Seven Principles Toward Accountable Care in Radiation Oncology

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Institute of Medicine
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Disclosures

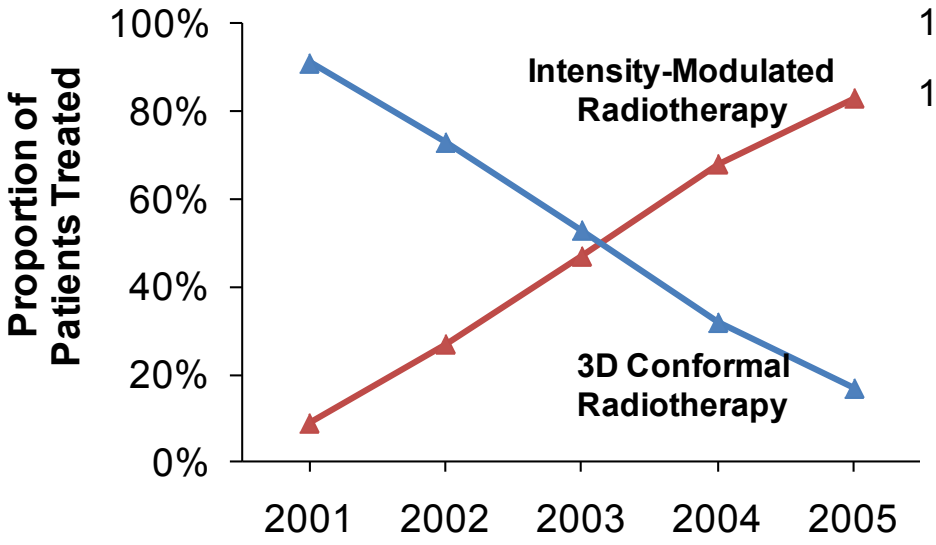
- National Radiation Oncology Registry
- NCI, ACS, philanthropic funding

Seven Principles of Accountable Care

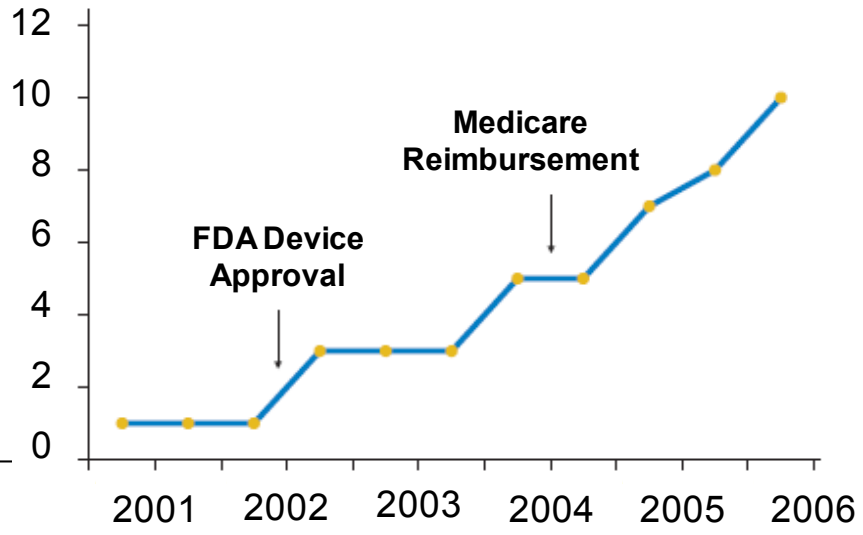
1. Move beyond fee-for-service payment, separating cancer specialists' incomes from treatment choices
   - Technical and professional reimbursement

Adoption of Advanced Radiotherapy Technology Is Rapid and Costly

Substitution of IMRT for 3DCRT In Prostate Cancer



Adoption of Brachytherapy In Breast Cancer



Between 2002 and 2005, > $1 Bn estimated additional direct costs associated with IMRT for prostate cancer

Source: SEER-Medicare analyses: Yeboa DN (2009); Smith GL (2010), Nyugen P (2011)

