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DIRECT PRIMARY CARE:
AN EMERGING DELIVERY MODEL FOR U.S. HEALTH CARE

KATIE SMITH
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Reviewed and approved* by the following:

Yunfeng Shi
Professor of Health Policy and Administration
Thesis Supervisor

Selena Ortiz
Professor of Health Policy and Administration
Honors Adviser

* Signatures are on file in the Schreyer Honors College.

ABSTRACT

Direct primary care (DPC) is a medical care delivery model in which third-party payers are eliminated. In a DPC model physicians collect a monthly subscription fee from patients rather than billing insurance companies for services provided, thereby reducing administrative burdens. It has been estimated that 90% of the primary care dollar is wasted on unnecessary administrative duties. Additionally, physicians report spending at least 3.5 hours per week on claims processing. Providers and patients in DPC arrangements report higher quality, lower cost, and improved patient and physician satisfaction than experienced in traditional settings. The purpose of this thesis is to summarize the literature on direct primary care, introduce the reader to aggregated results from published data analysis on DPC cost and quality, and identify gaps in the literature that indicate concerns with the feasibility and viability of DPC. To conclude, considerations for future researchers are provided.

TABLE OF CONTENTS

LIST OF FIGURES	iii
ACKNOWLEDGEMENTS	v
Chapter 1 Introduction and Background of Direct Primary Care	1
Literature Review	3
DPC – An <i>Innovative</i> Approach...?	6
History of Health Insurance in America	7
Present-Day Health Insurance	9
Future Health Insurance	12
Chapter 2 DPC Defined	13
Legal Definition	13
DPC vs. Traditional Primary Care	13
DPC vs. Concierge Care	14
Types of DPC Practices	15
Services Provided by DPC Practices	16
Chapter 3 Opposition to DPC	18
Primary Care Provider Shortage	18
Increased Specialist Referrals	19
Exempt from Regulations	19
Narrow Provider Network	20
Worsens Care Disparities	20
Patient Abandonment	21
Chapter 4 Current Development of Direct Primary Care Practices	22
MD Value in Prevention Program	22
Qliance Clinics	23
Paladina Health DPC Medical Home Model	28
Other DPC Networks	29
Chapter 5 Future Directions for Direct Primary Care Practices	30
DPC Pilot Expansion Program	30
DPC Practice Closures	31
Chapter 6	33
Key Limitations	34
Considerations for Future Research	35
References	38

LIST OF FIGURES

Figure 1. Direct Primary Care Literature Review PRISMA Flowchart.....	4
Figure 2. Direct Primary Care Literature Review Matrix	6
Figure 3. Direct Primary Care Services offered by Paladina Health	17
Figure 4. MDVIP Members vs. Non-members Utilization Trends.....	24
Figure 5. Qliance Utilization Data vs. Benchmark Data: 2009 – 2010.....	26
Figure 6: Qliance Members’ Disease Burden Data: 2010.....	27
Figure 7. Qliance Savings Data for Members: 2013-2014.....	28

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Chapter 1

Introduction and Background of Direct Primary Care

The emergence of Direct Primary Care (DPC) practices can be associated with the mounting frustrations of the current healthcare system in the United States. In 2015, health expenditures alone accounted for 17.8% of GDP and this is projected to rise to 19.9% in 2025 (CMS, 2017). In fact, the U.S. spends more on healthcare than any other nation. (OECD Health Statistics, 2015).

What is concerning is how poor America's return on investment is. A 2012 study estimated that nearly half of all American adults – 117 million people - had at least one chronic disease (Ward, Schiller, & Goodman, 2014). An alarming statistic released from the CDC based on an analysis of 2015 mortality data from the National Vital Statistics System indicated that for the first time in over a decade, life expectancy for Americans had decreased (Xu, Murphy, Kochanek, & Arias, 2016).

The healthcare system in United States has been labeled a 'sickness system'. While superior in curing disease, it is certainly inferior in preventing disease. In an attempt to promote utilization of primary care services, the Patient Protection and Affordable Care Act sought to extend health care coverage. Today, more Americans are covered by health insurance than ever before. Yet, the presence of a third-party payer for primary care is contributing to the growing cost of healthcare services, limiting access for patients and diminishing quality of care.

The presence of health insurance creates administrative duties for the primary care physician. The wasteful time spent on claims processing is an unnecessary burden for physicians

which does nothing to improve the quality of care being delivered. Primary care physicians already report struggling with time constraints. The current fee-for-service system which incentivizes payment by volume rather than value requires them to see more patients in less time in order to cover the increased overhead which is a direct result of the increased administrative duties of dealing with insurance companies.

Dissatisfied with the current system, some physicians have opted to leave the traditional primary care practice behind and transition to direct primary care (DPC). In this model there is no third-party payer. Patients pay a flat monthly fee to receive access to all primary care services. Physicians are able to reduce their patient panel size and increase visit times, thus improving the patient-physician relationship. Proponents state that DPC practices improve quality of care while simultaneously reducing the cost of healthcare services as the investment in primary care reduces specialist referrals, hospital readmissions, and emergency room visits.

Due to the newness of the DPC model, there is limited clinical data on quality and cost to analyze. The ideal analysis for this thesis would be to use clinical data taken from clinics/provider sites. However, such micro-level data was not possible to obtain for this study both because it largely does not exist and that which does exist was not accessible by outside researchers. In an attempt to collect data, provider sites were contacted about releasing data but none were willing. Data was also searched for online on the Medicare/Medicaid websites that contains publically available datasets, however, no data on DPC was published at the time of search.

The larger DPC practice networks (Qliance, Paladina Health, Iora Health) have reported minimal data for clinical outcomes and cost-saving potential. Previous pilots such as the MD Value in Prevention (MDVIP) program provide insight as to the potential savings which can be

realized. This thesis aims to synthesize published data from multiple sources into one document for easier interpretation while providing a comprehensive overview of how DPC practices are transforming primary care in the U.S. health system.

Literature Review

Purpose

Limited data suggests that the DPC model may effectively reduce costs and improve clinical outcomes. The purpose of this review was to identify published cost and quality data to better understand the effects of a DPC arrangement so that healthcare policy makers and providers have accurate information when making decisions regarding DPC practices. This review will describe the methods utilized to search for public data and the inclusion criteria used to select the articles included in final review, synthesis, and analysis. The central research question for this review is: *What impact do direct primary care (DPC) models have on the U.S. healthcare system?*

Search and Review Process

Three online databases were used to search for records: PSU LionSearch, ProQuest, and Google Scholar. The key phrase used was “Direct Primary Care” and the date range selected was 1/1/13 – 3/22/17. For PSULion Search and ProQuest, the filters “Scholarly and Peer-Reviewed” and “Journal Articles” were applied to the search. PSU LionSearch yielded 52 records and ProQuest yielded 21. Google Scholar did not have the option to filter results, so only records that included the phrase “Direct Primary Care” in the title were selected. This yielded 22 results. Notably, Google Scholar has since changed its search interface, removing the option to select key words in titles. Additionally, it is no longer possible to specify date ranges as day/month/year; now only year can be specified. With these changes, a search for “direct primary care” from 2013-2017 yields 304 results. These results are not considered in this review since they were not identified at time of search.

Duplicate results were removed, leaving 33 records. All 33 records were screened for inclusion. With 18 records being omitted from review for not meeting inclusion criteria. Records in which “direct primary care” was not referencing the DPC model described in this review were excluded. Two results solely advertised the DPC Annual Summit. These had no merit for contributing to the study and were also excluded from review.

Sixteen full-text articles were assessed for eligibility. Four articles were excluded because they came from state-specific journals, and the remaining 12 articles were included in review: five from PSU LionSearch, one from ProQuest, and six from Google Scholar. The search process for this review is represented in the following PRISMA flowchart (Figure I).

