Hospital-Acquired Conditions lead to avoidable cost and excess deaths
Hospital-acquired conditions (HACs) contribute over $2 billion in excess hospital costs annually, add an average of eight days to patient length of stay and increase mortality risk by 72 percent.

Executive summary

Hospital-Acquired Conditions (HACs), such as pressure ulcers, falls and trauma, and surgical site infections, are defined by the Centers for Medicare and Medicaid Services (CMS) as avoidable complications of care that could reasonably have been prevented through the application of evidence-based guidelines. CMS tracks 14 categories of HACs and adjusts payments to hospitals that rank in the worst-performing 25 percent of all hospitals with respect to these quality measures.

Despite the penalties and the perceived avoidability of these conditions, research from IBM Watson Health has found there were 48,771 HACs in 2016. Together, these resulted in 3,219 potentially avoidable deaths and drove total excess hospital costs of more than $2 billion in fiscal year 2016. The excess costs represent hospital operational costs only and do not include physicians’ fees. These HACs also added an average of 8.17 days per patient to average length of stay, and increased mortality risk per patient by 72.32 percent.
Results

HACs drive over $2 billion in excess hospital costs

Excess hospital costs attributable to a HAC adverse outcome across the 12 HACs that had at least 30 observed adverse HAC outcomes were $2,044,333,067. This translates to an average excess hospital cost of $41,917 per HAC patient.

HACs add more than 8 days to average patient length of stay

The incremental change in length of stay attributable to a HAC adverse outcome across the 12 HACs that had at least 30 observed adverse HAC outcomes was 8.17 days. This means patients who experienced HACs were in the hospital an average of 8.17 days longer than patients who did not experience HACs.
HACs increase mortality risk by more than 72 percent per patient

The estimated attributable risk of death given the HAC adverse outcome across the 12 HACs that had at least 30 observed cases for estimating attributable risk was 72.32%. There were 3,219 avoidable deaths attributable to HACs in 2016.

HAC adverse outcomes totaled more than 48 thousand in 2016

The total number of HAC adverse outcomes observed in 2016 for the 12 HACs that had at least 30 observed adverse HAC outcomes was 48,771.
Methodology

The research breaks out the scope of these adverse outcomes across each of the 14 HAC categories, drawing on an inpatient database of 19,790,656 actual discharges projected to an estimated 37,102,428 civilian discharges from over 4,500 hospitals. Data was drawn from the 2016 IBM Watson Health Projected Inpatient Database, which contains approximately 20 million discharges per year from more than 2,600 acute care hospitals, statistically projected to the entire US. This unique data set contains claims data from all payers nationwide, including CMS and private, employer-sponsored health plans, capturing a full breadth of healthcare outcomes on a national basis.

Conclusion

Despite widespread efforts by healthcare providers and payers to reduce the number of HACs through a combination of hospital quality initiatives and value-based payment models, the problem persists. These avoidable conditions are associated with billions of dollars in excess cost, longer hospital stays and unnecessary deaths.

Moreover, the cost estimates represented in this research brief do not factor in the payment penalties levied by CMS for hospitals that rank in the worst-performing 25 percent of all hospitals with respect to HAC quality measures under the Hospital-Acquired Conditions Initiative. This policy denies incremental payment for HACs, meaning excess costs incurred by hospitals related to HAC adverse events are not reimbursed by Medicare or Medicaid.

It is critical that healthcare providers continue to rigorously track and report these conditions so clinical performance can be measured against hard data to chart improvement over time. This effort will require continued collaboration between public and private institutions to track and measure performance and find ways to systematically reduce these avoidable conditions.

| CMS Hospital-Acquired Conditions measured for FFY (federal fiscal year) 2016 |
|------------------|------------------|
| **HAC 01** | Foreign object retained after surgery |
| **HAC 02** | Air embolism |
| **HAC 03** | Blood incompatibility |
| **HAC 04** | Stage III and IV pressure ulcers |
| **HAC 05** | Falls and trauma |
| **HAC 06** | Catheter-associated urinary tract infection (UTI) |
| **HAC 07** | Vascular catheter-associated infection |
| **HAC 08** | Surgical site infection—mediastinitis after CABG |
| **HAC 09** | Manifestations of poor glycemic control |
| **HAC 10** | Deep vein thrombosis (DVT) / pulmonary embolism (PE) with total knee or hip replacement |
| **HAC 11** | Surgical site infection—bariatric surgery |
| **HAC 12** | Surgical site infection—certain orthopedic procedures of spine, shoulder, and elbow |
| **HAC 13** | Surgical site infection following cardiac implantable electronic device procedures |
| **HAC 14** | Iatrogenic pneumothorax w/venous catheterization |
Notes

1 https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/Hospital-Acquired_Conditions.html
2 https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/Hospital-
3 https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/HAC-Reduction-Program.html

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