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**Abstract**

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## SBRT Is Essential for Crafting Attractive Bundle Payments Around Value

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### Abstract

**Objectives:**

We investigate the integration of stereotactic body radiotherapy (SBRT) for early-stage breast and prostate cancer into value-based bundled payment models. Phase 3 clinical trials have demonstrated that 5-fraction SBRT is non-inferior to conventional radiotherapy for both cancers. The objective is to assess SBRT's potential to drive value by improving outcomes while reducing costs. The research also explores the role of time-driven activity-based costing (TDABC) in accurately tracking costs and developing attractive bundled payments- for payers and providers.

**Methods:**

We employ a mixed-methods approach, incorporating both clinical and economic analyses. Phase-3 trials, such as PACE-B for prostate cancer and FAST-Forward for breast cancer, provide the clinical basis for evaluating SBRT's efficacy compared to conventional radiotherapy. The economic evaluation centers on time-driven activity-based costing (TDABC), quantifying the time and resources used to deliver SBRT and comparing it to traditional fractionated treatments.

This cost analysis allows for the design of bundled payment models that encapsulate the entire care cycle, from diagnosis and treatment to follow-up care. These models emphasize risk-sharing mechanisms and standardized outcome measures, including clinical and patient-reported outcomes. The study explores how bundled payments, structured around SBRT's shorter treatment duration and high-quality outcomes, can incentivize providers to deliver more efficient, patient-centered care while controlling healthcare costs.

**Results:**

Phase 3 trials have validated SBRT's non-inferiority in controlling prostate and breast cancer, showing comparable rates of biochemical or clinical failure, survival, and local control to traditional, protracted radiotherapy. Clinically, SBRT reduces patients' treatment burden and time toxicity by offering fewer sessions with comparable safety profiles, enhancing convenience and quality of life.

Fiscally, TDABC reveals significant cost savings with SBRT due to reduced resource utilization, such as fewer radiotherapy sessions and less demand for hospital infrastructure. Bundled payments structured around SBRT can align financial incentives with patient outcomes, ensuring high-quality care is delivered efficiently. Risk-sharing mechanisms adjust payments for patient complexity, while outcome tracking ensures the sustainability of these payment models, focusing on minimizing complications and improving long-term quality of life.

**Conclusion(s):**

SBRT for early-stage breast and prostate cancer offers a compelling opportunity to enhance value through bundled payments. Its proven clinical efficacy and shorter treatment duration align well with value-based care goals. Time-driven activity-based costing (TDABC) provides a framework for accurately tracking costs and designing sustainable bundled payment models. These models incentivize providers to focus on high-quality outcomes, such as cancer control and patient-reported quality of life, while reducing unnecessary healthcare costs. SBRT-based bundles represent a scalable solution for value-based cancer care, offering a patient-centered, cost-efficient approach that can extend to other cancer types.