Potential Impact of COVID-19 on Medicare Spending: Implications for ACOs

March 24, 2020

Background

The ongoing COVID-19 pandemic will have a significant impact on Medicare spending over the next 12 to 18 months and beyond. This will be driven by an increased burden of serious illness among Medicare beneficiaries that will increase hospitalizations, use of intensive care units (ICU) and mechanical ventilation, and post-acute care. The financial impacts of this additional healthcare utilization will place a particular burden on healthcare organizations that participate in payment models linked to global budgets such as ACO programs. It will place a similar burden on Medicare Advantage plans. We have compiled initial estimates of the potential financial impact of COVID-19 on Medicare spending over the coming 12 months. There is relatively little information about the impact of COVID-19 on healthcare utilization. Much of the early evidence comes from countries outside the United States with healthcare systems that differ from the U.S. system. We provide a range of estimates based on simplifying assumptions that focus primarily on an increased need for hospital and related care.

Preliminary Estimates

We estimate the potential cost to Medicare of the COVID-19 epidemic over the next 12 months could range from $38.5 billion to $115.4 billion. These are gross spending estimates that could rise or fall depending on a variety of factors that are discussed briefly in the caveats section below.

Age	US Population (000's)	Infection Rate	Percent of Infections with Symptoms	Number Symptomatic Cases (000's)	Percent Hospitalized	Number Hospitalized (000's)	90-Day Episode Cost	Total Cost (billions)
65-69	18,052	20%	67%	2,419	16.6%	402	$22,780	$9.1
		40%	67%	4,838		803	$22,780	$18.3
		60%	67%	7,257		1,205	$22,780	$27.4
70-79	24,754	20%	67%	3,317	24.3%	806	$22,780	$18.4
		40%	67%	6,634		1,612	$22,780	$36.7
		60%	67%	9,951		2,418	$22,780	$55.1
80+	13,163	20%	67%	1,764	27.3%	482	$22,780	$11.0
		40%	67%	3,528		963	$22,780	$21.9
		60%	67%	5,292		1,445	$22,780	$32.9
TOTAL	55,969	20%		7,500		1,689		$38.5
		40%		15,000		3,378		$77.0
		60%		22,500		5,067		$115.4

Implications for ACOs

About 20 percent of all Medicare beneficiaries are assigned to a Medicare Shared Savings Program (MSSP) or Next Generation (NextGen) Model ACO. Therefore, potential new COVID-related costs for Medicare ACO beneficiaries could range from $7.7 billion to $23.1 billion. Total spending for MSSP- and NextGen ACO-attributed beneficiaries was about $125 billion in 2018, so these COVID estimates represent a spending increase of 6 percent to 18 percent. In 2018, MSSP ACOs reduced spending by 1.6 percent on average relative to their benchmarks (spending targets) and NextGen ACOs reduced spending by 1.4 percent. Even under the lower-bound estimate, new spending of this magnitude would wipe out shared savings for the current performance year and create major losses for ACOs in models with downside risk.

Methods

To estimate the financial impact of COVID-19 on the Medicare spending, we used incidence rates and the average cost of a 90-day pneumonia hospitalization episode of care to determine potential new spending associated with the virus. The bundle includes index hospitalization costs as well as post-discharge inpatient rehabilitation, skilled nursing, home health, and ambulatory services associated with recovery from pneumonia. The cost estimate calculations are based on the following assumptions.

Population. We use population data from the U.S. Census which breaks into the age ranges that align with the admission rate data discussed below.[1] This is not completely consistent with Medicare enrollment. We do not include Medicare beneficiaries under age 65 and some beneficiaries over 65 have other coverage as their primary payer.

Infection rates and symptoms. We use a range of infection rates (20, 40 or 60 percent) given our limited understanding of population prevalence at this time.[2] The estimates assume that only two-thirds of infections are symptomatic and inpatient admission rates are based on symptomatic cases.

Inpatient admission rates. Inpatient admission rates by age associated with COVID-19 were estimated by epidemiologists at the Imperial College of London and derived from experience in China.[3]

New Medicare spending. As a proxy for new Medicare spending, we used the average per-episode spending for Medicare patients hospitalized with pneumonia including all clinically relevant services provided for 90 days after the index discharge.[4]

Caveats

The assumptions that underlie these estimates could change depending on the characteristics of the outbreak in the United States and the nature of the health care industries response.

[1] https://www.census.gov/prod/2014pubs/p25-1140.pdf
[2] https://www.nytimes.com/interactive/2020/03/17/upshot/hospital-bed-shortages-coronavirus.html
[3] Ferguson NM, Laydon D, Nedjati-Gilani G et al., (2020). Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand. Imperial College COVID-19 Response Team. Downloaded March 18, 2020, https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-NPI-modelling-16-03-2020.pdf
[4] The Lewin Group, CMS Bundled Payments for Care Improvement Initiative Models 2-4: Tear 5 Evaluation & Monitoring Annual Report, downloaded March 18, 2020, https://downloads.cms.gov/files/cmmi/bpci-models2-4-yr5evalrpt.pdf.

1. We assume incident cases unfold over the course of 12 to 18 months. This timing allows the healthcare system to 'keep pace' with demand for inpatient care. However, if the incidence of COVID-19 unfolds more quickly, fewer people will likely gain access to hospitals, which will lead to lower costs but potentially higher rates of death due to the virus.

2. We also assume that inpatient hospitalization rates derived from experience in China are applicable in the U.S. system. Inpatient stays are driven by a mix of clinical necessity and hospital capacity. In China, there were 4.04 hospital beds per 1,000 people in 2016 as compared to 2.77 in the United States.[5] This may mean hospitalization rates for the virus are higher in China than they would be in the United States, particularly as the U.S. system encounters capacity constraints.

3. We use a 90-day pneumonia episode as the proxy for spending per hospitalized COVID-19 patients. This includes not only hospital costs but also professional service and post-acute care costs. The pneumonia episode cost may understate the cost of a COVID-19 episode. This is because a portion of admitted Medicare-eligible COVID-19 patients will require mechanical ventilation. These cases are much more resource intensive than typical pneumonia admissions, and cases that require mechanical ventilation have separate diagnosis-related groups (DRGs) and are not included in the pneumonia episode costs.

4. Hospitals are now suspending certain services including elective surgeries and diagnostic services in order to reduce patient and health care worker exposure to the virus. These are some of hospitals' most profitable services and suspending them could materially reduce revenue from Medicare and other payers. While this could offset some new COVID-related Medicare spending, it will also result in financial duress for U.S. hospitals. Hospitals will likely receive financial relief funding from the federal government to replace at least some of this lost revenue.

5. Hospitals and ambulatory providers are also experiencing sharp declines in face-to-face visits as communities' practice social distancing. Although CMS has relaxed restrictions on payment for virtual visits providers have limited capacity to offer these services. Avoiding care, both routine care and elective procedures as discussed above, reduces spending now but in the long-term can contribute to higher costs as a result of unmanaged illness, conditions worsening or foregoing preventive care like a colonoscopy which could lead to late diagnoses of problems.

6. There are other significant new areas of potential COVID-related Medicare costs that are not considered in this analysis. We do not estimate ambulatory COVID-19 related costs for patients who are not hospitalized; nor do we consider additional costs hospitals face given the need for infection control protocols and equipment.

[5] https://data.oecd.org/healthcqt/hospital-beds.htm