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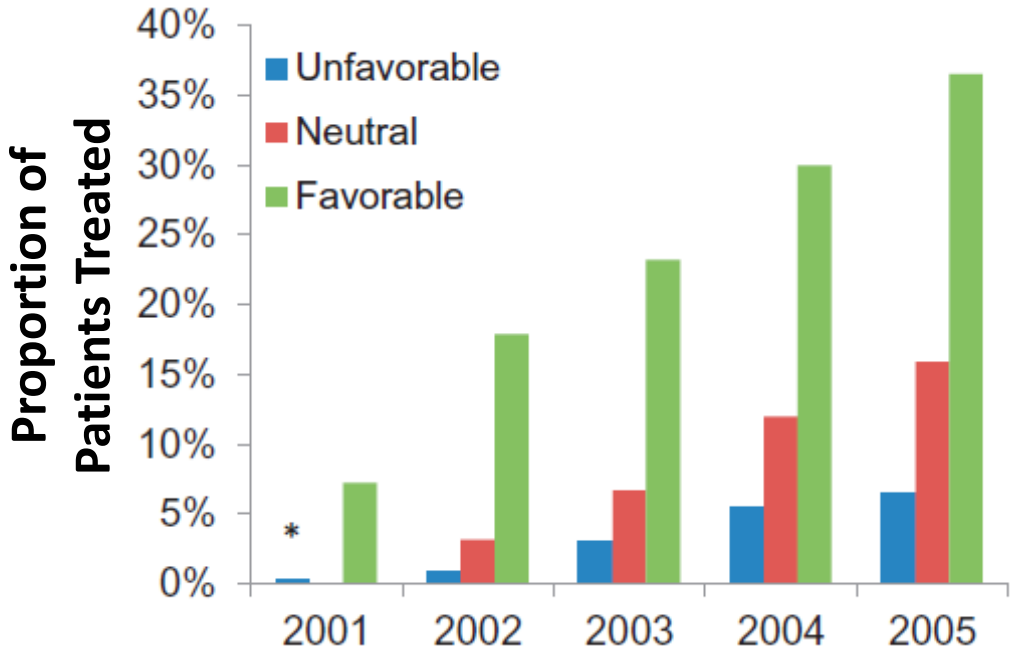
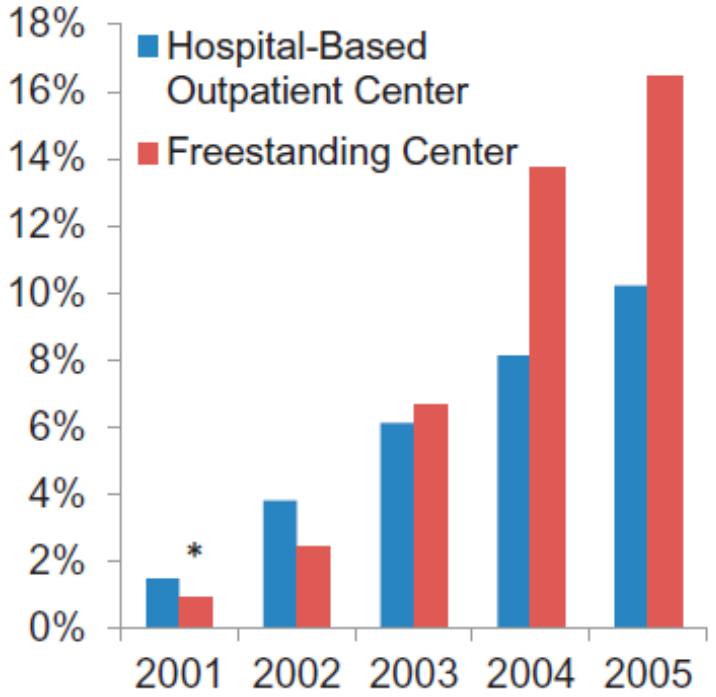
Reimbursement Policy and Practice Setting Influence Adoption . . .

