Ascension Health Cost Savings Calculator for Palliative Care

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In the current economic milieu, health care organizations across the country are looking for ways to cut costs without negatively affecting the level of care provided. It would be ideal, of course, to find means that effectively increase the quality of care and concurrently decrease costs. Palliative care is one avenue that can contribute significantly to this goal. As researchers have demonstrated in the past several years, palliative care increases patient and family satisfaction and significantly improves symptom management.1 Many studies also have shown significant cost savings associated with palliative care programs because of positive interventions made by palliative care teams such as addressing goals of care.2 However, previously shared cost savings and cost avoidance tools generally use a formula that matches palliative care patients to patients who did not receive palliative care by propensity scores based on variables such as age, sex, marital status, primary diagnosis, and so on. Generalized linear models are estimated per admission and per hospital day for each group. In the frequently cited study by R.

from $1,700 to $4,900.3 However, some have been hesitant to believe these numbers are true savings because there is the possibility that other factors or covariates may have contributed to the savings between groups—despite the researchers’ attempt to create statistically significant, generalizable, and reliable results. Ascension Health was fortunate to have a key member of our palliative care task force create a tool that he felt would provide a more conservative and hard-dollar approach to calculate cost savings for our palliative care programs.

Creation of Ascension Health’s Cost Savings Calculator

As shared in the Spring/Summer 2008 issue of Supportive Voice, Ascension Health began our system-wide palliative care initiative with the creation of seven pilot sites in 2005. Other details from the first phase of our palliative care initiative were shared, including our newly created model, definition, shared metrics and some specific challenges and ways to address these challenges from our three delivery models. With the goals of expanding our initiative and programs system-wide in mind, we soon realized that making both the clinical and mission cases for palliative care were not as difficult as making the business case. Dave Clements, director of financial planning for Our Lady of Lourdes Memorial Hospital in Binghamton, N.Y. (one of our pilot sites), and member of our palliative care task force, sensed the urgency to design a useful tool for measuring cost savings for our system. He set out to develop an accurate, defensible, and conservative approach that might more readily be endorsed by other leaders in finance and administration across our health ministries. The task force adopted his tool after receiving input from several other finance officers in the system.

Our cost savings tool in essence compares palliative care patients to themselves by comparing their pre-palliative care (PC) consult costs to their costs after a palliative care consult occurs. The basic formula is provided at the top of the next page.

To calculate cost savings, the “pre-PC cost” is compared to the “post-PC cost.” More specifically, the average variable cost per day

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Sean Morrison et al. examining cost savings across eight hospitals with established palliative care programs, hospital savings on patients who were in palliative care programs versus their matched counterparts ranged from $279 to $374 per day. Hospital savings on each admission ranged
after the consult is subtracted from the average variable cost per day before the palliative care consult and multiplied by the remaining days of the patient's stay. An estimate of the natural reduction of variable cost is subtracted from the remaining days of the patient's stay because variable costs per day typically decline during an inpatient stay whether or not a palliative care consult occurs. The estimate of these natural declines uses a regression analysis of non-palliative care patients that is based on the assumption that costs decrease a fixed amount per day every day past day three. Costs are pulled from cost-accounting software for patients identified by the palliative care team by their patient number.

The first 48 hours following admission are excluded from the pre-PC cost calculation because there are many costs attributable to pre-admission testing, surgeries and the like that are loaded on the front end of a patient stay that would occur with or without a palliative care consult. It would be misleading and perhaps disingenuous to attribute all subsequent cost declines to a palliative care consult. If these costs were included in the calculation, we would expect to see a drastic increase in pre-PC costs and thus overstate the savings attributed to the palliative care consult. Also, the palliative care consult day is considered a part of the pre-PC cost. Finally, the post-PC cost includes the days after the PC consult through the day before discharge. The post-PC cost excludes the discharge date because the discharge day does not include a room charge and typically has lower costs than an average day.

With this tool, it is possible that in some cases the post-PC cost could actually be greater than the pre-PC cost – for example, if a patient has an increase in ancillary services after the consult. Our method does not exclude these "negative savings" but combines them into the overall results to give a more accurate and fuller picture of our costs for all PC patients.

The tool also allows for the exclusion of cases that appear to have either abnormal savings or inflated "negative savings." Cases in which the final cost figure per day is +/- 35 percent of the average cost after the consult are flagged and the person completing the tool is able to examine the individual's information to see if the difference is reasonable or due to something that should be excluded, for example a hip surgery on day three of pre-PC costs.

