Where Does Potential for True Cost Savings Exist Following Elective Surgery for Degenerative Spine Disease?

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Introduction

Value-base purchasing and pay-for-performance models are driving the development of bundle payment systems for reimbursement. To build a sustainable bundling system, it is important to identify the contributions of each component of index surgery total cost and determine the domain where targeted savings can occur. We determined percent contribution of healthcare resource utilization, hospital fee, surgeons' fee, and readmission to total cost of index surgery following elective spine surgery.

Methods

A total of 1,694 consecutive patients undergoing elective spine surgery for degenerative cervical and lumbar pathologies were prospectively followed. Hospital discharge and billing records were collected in prospective longitudinal registry. Total direct cost during the 90-day global period included cost derived from diagnosis-related group(DRG) code (hospital fee), CPT code(surgeon fee), diagnostic imaging, medications, provider visits, and readmission within 90-days of discharge. All cost data were adjusted based on Medicare national allowable payment amounts. Percent contribution of each attribute to total direct cost was analyzed.

Results

Median total direct 90-day cost for index anterior cervical discectomy and fusion(ACDF,n=457) was $15,837, lumbar microdiscectomy(n=232) was $6,075, laminectomy(n=389) was $8,810, and laminectomy+fusion(n=616) was $26,408. In these patient populations, mean±SD percent contribution of hospital fee to total cost was 75±10%(range 71-82%), surgeons' fee was 15±5%(range, 12-18%), and healthcare resource utilization was 8.5±7%(range, 5-11%). Overall rate of readmission was 6.2%(n=105); which accounted for 21±15%(range 16-23%) of total direct cost during 90-day global period.

Conclusions

Hospital fee had largest contribution(75%) to total cost of index surgery, followed by readmissions(21%). Surgeons' fee and healthcare resource utilization had much smaller contributions to total cost. True cost savings can occur through engagement and partnering between hospital and surgeon to decrease hospital fees. Reducing readmission episodes and understanding and reducing modifiable drivers of hospital fees have the potential to decrease total direct cost for elective spine surgery.