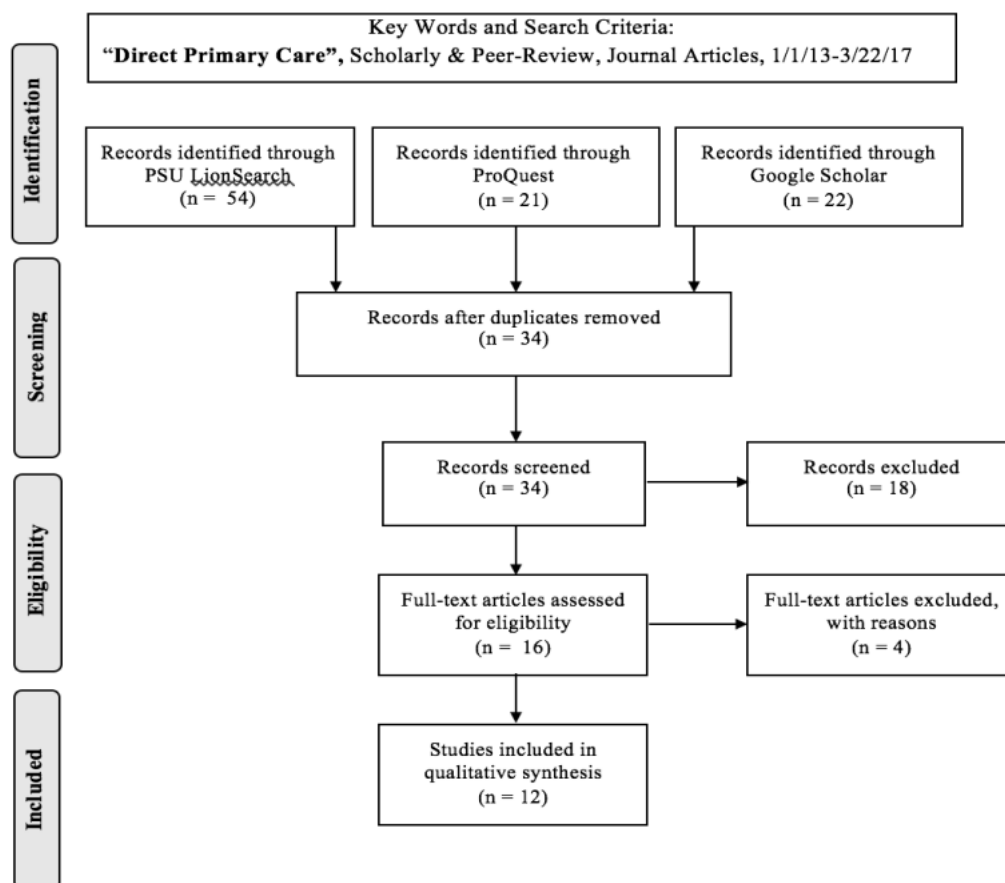


Figure 1. Direct Primary Care Literature Review PRISMA Flowchart

From: Moher D, Liberati, A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi: 10.1371/journal.pmed1000097

Review Methods

The 12 articles selected for qualitative synthesis were reviewed and organized into a matrix (Figure II) for further analysis. The matrix rows identified sources by article title, author, year of publication, and online-database. The matrix columns grouped the information found in the articles into four main categories: DPC Defined, DPC & Cost (further classified as patient, provider, and health system), DPC & Quality (further classified as patient contact time and health outcomes) and DPC Concerns (further classified as physician shortage, not subject to regulation, and not an insurance replacement). These groupings are the main topics of the literature review.

ARTICLE TITLE	DPC DEFINED	DPC & COST			DPC & QUALITY		DPC CONCERNS		
		Patient	Provider	Health System	Patient Contact Time	Health Outcomes	Physician Shortage	Not subject to regulation	Not an insurance replacement
"In Defense of Direct Primary Care" – P. Eskew, 2016 PSU LippSearch	- Charge periodic (monthly/annual) fee for PCP services - Do not bill third party payers	- Avg. monthly fee = \$70. - Negotiate drug & lab prices; discounted pharmacy		- Fewer specialist referrals & visits to ER	- Visit time: 35mins vs 20mins in traditional care - See patients avg. 4 times per year vs. 1.66 - Provide 140mins care /year vs. 33		- Avg. panel size 400-1200 vs. 2300 - Physician mal-distribution; too many specialists - DPC attractive to new physicians; work/life balance		
"Direct Primary Care: Concierge Care for the Masses" – C. Huff, 2015 PSU LippSearch	- 2014: 2% physicians in DPC, 7% considering - 2015: 7% physicians in DPC, 43% considering (AAFP survey) - lower fees than concierge = more diverse patient pop. - Patients 600k or millionaire ; household income of <\$95,000	- Monthly fee range from \$25-85 - Quality reductions in DPC has 20% lower costs					- DPC panel size 900 vs. 2300		
"Direct Primary Care: Practice Distribution & Cost Across the Nation" – P. Eskew & K. Klink, 2015 PSU LippSearch	- 3-pronged definition: charges periodic fee, does not bill 3 rd party, per visit charges < periodic fee - 3 types: independent, split practices, large network - DPC vs. Concierge Care (\$77.38 vs. \$182.76)	- Negotiated MRI, colonoscopy, radiology - UNC Study: DPC patients spend 85% less OOP	- 40% reduced overhead w/o 3 rd party insurance		- Increased availability & access	- Quality >50% reduction in ER & specialist visits, radiologic testing & surgical procedures (PCP services doubled)			
"Is Direct Primary Care the Solution to Our Health Care Crisis?" – E. Weisberg, 2016 PSU LippSearch							- Falls outside of HIPAA, HITECH, and ACA protections - No protections against patient data selling by providers - No structure for reporting best practices or public health data collection	- High-deductible plans make patients pay full fee for services outside DPC - 1/2 of non-poor families have liquid assets below deductible; 63% below OOP limit, 31% unable to borrow money in case of medical emergency	

"Direct Primary Care Practice Model Drops Insurance and Gains Providers and Consumers" – R. Carlson, 2015 ProQuest	- Case studies of Qigang Health, McGarry & Access Healthcare	- Qigang : patients save up to 35% with wrap-around plan	- Avg. revenue per patient is 2.6 times higher in DPC arrangement (40% of PCP dollar wasted on administration services)			- Access Healthcare: patients in top 10%; hypertension at goal in 80% of patients, reductions in ER, hospitalizations, and specialist visits			
"Direct Primary Care: an innovative alternative to conventional health insurance" D. McGarry , 2014 Google Scholar	- In 2005 there were 146 DPC providers, 756 in 2010, and 4400 in 2014.		- DPC Coalition estimates 40% of PCP dollar wasted on insurance processing - Avg. PCP needs 7.4 hrs day to provide care; not possible with administration burden		- 2014 Merritt Hawkins survey found that avg. waiting time for PCP in traditional care is 19.5 days with visit lasting <7.7mins	- Compare MDVIP Qigang 35% fewer hospitalizations, 65% fewer ED visits, 66% fewer specialist, and 82% fewer surgeries	- 43% of PCPs reported retiring early due to declining reimbursements, interference from gov. & insurance companies &		- Patient abandonment; those who do not want to enter DPC will be left stranded if their PCP switches to DPC
"Direct Primary Care: Good For What Ails Us" – G. Boeker , 2016 Google Scholar		- Median monthly DPC fee = \$70, children \$10-20/month with cap on family spending - Rates independent of preexisting conditions - Negotiated rates for outside services	- PCP spent >9hrs/week on administrative work (23% increase since 1995)	Qigang estimates Medicare savings to be 15-20% - MDVIP saved 2550 per patient (more than DPC membership) - 35% savings when paired with wraparound plan	- Qigang placed in 95 th percentile for patient satisfaction	- 56% fewer non-elective admissions, 49% fewer avoidable admissions - DPC patients admitted 91-97% less for AMI, congestive heart failure & pneumonia	- 2014 survey: 68% of PCPs would not choose same specialty again		
"Health Care's Other 'Big Deal': Federal and State Regulation of Direct Primary Care Practices and Their Role in Post-ACA Landscape" – G. Gibson , 2015 Google Scholar	- As of 3/10/17, 14 states passed DPC legislation - Concierge services differ in charging "access premium" - Think of concierge medicine as blanket term; DPC falls under that	- Qigang Health = \$80 - Medicare = \$59 - Blue Shield Health = \$69-\$109 - Qigang = \$65 = White Glove Health = \$35 subscription + \$35 visit fee (these are taken from websites; avg. patient)			- PCP must see 25-30 patients per day to make \$100,000-\$300,000 - PCP spends 3.5hrs/week on insurance admin. - CDC study: 56.2% of visits last <15mins, 93% <20mins.		- 27% of PCPs plan on leaving practice in 2 years; <50% satisfied with time spent with patients - Pre-tax physician income decreased \$20,000 from 1995 to 2003 - PCP shortage estimated at 20,400 by 2020		- Debates if DPC should be subject; no clear consensus.
"The Rise of Direct Primary Care" – E. Boyd , 2016 Google Scholar		- Relationships with specialists can result in savings of 80-90% for discounted rates.	- No insurance=less administration fees and lower overhead for payroll.						
"Assessing the Patient Care Implications of 'Concierge' and other Direct Patient Contracting Practices" – R. Doherty, 2015 Google Scholar	- DPC "any practice that directly contracts with patients to pay OOP for services in lieu of traditional insurance arrangements"				- Traditional panel size is 2500+, DPC capped at hundreds.		- More study needed to determine effect; downsizing of patient panel size could increase shortage strain, but DPC may increase PCP retention to counteract.		

