic Association (Kugler, 2012). Given the private sector adoption of this model within the United States (U.S.) health care industry, the Department of Defense followed suit and issued a memorandum for all primary care clinics to implement the PCMH model in 2011 (Schoomaker, 2011).

Additionally, the U.S. Army Medical Command issued a command policy in 2008 to establish goals for HEDIS measures aimed to improve disease prevention as well as early identification of illness, and the aggressive management of chronic disease. Since 1991, the NCQA has developed 81 HEDIS measures across five domains of care used by over 90% of managed care health plans to measure performance. The US Army Medical Command has been using these performance measures since 2006 and continues to provide command emphasis on these measures to achieve its strategic goals.

Although there is a burgeoning body of literature that shows many benefits of the PCMH model, one robust study (n=35,059) conducted in New Jersey indicated no meaningful cost or quality differences between PCMH and non-PCMH clinics (Werner et al., 2013). Furthermore, some researchers (Jackson et al., 2013) cast doubt on the methodological rigor of current studies on PCMH to date, suggesting that policy makers should be cautious with large scale PCMH investments.

Findings:

By comparing well-child compliance rates of PCMH and non-PCMH groups in both the pre and post PCMH observation periods, the data shows similar improvements among both groups. PCMH was not significantly associated with well-child compliance at the .05 alpha significance level (p=.172). Among the control variables, North and West regions as well as Jr. Enlisted were significant in the overall model and sensitivity analysis (p<.05). However, when the non-PCMH comparison group was removed PCMH was significantly associated with well-child compliance (AOR = 2.073; p=.001). This study contributes to the healthcare management literature by being the first to investigate the impact of PCMH on well-child compliance within the military health system. The investigation showed that PCMH was not significantly associated with child wellness as measured by the well-child HEDIS compliance measure (p=.172) at the alpha significance level of .05. Additionally, the sensitivity analysis showed that when the non-PCMH comparison group is removed, PCMH implementation becomes significant (p=.001).

Lessons Learned:

This study suggests that there are variables other than PCMH that better explain why well-child compliance improved from our pre-PCMH observation period to our post PCMH observation

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period. Further studies are suggested to identify critical variables impacting well-child compliance and to capture a greater sample size.