Assignment: Future changes in utilization of care—What are the trends in end-of-life care (settings) and costs (net change in resource intensity across all settings)?

Background

The group has been asked to consider the role of service site-shifting in TR projections. This issue has the potential to grow in importance for care at the end of life. Historically, a large share of Medicare spending (about 30%) occurs in the last months of life due to use of intensive service settings, treatments, and procedures. In the last decade or more, though, there has been an increasing focus on changes in care for patients near the end of life. Time spent in the community near the end of life, rather than inpatient settings, has received increasing attention as a measure of quality care, and patients express strong preferences to spend time at the end of life at home (Groff et al. 2016). Use of hospice services have grown in traditional Medicare, while acute care hospital use has fallen in some settings (Teno et al. 2013). Medicare Advantage plans have begun to implement care management programs that encourage hospice use for patients near the end of life, as in Aetna's program of imbedded case managers (Krakauer 2011). These trends have the potential to lower the cost of care. Medicare part A covers hospice services for patients expected to live 6 months or less. This benefit can occur at home or in inpatient settings.

What assumptions are being discussed?

As with all of the questions around changes in utilization of care, the question is whether mid-range and long-run impacts of changing the types of services. In this memo, we focus on whether changes from inpatient to hospice and other alternatives for end of life care, should be dealt with explicitly in mid- or long range projections.

Why is it potentially relevant?

If there is a cultural change in care at the end of life, given the importance of end of life spending overall, we would expect that projections of inpatient spending are likely overstated. Hospice services, despite accounting for relatively small levels of spending, $15 billion in 2013, have grown rapidly. Part A hospice spending grew 7.5% per year from 2007-2010.

How is this currently addressed in the TR?

Setting of care, including outpatient hospice and its possible effects on inpatient care settings is not explicitly addressed in the TR. Part A services are updated by the market basket and real per capita growth in volume and intensity for years 25 to 75, with adjustment for ACA impacts. If hospice care, for example, were leading to meaningful shifts away from inpatient settings, then volume and intensity components of projections for inpatient care may be too high. It may be that assumptions affected by changes in settings of care, to the extent that service use at the end of life has shifted from more expensive settings (inpatient settings) to less expensive settings (home).

While OACT does "monitor the trends in inpatient and outpatient quarterly" they "do not have explicit assumptions that the two types of service will trend in a pattern related to the other." In the long range OACT uses the Factors of Growth model. When forming projections, hospice spending is projected separately from other Part A services. Due to rapid growth over the

period since 2000, hospice has a relatively high hospice residual (non-price) growth rate of 5 percent per year for the remainder of the projection period.

Table 1.
What are the potential alternatives to be considered and potential advantages and disadvantages of each?

	Pros	Cons
OACT should model the use of hospice, home health, and other alternatives to inpatient settings at end of life in order to link shift to hospice or other outpatient services to inpatient offset.	Would add data where currently little evidence exists.	Diverts attention from possibly more important questions requiring analysis. Needs to be coordinated with other efforts to count service shifting AND effect of APMs, which may be accelerating service shift (ie possible this work double counts changes rolled into APMs)
OACT should, if not already doing so internally, track changes in spending in the last 6 months of life.	If shifting of setting has offsets, these should be reflected in net total costs near the end of life.	Historically this has been a relatively stable share of Medicare spending.
OACT should consider long-range projections that incorporate an offset of inpatient services as hospice use rises	If inpatient settings of care are being replaced, current long range projections overstate the volume and intensity of Part A spending.	Evidence is extremely mixed that such an offset exists.

What studies or research exists that could be used to support one or more alternatives?

The research on care at the end of life, and around hospice in particular, yields mixed results. It is clear that hospice use is rising, and it is also clear that there is wide variation in spending around end of life care. It is less certain whether and how much spending offset occurs with use of hospice care.

Teno and colleagues (2013) documented a rise in hospice use at time of death from 22% in 2000 to 42% in 2009, a decline in deaths in acute care hospitals from 33% to 25% among fee-for-service Medicare patients with poor-prognosis cancer, and a rise in use of the ICU in the last month of life from 24% to 29%. Another study cited as evidence that hospice has potential to offset care in other settings comes from a 20% Medicare fee-for-service sample of patients with poor-prognosis cancers dying in 2011 (Obermeyer et al. 2014). As seen in Table 2, the hospice group has substantially lower spending in the last year of life. Although the authors were careful to match the hospice and non-hospice groups, one might interpret this as an upper bound on potential savings or cost offsets from hospice since patient preferences are likely to differ across

these two groups. Aetna's experience in Medicare advantage lends support to an offset. When patients were enrolled in a program of embedded nurse care managers trained to engage families in discussions of advanced care planning and provide other support, hospice election tripled to 80%, acute care days and intensive care days both fell over 80% (Krakauer 2011). This article by Aetna's Medicare Medical Director is attached.