Figure 2. Direct Primary Care Literature Review Matrix

DPC – An Innovative Approach...?

“Innovative” is a recurrent term found among the literature on direct primary care (DPC). A 2014 publication from the Heritage Foundation titles DPC as an “innovative alternative to conventional health insurance” and the phrase “innovative primary care model” is cited by nearly every DPC provider network. However, it could be argued that use of “innovative” – defined as ‘featuring new methods; original’ – is erroneous in this context. Eliminating the third-party payer from the primary care model may seem pioneering, but in fact, it actually mimics the early healthcare landscape when managed care plans for physician services were provided by Blue Shield.

History of Health Insurance in America

1900-1920s: Direct Pay and Sickness Funds

Health insurance was not always a cornerstone of the U.S. healthcare system. Before the 1930's Americans paid for healthcare services with cash, either directly out-of-pocket or from 'sickness funds' provided to approximately 20% of industrial workers by employers and unions. However, the economic downturn of the Great Depression placed great strains on hospitals as patients could no longer afford to pay for care. The uncertainties of collecting patient revenue lead hospitals to experiment with offering various forms of insurance (Morrisey, 2014, p 5-6).

1929: Baylor Plan

In particular, Baylor University Hospital saw an increase in charity care of 400% between 1929 and 1930 while simultaneously experiencing a drop in average per patient revenue of \$236 to \$59. This is because public school teachers were utilizing medical services which they could not afford. Looking to secure patient proceeds, Justin Kimble, administrator of Baylor University Hospital, devised what came to be known as the "Baylor Plan". This plan provided 21 days of inpatient stay services to 1,250 Dallas public school teachers for a fixed payment of \$6.00, or \$0.50 per member per month (Thomasson, 2003).

For both patients and providers strained by the poor economy, the Baylor Plan was seen as an attractive solution to the healthcare payment crisis. The plan was readily modeled by other hospitals and thus increased competition in the market. Looking to bind together, several community hospitals entered into agreements that allowed patients to access services from any participating provider. In 1929, these plans became what is now known as Blue Cross (Thomasson, 2003).

1930-1940: Blue Cross Blue Shield Early Managed Care Plans

Blue Cross plans were designed as non-profit corporations which allowed them tax-exempt status and freedom from traditional insurance regulations. In these arrangements, the hospitals were the party to assume the risk associated with treatment costs that exceeded subscription fees (Thomasson,

2003). Such legislation enabled rapid growth of the Blue Cross plans; within ten years, enrollment soared from 1,300 to 3 million (Lichtenstein, n.d.).

The popularity of pre-paid hospital care spurred interest for pre-paid care for physician services and in 1939, the California Physician's Service (CPS) became the first to offer such a plan. Employees with an annual salary of \$3,000 or less were eligible to enroll for \$1.70 per member per month (PMPM). Realizing the potential benefits, the American Medical Association (AMA) encouraged state and local medical societies to offer their own pre-paid physician care plans. In 1946, these plans united as "Blue Shield" (Thomasson, 2003). Blue Shield plans had two distinctive features; they allowed enrollees to see the physician of their choosing and they were mixed service-indemnity plans. (Morrisey, 2014, p. 8) This meant the patient would receive a lump sum for each covered medical event and would pay the physician's fee themselves. The patient would be responsible for paying the difference between the prescribed rate and the allowable amount, enabling physicians to price discriminate by charging patients unevenly. (Thomasson, 2003)

1940-1960: Rise of Commercial Health Insurance

The success of the Blue Cross Blue Shield plans demonstrated that insurance could in fact be a profitable business and could avoid adverse selection. By providing coverage to groups of employees, insurance companies could ensure a balanced mix of enrollees; the cost of treatment for sicker individuals would be offset by those who were healthier and underutilized healthcare services (Thomasson, 2003). This realization caused a boom in the commercial insurance industry. In the 1940's only about 10% of American population had health insurance. By 1955, coverage skyrocketed to nearly 70% (Lichtenstein, n.d.).

Success of commercial health insurance has been contributed to two main factors. First, because commercial insurance was private rather than non-profit, companies were able to stray from the community rating required of BCBS and instead implement experience rating. Community rating prohibited insurance companies from charging unequal fees among members. In experience rating,

private insurance companies were allowed to price discriminate, meaning they could charge sicker or older enrollees higher fees for coverage. Thus, healthier individuals enjoyed lower premiums than what was traditionally provided by BCBS since the insurance companies were better able to manage their risk. Enrollment in commercial health insurance plans among the younger population outgrew BCBS enrollment. In 1950, both BCBS and commercial insurance had about 35,000 members. By 1960 commercial health insurance spanned to over 80,000 enrollees, whereas BCBS covered less than 60,000. (Thomasson, 2003).

The second cause for growth of commercial health insurance was a series of governmental legislations encouraging coverage expansion. During World War II, wage and price controls were established as an increased need for war supplies strained America's economy. Recognizing that companies must compete for labor, the Labor Board passed legislation stating that health insurance was not to be considered a wage. Thus, it could be used to attract employees. The growth in employer unions utilizing collective bargaining tactics lead to a growing number of employers offering private health insurance as an employee benefit. Perhaps the strongest contributing factor was the 1943 IRS ruling that health insurance was to be exempt from federal income taxes, freeing employers from paying taxes on these benefits provided to employees. These policies encouraged employers to contract with private health insurance plans over BCBS. Recognizing they could no longer compete with the experience rating plans of private health insurance, BCBS surrendered community rating managed care plans in 1960 (Morrissey, 2014, p. 13-14).

Present-Day Health Insurance

Health insurance has become a landmark of America's health care system. The creation of Medicare and Medicaid provided a public insurance option to the elderly and indigent, and the implementation of Barack Obama's signature Patient Protection and Affordable Care Act decreased the

rate of uninsured in the U.S. to an all-time low of 8.8% in 2016. According to the 2015 National Health Interview Survey, nearly 70% of Americans aged 18-64 are covered by private health insurance (Centers for Disease Control and Prevention, National Center for Health Statistics, 2017). Today, third-party insurance reimbursement is inextricably intertwined with our healthcare system.

While health insurance provides a much needed safety net for catastrophic events, the presence of a third-party payer for primary care adds unnecessary complications which burden both physicians and patients (McCorry, 2014).

Increases Costs for Health Services

In a 2016 Health Watch article, Health Actuary and Health Services Researcher Gayle Brekke argues that health insurance should not exist for primary care services as it drives up costs for patients.

Insurance works well for insurable events, very large risks which are unpredictable and very unlikely...Just as it doesn't make sense to pay for oil changes with auto-insurance or lawn mowing with homeowners insurance, it doesn't make sense to pay for primary care with medical insurance. The most efficient way to pay for something that everyone ought to be using is directly. Paying for primary care with insurance inflates the price without getting commensurate value in return. If a price of an oil change is \$40, you would not pay \$55 so that a third-party can process the claim for you.

The high-costs associated with the presence of a third-party payer are a result of wasteful administrative paperwork required by health insurance companies. An analysis of 2007 Medical Management Association data found that over 40% of revenue from primary care is spent on insurance claims processing (Carlson, 2015). Estimates suggest that primary care practices spend on average \$65,000 annually dealing with insurance companies (Casalino et al., 2009). This equates to nearly 1/3 of a primary care physician's yearly salary (Chappell, 2017, p.1337).

Strains Patient-Physician Relationship

Physicians are not wasting just money by dealing with insurance companies; they are also losing valuable time which should be spent caring for patients. It has been reported that primary care physicians spend an average of 3.5 hours per week dealing with insurance companies (Chappell, 2017, p. 1338). This is concerning because providers already struggle with tight time constraints for patient visits. Several studies have focused on measuring the average accessibility and length of visit for primary care services. According to a 2014 Merritt Hawkins survey, the average wait time to see a primary care provider is 19.5 days with visits lasting approximately a mere 7.7 minutes (McCorry, 2014). A related study conducted by the Centers for Disease Control and Prevention found that 56.2% of physician visits lasted 15 minutes or less, and 93% of visits were shorter than 30 minutes (Chappell, 2017, p. 1339).

