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Invited Commentary | Urology

Costs of Robotic-Assisted Radical Prostatectomy 1 Year After Surgery
Pay Now and Save Later?

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As the US population changes due to aging and growth, the annual costs for cancer-related medical care in 2030 are projected to reach more than $220 billion.[1] The combination of a growing and aging population with the rising percentage of the US gross domestic product spent on health care services underscores the importance of measuring the cost and value of care. Measuring the cost of care is complex. This is because costs can be a function of perspective: cost to the hospital, to the payer, to the patient, and ultimately to society. Attempts to measure cost are often performed from one of these perspectives and measure health care services in a defined setting (eg, a single admission) and during a short period of time. However, measuring the true cost of care requires considering health care services that span multiple locations and longer time periods.[2] Elsewhere in *JAMA Network Open*, Okhawere et al[3] present a retrospective review of MarketScan claims data to compare the total health care costs, health care utilization, and extrapolated days off work within 1 year following open vs robotic-assisted radical prostatectomy.[3]

Since 2012, more than 70% of radical prostatectomy surgeries have been performed with robotic assistance.[4] The adoption of robotic prostatectomy was initially driven by direct-to-consumer advertising touting the benefits of a minimally invasive approach, often before evidence was available to support its effectiveness. Adoption of robotic technology for prostatectomy was met with skepticism in the absence of randomized clinical trials and the presence of increased costs.[5] Early analysis of costs focused on the increased costs of robotic surgery during the perioperative period and the approximately $2 million purchase price of a robotic platform. However, further studies and predictive models argued that these costs were offset with higher utilization and improved outcomes.[4]

Okhawere et al[3] focused their assessment past the index hospitalization to include long-term costs, such as readmissions, emergency department visits, and outpatient office visits. Using inverse probability treatment weighting to adjust for patient differences, the authors demonstrated that while robotic-assisted radical prostatectomy was associated with higher costs during the index hospitalization ($2367), the difference attenuated at 180 days after discharge ($397) and ultimately favored the robotic approach at 365 days, with a cost savings of $383. Additional studies to compare costs beyond 1 year, including costs associated with care for functional outcomes and survivorship (eg, urinary incontinence, erectile dysfunction) will continue to add to the discussion.

As a community, we are examining the spread of robotic assistance to many other urologic procedures. For example, Jeong et al[6] demonstrated that robotic-assisted radical nephrectomy was associated with increased short-term costs compared with laparoscopic radical nephrectomy.[6] Similarly, robotic-assisted cystectomy is more costly than open radical cystectomy; however, the robotic approach may prove to be less expensive if there are lower rates of other services (eg, transfusion) and fewer surgical complications.[7]

More than a decade later, we can look back and wonder why some innovations take off and others fade. Innovative surgical technologies, such as laparoscopic radical nephrectomy and robotic-assisted radical prostatectomy, have dramatically changed surgical care in urology. Okhawere et al[3] present reassuring data that the adoption of robotic-assisted radical prostatectomy has not placed undue financial burdens on the system. As urologists, we have the unique opportunity to innovate and improve care for our patients, and as clinicians, we have a responsibility to act as cost arbiters for

the health care system. To serve our mission, we must acknowledge short-term costs but maintain a wide lens to improve value in surgical care.

ARTICLE INFORMATION

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