Adoption of IMRT
In Breast Cancer, by Medicare Carrier Local Coverage Determination



Adoption of IMRT
In Breast Cancer, by Practice Setting



Source: SEER-Medicare analyses: Smith BD (2011)

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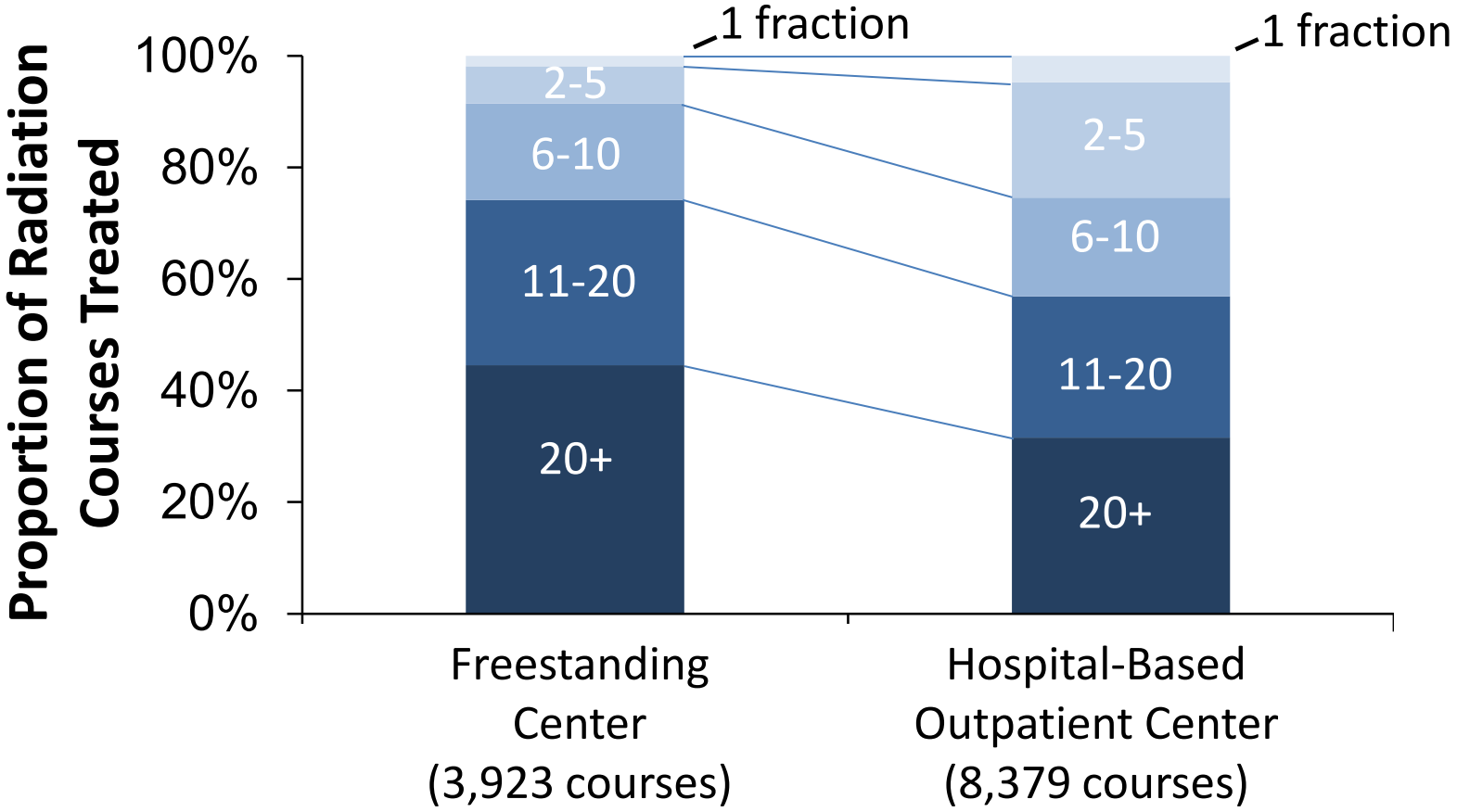
. . . and Affect Translation of Evidence to Practice

Outpatient Radiation for Bone Metastases from Prostate Cancer, by Practice Setting, 2005 - 2009



