Impact on Cost of Care

by Improving Treatment Compliance in the Chronically Ill

The Cost of Non-Compliance

The "18 |11 Initiative: What Can We Do About the Cost of Health Care?", a study by the Society of Actuaries and the Kaiser Family Foundation, notes that one of the multiple cost drivers of healthcare is treatment compliance.

It is reported the cost of noncompliance has been estimated at $290 billion. Also, 125,000 deaths each year are attributed to poor medication compliance. [1] There lots of reported reasons of noncompliance and most would fall in the categories of lack of patient access, some type of care/case management and navigation as well as social care connections outside of the actual provider's office.

A good upfront indicator of noncompliance, as well as a result, is preventable admission and readmission rates. Reducing hospital readmissions—especially those that result from poor inpatient or outpatient care—has long been a health policy goal because it represents an opportunity to lower health care costs, improve quality, and increase patient satisfaction at once.[2]

Readmissions are expensive for CMS and for the hospitals where they occur. For example, "Hospital readmissions cost Medicare about $26 billion annually, with about $17 billion spent on avoidable hospital trips after discharge, according to data from the Center for Health Information and Analysis" (Lapointe, 2018). And Medicare is not the only payer pressuring providers to prevent hospital readmissions. Readmissions of privately insured and Medicaid beneficiaries cost $8.1 billion and $7.6 billion, respectively, AHRQ found" (Lapointe, 2018).

According to a 2016 Agency for Healthcare Research and Quality (AHRQ) study, ***more than half of the cost of health care can be attributed to 5 percent of the population, also known as The Chronic Disease Burden.*** "In 2014, the top 1 percent of persons ranked by their health care expenditures accounted for 22.8 (100 minus 77.2) percent of total health care expenditures (figure 1), with an annual mean expenditure of $107,208 (figure 2). The top 5 percent of the population accounted for 50.4 (100 minus 49.6) percent of total expenditures with an annual mean expenditure of $47,498, while the bottom 50 percent accounted for only 2.8 percent of total health care expenditures. Average annual spending in this bottom half of the population was $264[3]."

Remarkably, 86 percent of health care spending is for patients with one or more chronic conditions—conditions expected to last three months or more. Among the chronic population, people with more than one condition account for 71 percent of total spending. The cost of chronic diseases goes far beyond the direct amounts spent on these diseases. In the United States, seven out of every 10 deaths are caused by chronic diseases each year.[4] There are indirect costs through lost productivity and an unmeasurable loss in the quality of life and the loss of ability to perform activities of daily living, such as bathing and eating.[5]

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[1] Chesanow, Neil. Why are so many patients noncompliant? Medscape, Jan. 16, 2014. https://www.medscape.com/viewarticle/818850. Accessed Oct. 1, 2018.)

[2] The Commonwealth Fund: In Focus: Preventing Unnecessary Hospital Readmissions.

[3] AHRQ Statistical Brief #497: Concentration of Health Expenditures in the US Civilian Noninstitutionalized Population2014, Emily M Mitchell, PhD; https://meps.ahrq.gov/data_files/publications/st497/stat497.pdf)"

[4] (https://www.cdc.gov/chronicdisease/overview/index.htm . Accessed Nov. 28, 2018

[5] (https://www.soa.org/globalassets/assets/files/programs/initiative-1811/initiative-1811.pdf)

Non-Compliance Defined

In a 2011 Consumer Reports survey, one of the leading complaints among primary physicians is that patients do not take the doctor's advice or follow treatment. In developing a treatment plan, a patient and his or her doctor often focus on how to avoid complications for a disease. Some common strategies for reducing the risk of complications include further reduction in modifiable risk factors through lifestyle changes and, in some cases, prescription medications. Regular office visits and tests are scheduled to make sure the patient stays on track. For example, although 3.8 billion prescriptions are written every year, more than 50 percent of them are not taken or are taken incorrectly. The reasons for noncompliance are complex. In addition to the obvious reason, affordability, some of the reasons cited most often include:[6] • Forgetfulness • Perceived side effects • Depression and other mental health conditions • Lack of knowledge about the medication and benefits • Trouble understanding the doctor's advice • Lack of social support for services, such as housing.