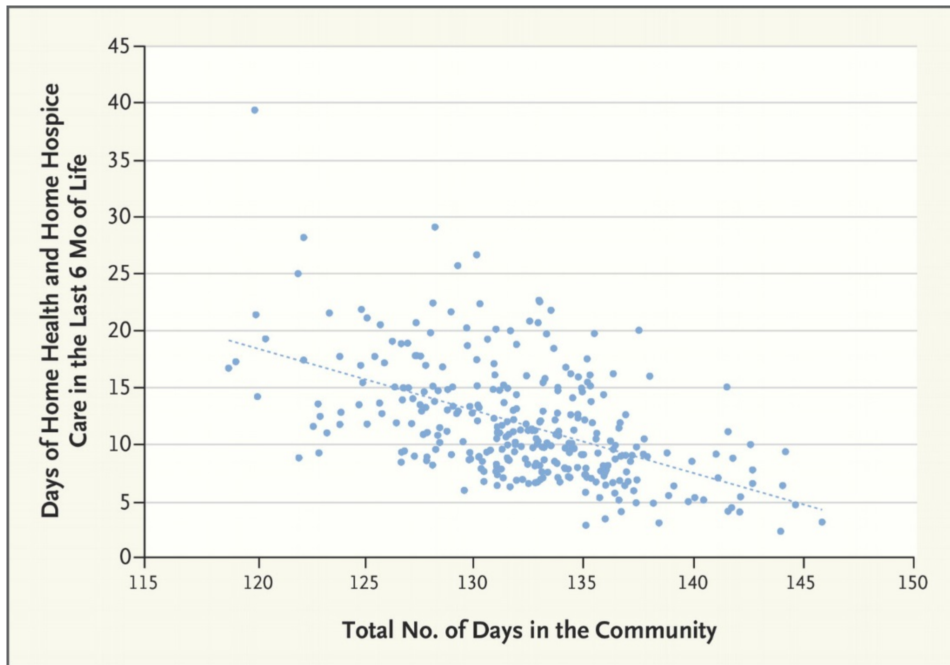
Table 2.
End of life spending for decedents with poor prognosis cancer

	Nonhospice Group (n = 18 165)	Hospice Group (n = 18 165)	Risk Ratio (95% CI)
Hospitalizations, % (95% CI)	65.1 (64.4-65.8)	42.3 (41.5-43.0)	1.5 (1.5-1.6)
Intensive care unit admission, % (95% CI)	35.8 (35.1-36.5)	14.8 (14.3-15.3)	2.4 (2.3-2.5)
Invasive procedures, % (95% CI)	51.0 (50.3-51.7)	26.7 (26.1-27.4)	1.9 (1.9-2.0)
Death in hospital or nursing facility	74.1 (73.5-74.8)	14 (13.5-14.5)	5.3 (5.1-5.5)
Costs in last year of life, $ (95% CI)	71 517 (70 543-72 490)	62 819 (62 082-63 557)	**Difference,** 8697 (7560-9835)

Source: Obermeyer et al. JAMA Internal Medicine 2014

Two studies in the *New England Journal of Medicine* cast doubt on these savings. First, Gozalo et al. 2015, used a difference-in-difference analysis to compare spending between likely hospice users in a time before and after rapid expansion of hospice (2004 and 2009). As the authors report, between 2004 and 2009, the expansion of hospice was associated with a mean net increase in Medicare expenditures of $6,761 (95% confidence interval, 6,335 to 7,186), reflecting greater additional spending on hospice care ($10,191) than reduced spending on hospital and other care ($3,430). And just this week, Grof et al. 2016 reported measures of days spent in the community (rather than inpatient settings) in the last 6 months of life for 2013 Medicare fee-for-service decedents. The areas with the greatest hospice use were areas that also had the greatest use of inpatient settings (fewest days in community) for decedents in 2013. This runs counter to what one might expect of hospice use.

Figure 1



Source: Grof et al. New England Journal of Medicine, 2016.

Finally, an August 2015 MedPAC report prepared by contract reviewed the literature to answer the question of how hospice care affected Medicare spending in the last year of life. The authors conclude that the preponderance of evidence suggests that the hospice benefit has not reduced Medicare spending. The 2015 report focused mainly on older literature and a market level analysis of 2012-13 data to answer whether markets with more hospice use had lower spending.

References

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