Source: SEER-Medicare analyses: Bekelman et al (2012, unpublished)

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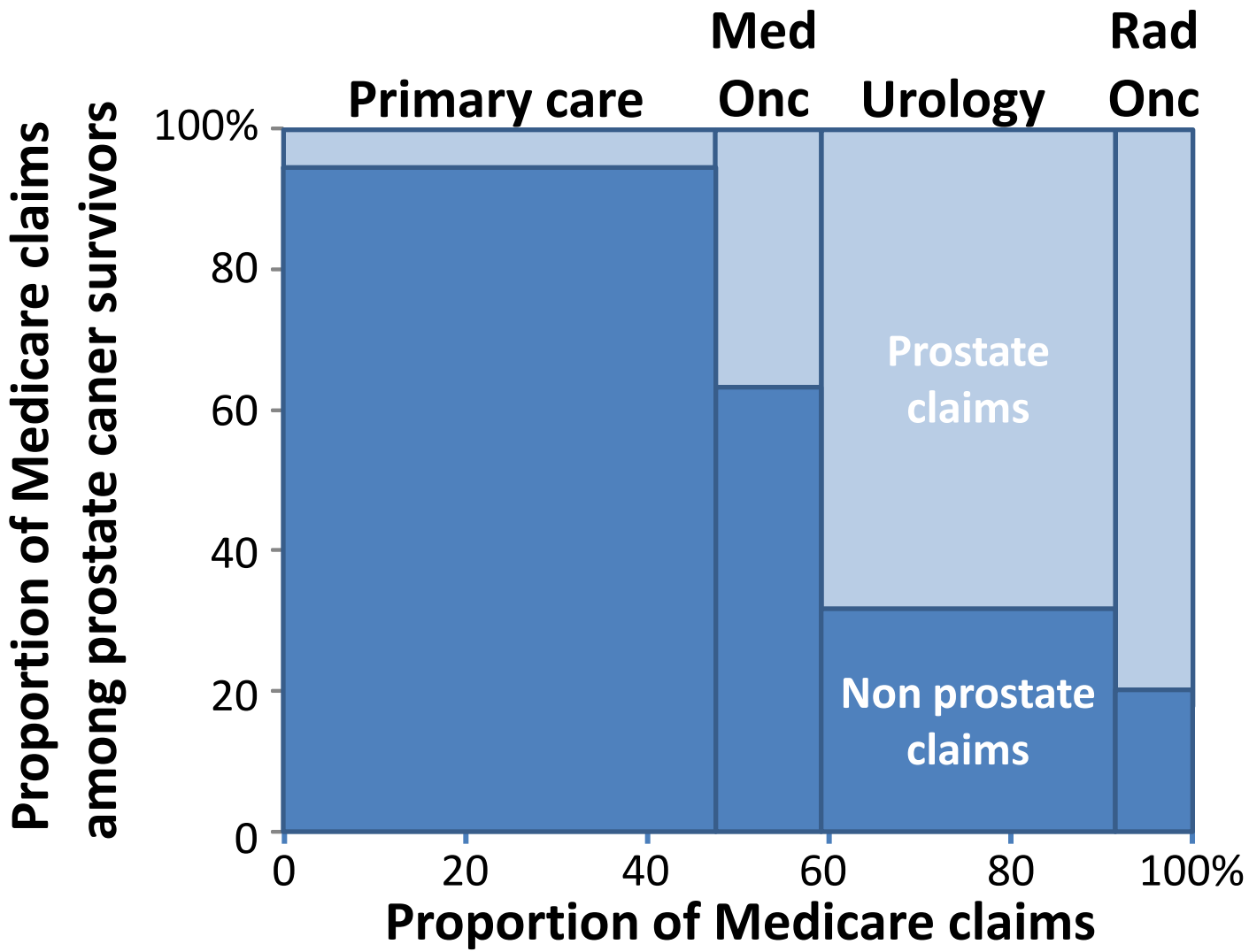
Seven Principles of Accountable Care