**Sample Results from St. John Health**

We have begun to see some promising results from the use of our cost savings tool at several of our hospitals. Don Kern, finance lead consultant for St. John Hospital and Medical Center in Detroit, used the tool for two hospitals in the St. John Health System. The calculator was loaded with data from Providence Hospital in Novi, Mich. over a period of 16 months from July 2006 through October 2007. The calculation included 929 patients whose length of stay ranged from 0 to 149 days. The average length of stay (ALOS) for all patients was 13.1. After excluding patients with insufficient days for calculating costs before or after the PC consult (ALOS 4.5), and excluding patients due to events that caused abnormal positive or negative costs or savings (ALOS 32.0), the ALOS for patients used in the final calculation was 18.6. The regression analysis used to calculate natural declines in the average daily variable costs came to $33 per day. The calculation of the natural cost savings excluded hospice, rehab, NICU, OB, and Psych. After excluding outliers, the estimated savings for this 16-month period was $329,270, which calculates to approximately $247,000 per year.

At St. John Hospital and Medical Center (SJH&MC), the tool was used to calculate palliative care savings for 862 patients over a one-year period from March 2007-2008. Length of stay ranged from 0 to 262 and the ALOS for all patients was 13.1. Using the cost savings calculator and excluding outliers and patients with missing data, SJH&MC showed a savings of $450,000.

**With the use of our cost savings calculator, we now see growing reliable evidence that strengthens the business case for palliative care.**

In fiscal year 2008, SJH&MC's programmatic costs were $382,000, with $57,000 in actual billing reimbursements, for a net cost of $325,000. The net savings to the

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geriatric population. Each week the physician leads interdisciplinary team case conferences to minimize the risk of a patient health crisis and ensure that physician plans are fully implemented. This team focuses on providing the best quality of life for geriatric patients. The home health care nurse participates along with two physicians, a pharmacist, a social worker and a physician assistant to plan care for these at-risk elders. Care coordination is improved by having the Mercy Home Care nurse at the conferences. Through one-on-one teaching sessions in the home, the registered nurse coaches patients and families in self-care skills needed to reduce rates of rehospitalization for that condition. They can learn more comfortably in the security of their own home and are better able to follow the care plan as a result. Understanding how to administer better self-care while living with the life-limiting illness or chronic disease leads to an improved quality of life.

Traditional home health care serves with interdisciplinary teams, but this program differs with the weekly physician-led interdisciplinary team conferences. One advantage has been the skilled nursing “eyes and ears” in the patient’s own environment that give the physician a sense of the actual support available in the home. Patients in the physician’s office don’t always choose to divulge their true living situation, putting themselves at risk. Should a health crisis occur, the home health care nurse can intervene to reduce or prevent readmissions to the hospital.

Quality of care is very important. Mercy Home Care is certified by Medicare and accredited by the Community Health Accreditation Program (CHAP). To date, the Mercy Home Care quality outcomes, as publicly reported by the Center for Medicare and Medicaid Services Home Care Compare, are above state and national averages, particularly in the following areas: the percentage of patients who stay at home after an episode of home health care ends, the percentage of patients who must be admitted to the hospital, and the percentage of patients who need urgent, unplanned medical care. All help to reduce cost by delivering the right care in the right setting at the right time.

Although palliative care in the home setting is not a new concept, the Partners in Care program has enhanced Mercy Home Care’s ability to serve Muskegon, Mich. with compassion, improving the quality of life for patients in our community. Caring for patients and families in their own home is truly sacred work.

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hospital after paying for all programmatic costs was $125,000. Similar to the Morrison study, savings were seen mostly from reduced ICU, lab, and pharmacy costs. An earlier calculation method used by the hospital resulted in a savings between $700,000 and $840,000 for this same patient set. This method excluded all costs from the ER, OR, Cardiac Catheterization and related departments because these usually occur early in a stay and are not reoccurring. It also did not adjust for natural cost savings. If the Morrison et al. savings estimate of $1,700 to $4,900 per admission were applied to these 862 PC patients, the savings for the hospital would be somewhere between $1,465,000 and $4,224,000! Although our tool shows less significant savings, the results are considered to be more reliable by financial leaders in our system. The much larger savings estimates from other methodologies are generally not trusted because they do not account for expected higher costs early in a patient’s stay and for the natural cost decline over time.

Conclusion

Because of our commitment to human dignity, the common good, justice and the stewardship of resources, we assume that a worthy goal for health care is to increase quality while decreasing costs. Through our system-wide combined set of process and quality measures collected over the past three years from our pilot sites and through our patient and family satisfaction results, we know our palliative care programs and teams are making a difference for patients and their families and increasing quality care throughout the system. With the use of our cost savings calculator, we now see growing reliable evidence that strengthens the business case for palliative care. We are hoping to increase use of the tool to observe results for hospitals of varying size and patient populations so that local health ministries and their hospitals looking to build programs can reasonably project what their cost savings could be.

REFERENCES


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