Declining reimbursements and increasing administrative requirements force providers to see more patients to cover overhead as their income continues to significantly reduce. It was found that from 1995-2003, annual pre-tax physician income decreased an average of \$20,000 per year. To compensate for this loss, primary care physicians are forced to increase the number of patient visits per day. In a survey conducted by Merritt Hawkins, primary care physicians reported seeing an average of 20.8 patients per day (2016). This equates to shorter interactions with patients, thus diminishing the patient-provider relationship and negatively impacting quality of care provided.

Leading Cause of Physician Dissatisfaction

Clearly patient satisfaction for primary care services is troubling, but what is more concerning to the industry is the growing dissatisfaction among primary care physicians. The US Preventive Task Force determined that the average primary care physician requires 7.4 hours per day to provide patients with adequate care (McCorry, 2014), but this is nearly impossible as physicians spend over 12 hours per week on administrative duties alone (The Physicians Foundation, 2016). In 2011, 87% of physicians stated that paperwork was their leading cause of stress, and a 2014 survey found that 68% of family physicians would not choose the same specialty again (Brekke, 2016). Today, the profession is declining. 90% of

primary care physicians are unwilling to recommend healthcare as a profession, citing too much regulation/paperwork and the erosion of the physician-patient relationships are the main causes of dissatisfaction (McCorry, 2014).

Future Health Insurance

The hassles of third-party payers have inspired innovative care delivery models where the insurance company is eliminated. Concierge care practices first originated to serve wealthier patients who were willing to pay increased medical fees to receive more personalized and accessible care. The success of concierge models proved that it was possible for a provider to operate independent from an insurance company. As a result, DPC networks were designed to serve low to middle-income patients. DPC models mimic the subscription based fee of concierge practices, but serve a wider, more diverse patient population.

Chapter 2

DPC Defined

Legal Definition

Multiple definitions of “direct primary care” exist in published research. While the definitions vary slightly in wording, there are three agreed upon characteristics which must be present in order for a medical practice to be considered DPC. As stated by researchers Phillip Eskew and Kathleen Klink, “a DPC practice must be a primary care practice that (1) charges a periodic fee for services, (2) does not bill any third parties on a fee-for-service basis, and (3) any per-visit charges are less than the monthly equivalent of the periodic fee” (2015). This definition represents a comprehensive legal interpretation taken from the 14 state laws and the language of the Affordable Care Act regarding direct primary care (Eskew & Klink, 2015).

DPC vs. Traditional Primary Care

By not accepting health insurance, direct primary care practices eliminate the administrative duties created by the presence of a third-party payer. This reduces overhead as fewer administrative staff are needed to process insurance claims. (Pofeldt, 2016). In fact, it is estimated that the annual revenue per patient in a DPC model is 2.6 times the average for traditional primary care practices (Carlson, 2015). This allows physicians to spend more time with fewer patients without compromising income. Traditional primary care practices have an average patient panel size of approximately 2,300 patients. Patient panel sizes for direct primary care practices typically range from 400-1,200, with the average being around 900 patients (Weisbart, 2016) (Eskew, 2016). Physicians practicing in a direct primary care model spend more time caring for patients as a result. The average patient in the traditional primary care arrangement can expect to see their physician 1-2 times per year with each visit lasting 20 minutes or less. But in a direct

primary care practice, patients visit their physician an average of four times yearly with each visit lasting about 35 minutes. To put this in perspective, a patient in the traditional primary care arrangement may only spend 33 minutes a year face-to-face with their PCP while those in a direct primary care arrangement can expect around 140 minutes per year (Eskew, 2016).

DPC vs. Concierge Care

While there are similarities between direct primary care and concierge care, it is imperative that the distinction between the two be understood. Concierge care, also referred to as “retainer medicine” or “boutique medicine”, is a primary care arrangement where physicians limit their patient panel size in order to provide more personalized care (Dalen & Alpert, 2017). In return, the patient pays an “access premium” – a monthly subscription fee to receive these exclusive services *in addition to* the fees paid to the primary care physician for treatment (Chappell, 2017). The primary difference is that concierge practices *do* bill third-party payers. A simple analogy for this arrangement is that the primary care physician “double dips”, charging the patient a luxury cost and the insurance companies for services provided (Colwell, 2015). Because of this, concierge care has traditionally attracted wealthier patients who are willing to pay higher fees in return for more individualized care.

Unlike concierge care, direct primary care practices rely solely on the monthly membership fees paid by patients for income and eliminate the third-party payer. By not billing insurance companies, physicians can reduce overhead costs, thus allowing them to charge lower monthly subscription fees. For comparison, the average monthly subscription fee in a direct primary care practice was found to be \$77.38 whereas the fee for concierge care was more than \$182.76 (Eskew & Klink, 2015). Therefore, DPC practices serve a much more diversified patient

panel made up of individuals from all economic classes and ethnicities. A survey of 147 DPC practices found that patients are typically Gen Xer's or millennials with an annual household income of less than \$95,000 (Huff, 2015).

Confusion exists between what the distinctions between direct primary care and concierge care are due to the relative newness of these subscription models. To reiterate, the main difference is that concierge care physicians charge both the patient and the insurance company whereas direct primary care only charges the patient. It may be helpful to think of concierge medicine as a blanket term which encompasses many delivery models, one of which is direct primary care (Chappell, 2017).

Types of DPC Practices

Several models of DPC have emerged. The published literature has created three primary classifications of direct primary care practices. “(1) Small, independent practices with varying levels of network affiliation (2) split practices that are either independent or often entirely dependent on network for DPC patients (3) larger practices that tend to employ physicians and grow rapidly by marketing themselves directly to large employers” (Eskew & Klink, 2015). Put more simply, the first arrangement would be when an individual PCP decides to leave the traditional primary care model and independently start their own direct primary care practice. The second arrangement is similar but differs in that multiple physicians may enter into a network together where they benefit from sharing medical equipment and network affiliation. In these two models, the individual patient is typically the one to pay the monthly subscription fee.

The third arrangement, and that which is generating the most attention due to its claimed successes, is established direct primary care networks which offer services to employees of large

companies. In this model, the employer pays the monthly subscription fee for employees and DPC is offered as a part of their benefit package. This model is gaining traction much due to the same reasons the Blue Cross Blue Shield managed care plans were successful; by enrolling a large group of members, DPC practices create a risk pool that is balanced with both healthy and unhealthy members. The healthier population uses fewer medical services and thus offsets the cost of patients who suffer from multiple chronic conditions who demand greater use, and thus greater spending, on health care services.

This thesis focuses on the third arrangement; large DPC networks which contract with employers. Qliance was the first DPC network to adopt this model, followed by others such as Iora Health, Paladina Health, and R-Health which will be discussed herein. Based on the success of these practices, state governments have begun experimenting with DPC arrangements for state employees and Medicare/Medicaid enrollees. A literature review compiled published data on these pilot programs which will be described as well.

Services Provided by DPC Practices

DPC practices charge patients a flat monthly fee in return for unlimited access to basic primary care. Services offered include acute and chronic care and preventive services. Some of the larger practice networks that market to employers offer basic radiology, lab testing, and pharmacy services in-house (Eskew, 2016). For example, a listing of the services provided by Paladina Health as published on the website is detailed below in Figure 3. While services offered vary by location, the majority of direct primary care practices offer similar services.

Primary/Preventive Care	Treatments/Procedures	Labs	Immunizations
Basic vision screening	Basic splinting	Blood draws and sample collection	Flu vaccine
Biometric screening	Basic wound care	Hemoglobin A1C	Hepatitis A series
Blood pressure screening	Ear wax removal	Pregnancy test	Hepatitis B series
Chronic disease management	EKG	Standard annual labs	HPV series
Comprehensive physical examination	Ingrown toenail removal	Stool blood test (FOBT)	Meningococcal
Coordination with other providers	Nebulizer treatment	Strep throat test	MMR (measles, mumps, rubella)
Fitness and nutrition coaching	Peak flow testing		Varicella (chicken pox)
Health risk assessment	Skin biopsy		Pneumovax
Hearing screening	Skin cyst removal		Td (Tetanus, diphtheria)
Well-child visits	Skin tag/wart removal		Tdap (tetanus, diphtheria, pertussis)
Sports physicals	Stitches/suture removal		

Figure 3. Direct Primary Care Services offered by Paladina Health

Practices that do not offer basic radiology, lab testing, and pharmacy services in-house typically negotiate rates with outside service providers. Often, these negotiated rates are lower than what the co-pay for insurance would be. Savings of approximately 80-90% are common. For example, Atlas Direct Primary Care states that wholesale discounts for prescription medications can be up to 95% off retail price. Atlas also offers a basic metabolic panel for only \$4.60 as compared to the average retail price of \$52.00 (Colwell, 2015). Dr. Brian Forrest of Access Healthcare reports similar savings; he is able to charge his DPC patients \$5 for prostate cancer tests, \$80 for mammograms, and \$400 for colonoscopies whereas a Medicare beneficiary would be charged approximately \$175, \$350, and \$2,000, respectively (Brekke, 2016).