2. Align provider incentives toward patient-centric, coordinated care among cancer specialists and PCPs

Multi-Disciplinary and Fragmented Cancer Care



Source: SEER-Medicare analyses: Skolarus T (2012)

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3. Link guideline-concordant care to shared savings from global payments
   - Retain patient choice among high quality providers
   - Improve risk adjustment

Two Models of Accountable Care

Modality-Based

Example:

Care pathway or bundled payment for uncomplicated bone metastasis

- Likely feasible
- Limited impact on care coordination

Diagnosis-Based

Example:

Global payment for localized prostate cancer

- 'Cancer Care Groups'
- Requires diagnosis-based panels of surgical, radiation, medical oncologists
- Greater impact on care coordination and linkage to primary care
- Challenging to implement

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4. Provide feedback to patients, providers and payers through population-based performance measurement of care quality, outcomes and costs
   - Upgrade federally-supported state cancer registries to provide near-real time ascertainment of quality metrics, risk-adjusted outcomes, and costs by linking with claims databases

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5. Address cancer specialists' and hospital margins with transparency
   - Can high-quality specialists and facilities retain margins while the overall volume of services declines?
   - Transparency promotes market signaling
     - To hospitals
     - To radiation device industry

Seven Principles of Accountable Care

6. Incentivize radiation device industry to invest in evidence generation (with payers and federal/non-federal funders)
   - Fundamental shift in radiation device industry value proposition
   - Implement unique device identification for post-marketing surveillance

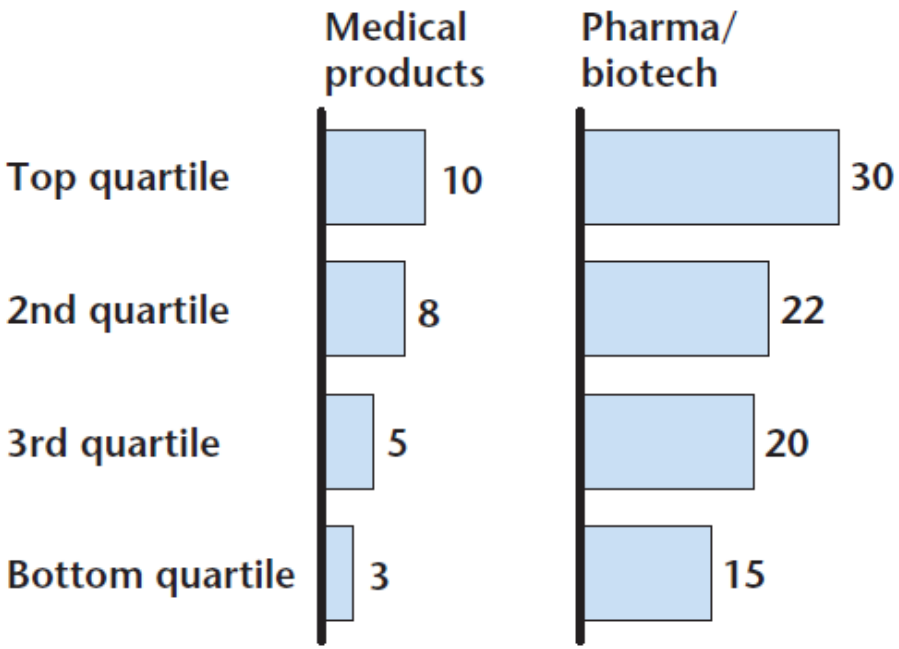
Current CER is Limited

Comparison	Prostate	Breast	Lung
3D Conformal vs Conventional	• Single RCT • Observational studies	• No RCT	• Observational studies
IMRT vs non-IMRT	• No RCT • Observational studies	• 3 RCTs	• No RCT
Proton therapy vs non-Proton therapy	• RCT and prospective registries accruing	• No RCT	• RCT and prospective registries accruing

Source: Literature and expert review

Opportunity for Radiation Device Industry to Invest in Evidence Generation

R&D Spend of Leading Companies as Proportion of Sales



	Medical products	Pharma/ biotech
Average:	7.0%	21.3%
Median:	5.8%	20.1%

Varian:	6-7%
Elekta:	8-9%
Accuray:	15-22%

Source: Lin J (2010); Businesswire (2012); ycharts.com (2012)