How to directly and positively impact cost and quality of care by treatment compliance

Community Infusion Solutions (CIS), an enabler of Infusion centers of excellence, studied the impact on readmissions and average lengths of stay in both pre and post implementation of their program in a community hospital outpatient setting. CIS delivers a comprehensive program, including case management, care coordination, insurance authorization, pharmacy coordination, and revenue cycle management in locations where compliance is low due to access to IV therapies.

Benefit Analysis of a CIS Managed IV Therapy Center

		Readmission Rates			Average Length of Stay		
DRG Code	Description	Pre-CIS	CIS**	Post CIS	Pre-CIS	CIS	Post CIS
603	CELLULITIS W/O MCC	6%	6%	18%	4.9	4.7	3.8
638	DIABETES W CC	14%	11%	29%	3.2	3.0	2.5
689	KIDNEY & URINARY TRACT INFECTIONS W MCC	20%	8%	29%	4.5	5.1	5.2
853	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE W MCC	14%	9%	29%	10.9	10.7	11.9
854	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE W CC		14%	23%		5.3	6.1
870	SEPTICEMIA OR SEVERE SEPSIS W MV 96 OR MORE HOURS	29%	13%	28%	13.8	12.9	13.5
871	SEPTICEMIA OR SEVERE SEPSIS W/O MV 96 OR MORE HOURS W MCC	21%	20%	22%	5.9	6.2	6.3

*CIS**: CY 2017; Pre CIS: CY 2014; Post CIS: CY 2018*

The study period is pre CIS CY 2014, CIS implemented CYs 2015-2017 and post CIS CY 2018; it encompasses DRGs associated with specific disease states that present at high rates in the 5/50 population such as Diabetes, Urinary tract infections, and Sepsis; the metrics around these parameters are framed with readmission rates and Average lengths of stay (ALOS).

The results of the study definitively show the impact of the program on readmission rates as well as a strong correlation between readmission rates and ALOS, a direct link to cost and quality. The study demonstrates impact on a specific population—those with acute or chronic conditions who can predictably respond well with IV therapy.

[6] Chesanow, Neil. Why are so many patients noncompliant? Medscape, Jan. 16, 2014. (https://www .medscape.com/ viewarticle/818850). Accessed Oct. 1, 2018.

After CIS program implementation 5 of the 7 areas of focus readmission rates dropped. Conversely, when the hospital discontinued use of the program the readmission rates in all seven areas increased significantly. In the same period and focus areas, ALOS decreased in 4 of the 7 areas after implementation while increased in 5 of the 7 areas after discontinuing the program. (Table 1). The connection of readmission and ALOS in this study reveals that when pressures on ALOS were applied, readmission rates went up.

The CIS compliance rate with all customers nationally is 90%.

The economic, clinical and humanistic consequences of 'medication non-adherence' will continue to grow as the burden of chronic diseases grows worldwide. Evolution of health systems must occur to adequately address the determinants of adherence through use of effective health interventions. Haynes (et al100) highlights that 'increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments. [7]

CIS focuses on managing patients who benefit from IV therapies but either do not have local access (right time, right place) or are not or have not been compliant in their treatment plan. The case management team rely on predictive analytics, 24/7 dedicated patient support, coordination with the IV center staff, and case management with payor to ensure compliance with the patients. ***Patient compliance averages 90% nationally***. To deliver monitored quality at the site of care, the team uses proper documentation, scheduling management, revenue cycle and claims tracking, pharmacy coordination, and care coordination. ***The combination of managing the patient and monitoring the site of care creates a process and service that delivers confidence, satisfaction and results for both provider and patient.***

[7] Cutler RL, et al. BMJ Open 2018;8:e016982. doi:10.1136/bmjopen-2017-016982 "Economic impact of medication nonadherence by disease groups: a systematic review"