Chapter 3

Opposition to DPC

Primary Care Provider Shortage

A real concern for America's medical system is the shortage of primary care providers nationwide. By 2020, it is estimated that there will be a shortage of 20,400 PCPs (Chappell, 2017). Critics argue that DPC would worsen the PCP shortage by decreasing patient panel size per physician and increasing patient visit times and total care provided. While this may be a logical argument, opponents point out that there are several caveats to this assumption.

Researcher Phillip Eskew argues that a shortage of PCPs may occur in the short-term, however, would not be sufficiently prolonged as to place a strain on the system. He proposes that in fact, DPC may encourage more physicians to pursue primary care, thus reversing the shortage in the long-term. Eskew believes that the real problem lies with "physician maldistribution" – primary care is not viewed as an attractive option for physicians, therefore, is pursued less frequently (Eskew, 2016).

By decreasing patient panel size and allowing for longer patient visits, DPC models have proven to increase provider satisfaction and decrease physician burnout. Those who disregard concerns over PCP shortages believe that the DPC model will be viewed as an attractive option for young physicians looking to maintain a healthy work-life balance. Additionally, the DPC model is ideal for physicians who are nearing retirement but not yet ready to stop seeing patients altogether. As DPC gains traction, supporters argue that more physicians will view primary care as an attractive option and will choose to pursue a career as a PCP rather than a specialist.

Increased Specialist Referrals

In a DPC arrangement providers are paid a predetermined monthly fee to deliver unlimited primary care services to the patient. While some practices may charge an additional fee per office visit, this charge is minimal, if even present at all. Because of this, critics argue that DPC eliminates any incentive for the PCP to care for the patient before referring them to a specialist for further care. Therefore, there are concerns that a provider who adopts a DPC practice may begin to refer more patients to specialists than those providers in a traditional fee-for-service arrangement (Huff, 2015). Currently there is no data to verify this hypothesis. It is suggested that future efforts analyze the disparity in specialist referrals between DPC and non-DPC practices.

Exempt from Regulations

The present legislation defines DPC as a practice arrangement that is not insurance. Therefore, DPC practices are not required to abide by typical insurance regulations. For example, there are currently no laws requiring DPC practices to abide by HIPAA, HITECH, or APA guidelines. Those who are concerned about patient confidentiality point out that there are few regulations which prevent DPC practices from selling patient data to marketers (Weisbart, 2016). According to the Ponemon Institute, the price of a single medical record sold illegally can reach up to \$363, therefore, it is reasonable to be cautious and recognize that some providers may encounter ill-aligned incentives to betray patient confidentiality. (Conn, 2015). Necessary precautions preventing sharing of patient information are preferred, if not expected. Lastly, DPC practices are exempt from public health reporting requirements meaning that they do not have to adhere to the quality reporting for best practices. Supporters argue that this is one of the many aspects of DPC which allows for low administrative fees and thus, lower costs. However, critics argue that not mandating quality reporting could lead to worse clinical outcomes for patients (Weisbart, 2016).

Narrow Provider Network

In a DPC arrangement the patient only has access to basic primary care services provided by the PCP free of charge. Any additional services that fall outside the primary care scope must be paid for out-of-pocket. Critics argue that a DPC arrangement can lock patients in by discouraging them from seeking care from any other provider than their DPC. But health conditions are often complex and unexpected, and because of this, patients are encouraged to purchase an insurance plan to complement their DPC membership. Most patients opt for a high-deductible health plan to protect themselves from the high costs associated with a surprise medical condition or emergency (Weisbart, 2016)

Critics argue that patients who purchase a high-deductible health plan are taking a financial risk that may prove to be incredibly detrimental if unexpected health issues arise. Most high-deductible plans make patients pay the full price for medical services. Data has shown that these costs often exceed what the average DPC patient can afford. Half of all non-poor families living in the United States report having liquid assets less than the average deductible for these plans - \$5,000 per family or \$2,500 per individual. Additionally, 63% report the \$6,000 out-of-pocket limit per individual or \$12,000 limit per family is more than their liquid assets on hand. This is a great concern as 30% of those surveyed stated that they would be unable to borrow \$3,000 from a friend or family member if needed due to an emergency (Weisbart, 2016).

Worsens Care Disparities

There is concern that DPC will worsen care disparities among patients because DPC practices serve a smaller percentage of African American, Hispanic, and Medicaid patients than traditional primary care centers. DPC practices also serve a smaller proportion of Medicaid patients and patients with diabetes. However, supporters of DPC argue that these disparities are not due to retainer pricing, but rather, are a result of the location of DPC practices. The majority of DPC practices are located in more

affluent communities with a smaller minority population, so patient panels similar to that described above is simply a result of site placement rather than the service model itself (Weisbart, 2016).

Patient Abandonment

A DPC arrangement is not preferable for all patients. Therefore, it is reasonable to question what happens to those patients who do not want to enter into DPC when their primary care provider decides to make the transition from traditional primary care to DPC. Critics are concerned of patient abandonment. However, there are safeguards which have been written into legislation to prevent any “patient dumping” (Chappell, 2017). Also, the American Medical Association (AMA) has compiled a set of ethical guidelines that a PCP should adhere to when transitioning to DPC to ensure that patients experience a smooth transition and quality of care is not hindered. These guidelines include helping those patients who wish to not enter into a DPC arrangement to find a new primary care provider (McCory, 2014).

Chapter 4

Current Development of Direct Primary Care Practices

MD Value in Prevention Program

The MD Value in Prevention Program (MDVIP) was implemented to reduce health care expenditures for Medicare Advantage beneficiaries. This program was one of the first to adopt a subscription based membership fee for personalized primary care services, thus its success contributed to the growing interest in DPC practices.

For a monthly fee of \$125-\$183, MDVIP members received access to a network of primary care providers who focus on proactive prevention of disease by providing health screenings and diagnostics. Each PCP has a patient panel of less than 600 patients. This allows the average patient visit time to last 30-90 minutes as compared to the average of less than eight minutes in a traditional practice model. Patients enjoy same-day appointments and have access to their personal physician 24/7 through e-mail and telephone. This arrangement allows for coordination of care with outside specialists and hospital systems which ensures maximum care management for chronic disease. This personalized approach to primary care reduces health care expenditures by decreasing inpatient admissions and reducing specialist referrals.

To determine the effectiveness of the MDVIP program, a sample was taken from UnitedHealthCare Medicare Advantage databases using 2007-2012 enrollment files provided by MDVIP. This population was limited to those who were 65 years of age or older, or those who were younger than 65 years of age but were receiving Medicare disability benefits. The study compared 2320 MDVIP members to 2320 nonmembers.

The study found that MDVIP members saved on average \$86.68 per member per month (PMPM) in Year 1 and \$47.03 PMPM in Year 2. Total savings for accumulated to over \$3.7

million in two years, all of which was allocated to Medicare Advantage health plans.

Published data for reductions in utilization for emergency department visits, inpatient admissions, and per-member per-month (PMPM) savings for total expenditures (including both medical and pharmacy) are summarized in Figure 4 (Musich, Klemes, Kubica, Wang & Hawkins, 2014).