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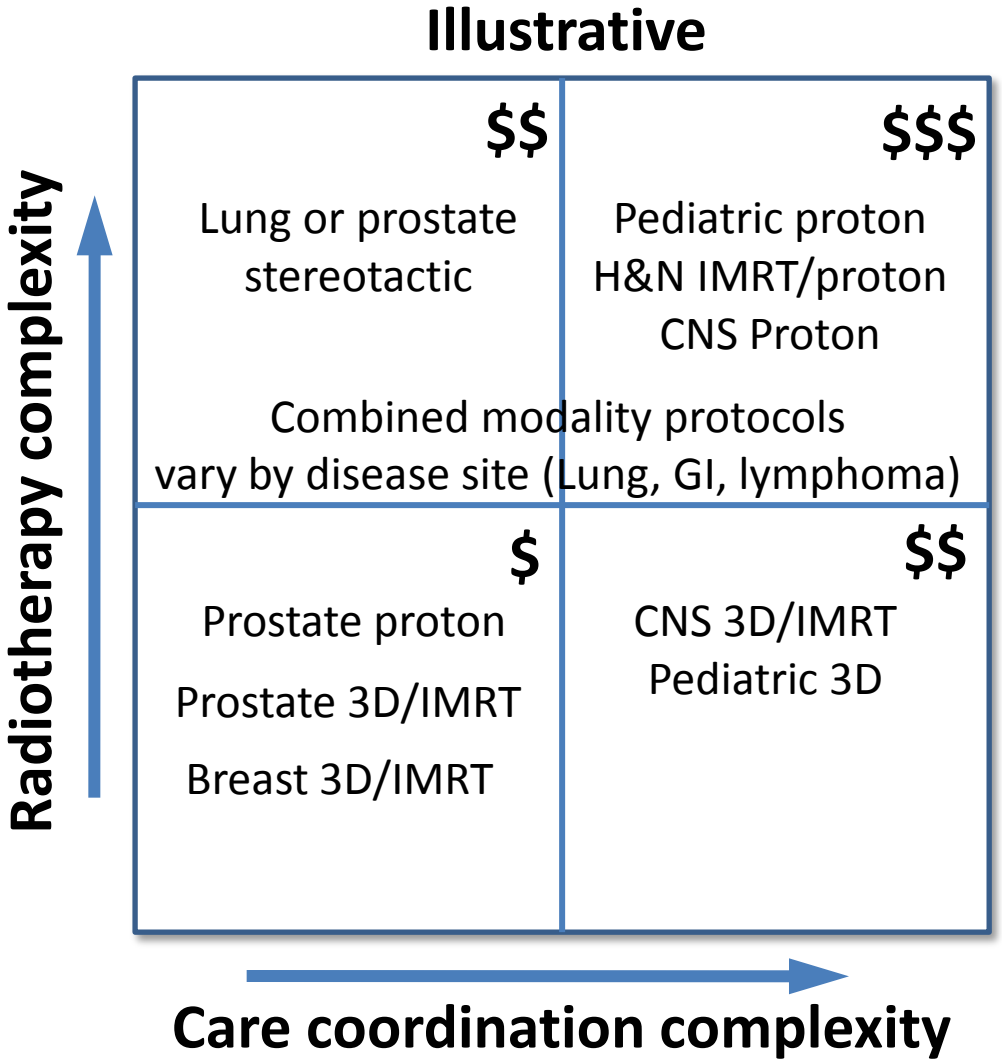
7. Pay for innovation when high-quality evidence development is conducted early in product lifecycle

Corollary: Explore differential reimbursement for treatment and coordination complexity*



*Evidence of value required

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3. Link guideline-concordant care to shared savings from global payments
4. Provide feedback to patients, providers and payers through population-based performance measurement of care quality, outcomes and costs
5. Address cancer specialists' and hospital margins with transparency
6. Incentivize radiation device industry to invest in evidence generation
7. Pay for innovation when high-quality evidence development is conducted early in product lifecycle