

Modeling the financial and quality implications of a serious illness strategy for a prototypical Medicare ACO

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Background

- The accountable care organization (ACO) model incentivizes providers to deliver efficient health care.
- Systematic approaches to improving access to palliative care for the seriously ill have been shown to improve patient experience, reduce nonbeneficial utilization of health care resulting in reduced expenditures.
- Previous work has shown limited attention on the part of Medicare ACOs on developing strategies for the seriously ill.

Objective

Model the impact of a serious illness strategy for a prototypical Medicare ACO

Data & Methods

- Data: 2016 public use file for Medicare’s largest ACO model the Medicare Shared Savings Program (MSSP)
 - MSSP beneficiary characteristics and utilization, and organizational performance
- Used data to build a prototypical MSSP ACO
- Defined ‘strategy’ to encompass a hospital-based and home-based effort to provide palliative care
 - 25% increase in palliative care consults prior to hospital discharge
 - Establishment of a home-based palliative care program that targets beneficiaries who eventually enroll in hospice and die at home
- Calculated ACO-specific intensity of each service as number of ACO’s recipients as a proportion of their decedents in calendar year
- Modeled total expenditures, with impact and cost assumptions taken from the literature

Results

Key Assumptions

Parameter	Value	Source
Mean number of beneficiaries	18,250 distinct beneficiaries 17.753 person-years	CMS ACO PUF, 2016
Mean probability of inpatient admission	0.39	CMS ACO PUF, 2016
Proportion of beneficiaries dying per year	0.0445	Krumholz et al., 2015
Proportion dying electing hospice	0.48	NHPCO, 2017
Proportion dying at home	0.401	Teno et al., 2018
Palliative care penetration rate	4.8%	CAPC, 2015
Savings per inpatient consult	\$3,237	May et al., 2018
HBPC PMPM savings	\$2,500	CAPC HBPC ROI calculator
HBPC PMPM cost	\$400	Medicare Care Choices Model
HBPC mean duration	4 months	CAPC HBPC ROI calculator

Economic Impact

Model Results	
Outcome	Estimate
Additional inpatient PC consults/year	67.96
Expenditures averted due to inpatient strategy/year	\$219,987.20
HBPC enrollees	93.79
Expenditures averted due to HBPC/year	\$787,841.80
Total expenditures averted due to serious illness strategy/year	\$1,007,829.00

- Our results suggested that a serious illness strategy may indeed boost the financial savings and quality performance of Medicare ACOs.
- Using relatively conservative estimates of impact, including a performance adjustment factor, we estimate that an average ACO could reduce expenditures by over \$1 million, or an additional 0.5% of total mean ACO expenditures, representing a more than 50% increase in the mean savings rate.
- Quality scores were estimated to improve due to fewer unplanned admissions among those with multiple chronic conditions, and reduced readmission rates.
- These findings were robust to sensitivity analyses that reflected the breadth of impact findings in the current literature.

Discussion

- While there have been numerous mentions of the value proposition of a serious illness strategy for ACOs, we believe this is the first effort to quantify the quasi-deadweight loss, or unattained potential savings, associated with failing to implement such a program.
- Through inclusion of a performance adjustment factor and parameterizing the model towards the lower bound of the literature findings, we attempted to generate an intentionally conservative estimate of the impact of a serious illness strategy.
- Our findings, combined with the limited attention to serious illness by Medicare ACOs, suggests that organizations are not capturing the associated substantial financial and clinical gains.
- Limitations include the assumptions involved in parameterizing the model, which in some cases are taken from literature on a non-Medicare population. In addition, our use of a ‘prototypical’ MSSP ACO overlooks the substantial variation in organizational structures and resources, such as the distinction between hospital-led and physician-led ACOs.
- Further examination of this issue will examine in more detail the range of approaches and potential impacts of such an endeavor.

Conclusions

The current delivery system fails to deliver efficient and effective serious illness care, creating opportunities for both clinical and financial improvement that should make this area an attractive target for ACOs. Our modeling efforts reinforced the opportunity available for ACOs to devise and implement a serious illness strategy that resonates with the fundamental ACO mission of incentivizing delivery system improvements that deliver higher quality, more efficient care.

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