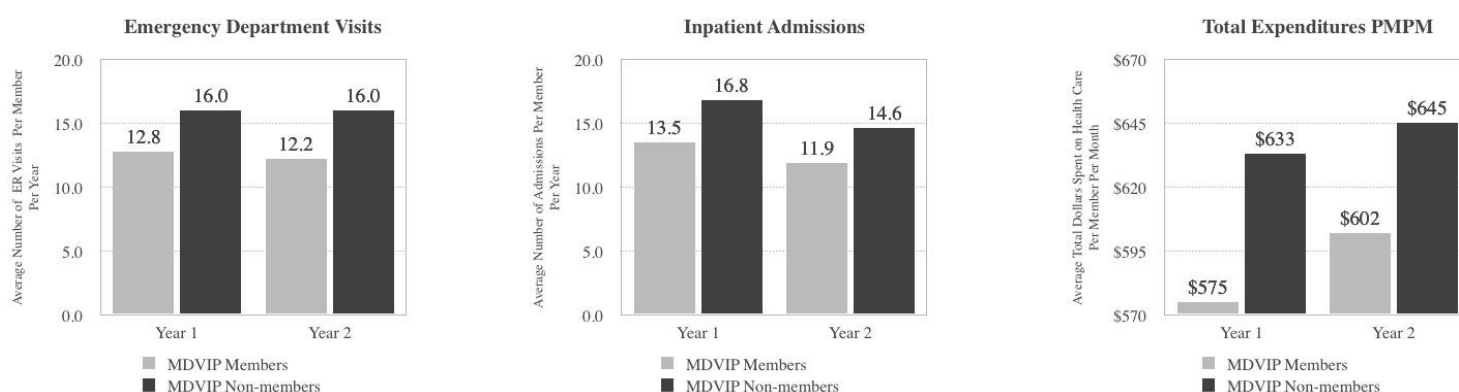


Figure 4. MDVIP Members vs. Non-members Utilization Trends

MDVIP members saved approximately \$160 on medical co-payments in Year 1 and \$180 in year 2. It should be noted that the savings alone do not offset the cost of the MDVIP membership fee – nearly \$1,650 annually. This made MDVIP an impractical option to the average American who was responsible for paying for health care services with no support (Musich, Klemes, Kubica, Wang & Hawkins, 2014).

.Qliance Clinics

The cost-effectiveness of the MDVIP program generated interest in subscription based medicine. However, the MDVIP was viewed as ‘concierge care’ that was available only to those

who could afford the \$100+ monthly fee. Inspired to provide the same model to the masses, Erika and Garrison Bliss opened Seattle Medical Associates, the first DPC model in the United States. Seattle Medical Associates proved to be successful and investors such as Second Avenue Partners, Michael Dell, Jeff Bezos, New Atlantic Ventures, Cambia, and Centene Corporation, combined to launch Qliance Medical Management. Erika Bliss assumed the position as CEO (Carlson, 2015).

Qliance Medical Management was an independent management company working with Qliance Medical Group, an affiliated physician practice. In 2007, Qliance established the first DPC arrangement in Washington. It was called Qliance Level 1 and was piloted out of the downtown Seattle location. Monthly fees ranged from \$44-\$84 and were paid directly by the patient, the employer, or the union. The rate was unaffected by preexisting conditions or health conditions and entitles the patient to all primary care services delivered through appointments any day of the week along with 24/7 phone access to a provider.

The Qliance Seattle DPC clinic started with an average patient panel size of approximately 800 – about 1/3 the size of a traditional practice - which allowed for appointments to last approximately 30-60 minutes. Within the first two years, the clinic expanded to serve a patient population of approximately 3,000 while still maintaining elongated visit times and greater provider availability that was expected of the direct primary care experience. The patient mix included those uninsured and unemployed, those with a chronic disease needing personalized managed care, and those with employer-sponsored health insurance that sought enhanced care. Approximately 1.5% of Qliance patients received free care, while 13.9% received some form of discounted care (Wu, Bliss, Bliss, & Green, 2010).

The earliest publically available data on utilization and disease burden of Qliance patients is an analysis of 2009-2010 data. Utilization data is summarized in Table 2. The data comes from Qliance Medical Group non-Medicare patients in 2009 (n = 2,316) and 2010 (n = 3,088). The regional benchmarks are based on benchmarks cited by Ingenix. Qliance utilization analysis was performed on all available internal data, but limitations do exist as the analysis may have failed to capture any/all non-primary care claims (Wood, 2012).

Type of Referral	Qliance Number per Year, per 1,000 Patients		Regional Benchmark	Difference	
	2009	2010		2009	2010
ER Visits	60	56	158	-62%	-65%
Inpatient Days	136	105	184	-26%	-43%
Specialist Visits	909	670	2,000	-55%	-66%
Advanced Radiology	414	300	800	-48%	-63%
Surgeries	33	22	124	-73%	-82%
Primary Care Visits	4,040	3,540	1,847	+100%	+92%

Figure 5: Qliance Utilization Data vs. Benchmark Data: 2009 - 2010

Disease burden data is summarized in Table 3. State and national benchmarks were based on data from the state of Washington State of Chronic Disease Statistics, NHIS, and NNHANES. The data used in the analysis came from medical records of 2010 Qliance Medical Group patients (n = 3,585). One limitation that may be present is underattribution; “presence of disease but not coded appropriately in the medical record) (Wood, 2012).

Condition	Qliance Members	Benchmark	Benchmark Standard
Anxiety	15.4%	18%	National
Atherosclerotic heart disease	4.7%	5%	State
Bipolar and depression	20.6%	10%	National
Chronic kidney disease	0.5%	2%	National
Diabetes	5.7%	8%	State
Hypertension	21.7%	25%	State

Figure 6: Qliance Members' Disease Burden Data: 2010

The DPC model gained traction quickly. By 2015 Qliance had grown to serve over 35,000 patients at several clinics in and around Seattle and is considered to be the “first example of a corporate, multi-site DPC model” (Eskew & Klink, 2015). The clinics served patients that were in a contract from large employers. There is minimal public data on the cost-effectiveness or quality outcomes of Qliance DPC practices. However, in a 2015 press statement the company claimed nearly 20% savings in 2014 for members compared to non-members due to lower emergency room visits, specialist referrals, and fewer inpatient days.

The 2013-2014 utilization data released by Qliance for patients in an employer-sponsored plan with accompanying cost-savings is summarized in Table 2. The data comes from “claims data (except prescription claims) from carriers for selected large employers; Qliance EMR data; Employer eligibility data”. Claims for Qliance patients that had been incurred before the first Qliance visit were not included in analysis, and all claims where a patient has contact with a Qliance provider (specialist, primary care, etc) were included in analysis, though non-PCP visits were analyzed separately under “specialist category. The population for this study was selected from “eligible members in employer-sponsored health plan; employees only, to remove

confounding factors from differences in dependent benefits structures and participation variances among clients (Qliance, 2015).

	Per 1,000 Qliance Members	Per 1,000 Qliance Non-members	Difference (Members vs. Non-members)	Annual Savings Per Patient
Emergency Room Visits	81	94	-14%	(\$5.00)
Inpatient Days	100	250	-60%	\$417.00
Specialist Visits	7,497	8,674	-14%	\$436.00
Advanced Radiology Services	310	434	-29%	\$82.00
Primary Care Services	\$3,109	1,965	+58%	(\$251.00)
Total Savings				\$679.00
Savings Per Patient				\$679,000.00
% Saved per Patient				19.6%

Figure 7: Qliance Savings Data for Members: 2013-2014

Qliance experienced revenue growth of over 300% in 2014. An assessment of patient experience using national Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey data placed Qliance above 95th percentile for patient satisfaction, well above the 90th percentile national average. Given these findings, Qliance has claimed to save payers nearly 20% for healthcare services while providing a comprehensive, personalized health care experience that leaves patients more satisfied than with traditional care (Eskew & Klink, 2015).

2014 also marked the beginning of the initiative to enroll Medicaid beneficiaries in direct primary care arrangements. Qliance contracted with Centene, a Washington-based insurance company that pays the DPC membership fee for Medicaid enrollees. By 2016, 15,000 patients were enrolled in the program. Again, there is limited published data to demonstrate the cost-effectiveness or quality outcomes of the Washington Medicaid DPC arrangement. However, given the past performance of Qliance employer-sponsored DPC plans, CEO Erika Bliss

estimates savings to be 15-20%. Other states such as North Carolina, Idaho, and Texas are interested in modeling this program in their own states in the future (Luthra, 2016).

Paladina Health DPC Medical Home Model

A subsidiary of DaVita Inc., Paladina Health is a Fortune 500 company that provides medical services to patients through a direct primary care medical home model that preserves the patient-physician relationship. On the company's website there are several self-conducted studies which highlight the cost-effectiveness, increased efficiency, and improved health outcomes that are experienced by patients in their medical home model.

One study of particular interest was the report "Measuring Patient Satisfaction in a Direct Primary Care Medical Home Model". This report used Net Performer Score (NPS) to measure patient experience, customer loyalty and satisfaction. Using the NPS scale, a score of above 50 is considered to be "excellent". Paladina Health claims that as a whole, the NPS score for the health industry averages at about a 12, much lower than other service industries (Paladina Health, 2015).

In 2014, Paladina Health surveyed 1,162 patients from across the United States. Patients were asked to complete a satisfaction survey within two weeks of their medical home appointment. According to the analysis by Paladina Health, patients rewarded Paladina Health DPC Medical Home Model a NPS of 72. More specifically, 92-94% of Paladina Health patients reported being satisfied or extremely satisfied with their ability to access their physicians, satisfied with their level of trust in physicians and their ease in access to care. Paladina Health contributes this to the fact that physicians are available 24/7 by telephone and always designate 60-90 minutes for a comprehensive physical for a patient's first appointment. Additionally, 77% of patients reported that their health had improved after joining Paladina Health DPC Medical

Home Model, with 1/3 of patients stating that health improved significantly. Paladina Health does not currently have any data to support these claims, however, the company did intend to begin collecting data on hypertension management, diabetes management, and preventive cancer screenings for future records (Paladina Health, 2015).

Other DPC Networks

Qliance and Paladina Health were the two DPC networks discussed herein because these two companies had the most publically available data on cost and clinical outcomes available for analysis. However, there are several other DPC networks across the country. MedLion Clinics, founded by Dr. Samir Qamar, originated out of Las Vegas, NV as a single DPC practice. Now, MedLion contracts with over 400 physicians and operates in 25 states (Andrews, 2017). Iora Health is another prominent DPC network which has a presence in the northeast, in Washington, Colorado, Arizona, and Nevada (Iora Health, 2017). Other large networks exist, however, these four were the most commonly cited in the literature on DPC. Again, it should be remembered that not all DPC is provided by providers employed by a network; some providers chose to transition their own practices to DPC independently. However, this is less common due to the higher risk assumed by the provider given the flat-rate membership fee charged for services. It is safer for many providers to be in business together so the risk pool can be shared and they are safeguarded against atypical and unanticipated medical spending.

Chapter 5

Future Directions for Direct Primary Care Practices

According to a report from the Heritage Foundation, the number of physicians practicing in a DPC arrangement drastically increased from just 146 in 2005 to 4,400 in 2012 (McCorry, 2014). The 2014 Practice Profile survey conducted by the American Academy of Family Physicians revealed that only 2% of physicians in the United States were practicing in a DPC arrangement with 7% considering adopting a DPC model. When the survey was repeated the following year, the percentage had jumped to 10% currently practicing, with a dramatic increase of 43% of physicians considering switching to DPC (Huff, 2015). It is important to note that there was no publically available information on this survey design. Therefore, the sampling methods, distribution process, and response rate are unknown. Lacking this information, one should be critical of the trust placed in the report and have an appropriate level of doubt in the findings. However, proponents of DPC maintain a healthy skepticism while acknowledging that this growth is likely to continue in the coming years as the healthcare landscape prompts experimentation with novel care delivery models to improve quality of care and decrease costs.

DPC Pilot Expansion Program

Since DPC is an emerging trend expected to continue expanding, there are currently several pilot programs underway aiming to gather data to determine clinical quality outcomes and cost-effectiveness of this model. An example of one such pilot program is described herein to inform the reader of a current initiative attempting to measure the clinical and quality effectiveness of DPC.

New Jersey R-Health Pilot Program

Open to all non-Medicare New Jersey state employees enrolled in the State Health Benefits Program (SHBP) or School Employees Health Benefit Program (SEHBP) as well as their dependents, this pilot program has partnered with R-Health to offer DPC as an additional benefit. The program has been

offered as voluntary. The state has set a goal of attracting 10,000 patients out of the 800,000 eligible within the first year. A contractual arrangement was established with Horizon Blue Cross Blue Shield of New Jersey and Aetna to pay the DPC fee on a per member per month basis so that patients incur no additional cost for DPC services. There will be no co-pay, no deductible, and no out-of-pocket cost-sharing for those patients who choose to participate in the DPC membership (State NJ Treasury). The program will be monitored over the coming years to determine popularity and feasibility. Costs and benefits will be considered upon determining whether to expand the program.

DPC Practice Closures

The recent closure of two direct primary care practices is generating concern as to the financial viability and sustainability of direct primary care practices. Most notable was the shutdown of Qliance Medical Management clinics on June 15, 2017. Originating in Seattle in 2007, Qliance was the first network of DPC practices and considered the pioneer in offering a more affordable subscription-based medicine marketed towards the middle and lower socioeconomic class. Before the shutdown, Qliance was serving over 13,000 patients all throughout the Seattle region (McGrane, 2017). Funded primarily by venture capitalists and well-known investors – Jeff Bezos, Rich Barton, Drew Carrey, Michael Dell and Nick Hanauer to name a few – Qliance faced financial struggles due to the insecurity of bridge funding (Carlson, 2017). But CEO and co-founder Erika Bliss stated that the ultimate cause for closure was the unauthorized withdrawal of more than \$200,000 from an investor (McGrane, 2017).

Turntable Health, in partnership with the larger DPC practice network Iora Health, was a second DPC practice which closed in January of 2017. According to CEO Dr. Zubin Damania, Turntable Health was unable to finance their practice located in downtown Las Vegas due to high operating costs. When forced to close, Turntable referred patients to local DPC providers rather than converting to a fee-for-service

model, staying loyal to their mission that “healthcare is a relationship, not a transaction”. (Comstock, 2017).

While critics cite these closures as an indication that the DPC model is financially unsustainable, proponents argue that practice shutdowns are to be expected in this emerging, competitive environment. Dr. Samir Qamar, CEO of MedLion emphasizes that relying on venture capital and bridge funding to finance operations is risky, making long-term viability an uncertainty. Regardless, he views DPC as an industry with significant room for future growth with more successes than failures. Because of the highly individualized nature of DPC and the variability that exists among each provider model, Dr. Qamar believes that the success of the practice rests in the “team, business strategy, and execution” (Comstock, 2017).

This thesis utilizes data published by Qliance on quality, cost, and clinical outcomes of patients in a DPC arrangement. Given that the Qliance closure was a result of circumstances specific to the company rather than the industry overall, the data is still deemed relevant and pertinent. It should be noted that while Qliance was forced to shut down business due to financial instability, not all DPC practices are struggling to be profitable. Since the closure, new DPC practices have opened both in the Seattle region and nation-wide, indicating that the DPC industry is not one which should be labeled as failing.

Chapter 6

Conclusion

Declining reimbursements are forcing primary care physicians to see more patients in order to maintain consistent salaries. It was found that before taxes were accounted for, average physician income decreased by approximately \$20,000 from 1995 to 2003. The same study estimated that in order for a PCP to make an annual income of \$100,000-\$300,00, a physician would need to see nearly 30 patients per day (Chappell, 2017). PCPs have had to drastically shorten the patient visit time by seeing more patients, and increasing administrative duties have been an additional burden which has condensed the average visit time to under fifteen minutes (Eskew, 2016). A recent survey of physicians revealed that less than half of PCPs are satisfied with the time they are able to spend with their patients and that 27% plan on leaving the traditional PCP practice within two years (Chappell, 2017; Pathman, 2002).

Many critics of the traditional primary care model have cited the insurance company as the primary cause of unnecessary administrative burdens that place additional strain on both the physician and the consumer. It has been calculated that approximately 40% of the primary care dollar is wasted on administrative burdens. Direct primary care (DPC), a novel care delivery model which eliminates third-party payers and operates on a monthly membership-fee, has gained traction as an innovative approach to provide more personalized medicine to the masses. While critics find several faults with the model, proponents argue that DPC is the most logical framework. As Dr. R. Lawrence Van Horn, Professor of Economics and Management at Vanderbilt University says, “There’s no point in having insurance coverage for primary care. Insurance is for high-consequence, low-probability events, so the direct primary care model is completely consistent with basic economics” (Carlson, 2015).

This thesis presents the notion that in fact, DPC is a form of insurance in it’s own way. DPC can be viewed as an insurance arrangement where the provider bears the risk, rather than the insurance

company or, in cases of self-insurance, the employer/organization. Because providers are those who bear the risk in this arrangement, they must be concerned that they recruit a patient pool which is both large and healthy enough to offset the costs of high chronicity patients who over-utilize healthcare services. Lack of confidence in the feasibility to establish an ideal patient panel has kept many independent PCPs from making the switch to DPC alone. Instead, what is becoming more frequent is large networks of DPC practices – such as Qliance, Paladina Health, MedLion, and Iora Health – who provide services to employees of large organizations. In this arrangement, the employee is not given a choice as to whether they want to participate in DPC; it is provided as a part of their employee benefits regardless. Therefore, the patient pool is more likely to include healthier individuals, and the provider is safeguarded against risk. The success of DPC networks has caught the attention of state and federal policymakers whom are now designing pilot programs to enroll governmental health plan beneficiaries in DPC arrangements in an attempt to quantify true cost-savings and clinical outcomes.

Key Limitations

This thesis contains four major limitations: (1) potentially biased data sources, (2) inconclusive reports of cost-savings, (3) discussion is primarily focused on the provider's standpoint, and (4) no attention is given to DPC legislation/regulation.

The first and most notable limitation of this study is the likelihood of potentially biased data sources used for analysis in this discussion. It should be noted that all the data presented herein was taken from publically available datasets published by the DPC networks of interest themselves. This poses a clear bias. Because no third party analyzed the data, it is highly possible that the reported statistics may be either miscalculated or falsely stated to make performance metrics appear more successful. It should be noted that the ideal data used for analysis in this review would have been micro-level data derived from DPC clinics themselves. This type of clinical data would have been obtained from patient medical

records, however, these were not accessible by outside parties. Additionally, because DPC is such a new trend, much of this information has not been compiled into usable data analysis yet. Thus, the analysis within this thesis had to be based upon publically available datasets published by DPC networks themselves.

Another limitation is that total reported cost-savings are inconclusive. Not only was the data on actual cost-savings likely to be biased given the fact that it was published by the DPC networks themselves, but there are also no longitudinal studies that measure the long-term cost-savings potential of a DPC arrangement. Since DPC is a relatively new trend, there has not been studies conducted where sufficient time has passed to allow for chronic diseases to develop fully. Thus, it is possible that the management of chronic diseases has been overstated in the literature on DPC quality. While there is no proof of this assumption, it is worth keeping an open mind to the possibility of inconclusive cost-savings.

A third limitation is that the discussion is focused primarily on the provider's standpoint. While consumer perceptions were briefly touched upon, this paper did not go into any great detail about the experiences of patients who were receiving care from one of the large DPC networks.

The final major limitation is that this paper did not address any DPC regulations or legislation. This is not to be negated; legislation and regulation initiatives simply fell outside the scope of this thesis due to the complexity of the subject. However, it is of great importance.

Considerations for Future Research

The following considerations for future research are based off the four study limitations identified in the previous section.

First, because it is likely that the data used for analysis within this thesis came from biased sources, additional studies need to be conducted by neutral third-parties to determine true cost-savings and quality outcomes. The R-Health pilot study currently being conducted in New Jersey is an example

where a governmental agency will likely be responsible for measuring success given that it is a statewide initiative. Thus, the outcomes of this study will hold more merit. It is recommended that neutral agencies attempt to gather data from the large DPC networks and conduct their own studies on cost-savings and clinical outcomes to ensure that the data published by the companies is in fact accurate and not falsely reported. The ideal data collected for this analysis would include micro-level clinical data found among patient medical records taken from DPC provider sites.

Future research should also attempt to more accurately quantify the total cost-savings of DPC arrangements. As mentioned in the previous section, this will be difficult given the newness of the DPC model. However, researchers should continue to conduct longitudinal studies and follow-up with patients, especially those with comorbidities or high chronicity diseases to determine how health has been managed over time. Researchers may also benefit from looking for other data sources that may paint a more complete portrait of actual cost-effectiveness.

A third consideration for future research is that it should aim to expand the knowledge and understanding of the consumer perspective in a DPC arrangement. For example, questions that are worth asking of a consumer include: “What would make switching to a DPC arrangement most feasible/realistic for you? What barriers do you see to transitioning to a provider who operates by this model? What concerns do you have about receiving care in a DPC model? What are the the pros and cons to receiving your primary care from a large DPC network? How would you feel if your employer switched you from your traditional health plan to a DPC network plan without your consent?” The best study design to ask these more personal questions would be to conduct case study interviews with patient who have received care in both traditional primary care and DPC arrangements.

The final consideration for future researchers is to become more familiar with the DPC regulations and legislations. The two most prominent are ACA provision section 10104 and H.R. 365. ACA provision section 10104 allows a DPC plan to participate in the insurance exchanges so long as it is paired with a “wrap-around” insurance plan that would cover medical services that are not covered in the

DPC arrangement (Eskew & Klink, 2015; Chappell, 2017). The Primary Care Enhancement Act of 2017, H.R. 365, states that employer-sponsored DPC plans “should not be treated as a health plan or insurance plan”, thus allowing thus allowing for employees to participate in health savings accounts (HSAs) (Huff, 2015). Great complexity lies within each rule, of which a deep analysis warrants a thesis of it’s own.

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ACADEMIC VITA

EDUCATION

The Pennsylvania State University | Schreyer Honors College*College of Health and Human Development | B.S. in Health Policy and Administration***University Park, PA***Exp. Grad: May 2018*

RELEVANT EXPERIENCE

Cigna Corporation*Summer Intern | Operations Leadership Development Program***Bloomfield, CT***May 2017 – Aug 2017*

- Utilized Oracle and Tableau Reporting to identify outlying performance metrics for Click-To-Chat, Cigna's on-line live customer support feature, to develop strategies that increased transactional net promoter score by 22% and decreased chat wrap-up time by 25% from May to August
- Attended chief executive speaker events and presented case study to top management to understand how Cigna leverages cross-functional business operations to emerge as a leading health insurance company

Pennsylvania Department of Health*Summer Intern | Bureau of Health Promotion and Risk Reduction***Harrisburg, PA***May 2016 – Aug 2016*

- Assembled research analysis of intervention programs offered at federally qualified health centers and community centers to refer uninsured women at risk for cardiovascular disease to treatment resources
- Identified opportunities within local communities to connect PA WISEWOMAN clients with health promotion initiatives designed to empower women to improve physical and mental well-being
- Formulated evidence-based proposals comprised of literature reviews, implementation plans, cost projections, and evaluation methodologies to receive Centers for Disease Control and Prevention funding

Institute of Healthcare Improvement*Leadership & Organizing for Change Course Participant***University Park, PA***Feb 2017 – Present*

- Participated in two months of self-driven virtual learning consisting of video lectures and group coaching
- calls to develop leadership, community organizing, population health, and improvement science skills

*Teaching Assistant**Feb 2017 – Present*

- Organized and led a 1.0 credit seminar course – "Health Policy in the Headlines" – to be offered to honors students at Penn State interested in studying the history and reformation of the U.S. health care system

*Certificate Recipient**Aug 2016 – Oct 2016*

- Earned certificates in Patient Safety and Quality Improvement by completing training in Lean Six Sigma and Plan-Do-Study-Act cycles to build measurement, assessment and continuous improvement proficiencies

Center for Health Care and Policy Research*Research Assistant***University Park, PA***Feb 2017*

- Analyzed data for the RAND Health Information Technology and Patient-Centered Outcomes Research project examining how health IT functionalities impact health system performance and clinical outcomes
- Linked identifiers in national HIMSS and Minnesota HIT surveys to test the degree of agreeableness between the two datasets to ensure accuracy of future research allocating national data to other states

Holy Spirit Hospital – A Geisinger Affiliate*Exploratory Career Intern***Camp Hill, PA***Aug 2014 – Nov 2014*

- Shadowed health professionals and specialists in 34 diverse clinical departments to experience organizational flow and understand the process of patient transport within the health system

LEADERSHIP & INVOLVEMENT

Health Policy and Administration Department – The Pennsylvania State University*Peer Writing Tutor***University Park, PA***Jan 2017 – Present*

- Mentored 25 students seeking advice on constructing resumes, personal statements, cover letters and related professional documents, identifying internship and research opportunities, and securing post-graduation plans

Examining Health Care in Costa Rica – The Pennsylvania State University*Embedded Study Abroad Program Participant***Costa Rica***Jan 2017*

- Visited two national hospitals, three regional clinics, and shadowed primary care workers to study the organization, financing, infrastructure, and outcomes of the public health care system in Costa Rica
- Researched the provision of universal primary care in Costa Rica and synthesized findings into a poster presentation which received first place in Penn State's 2017 HHD Alumni Society Research Poster Competition and second place in the 2017 Penn State Undergraduate Research Exhibition

University Health Services – The Pennsylvania State University*HealthWorks Peer Health Educator | Body Image Team Member***University Park, PA***Aug 2016 – Present*

- Received training on health behavior theory, health promotion strategies, and health issues relevant to college population such as sexual health, fitness, nutrition, stress, substance abuse, and overall wellness

- Advocated for a healthier student body by implementing health education programs, hosting outreach events, and designing informative health campaign materials with a team of over 50 peers