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**Framing Comparative Effectiveness  
Reviews to Support Translation into  
Clinical Practice and Payer Policies**

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# Outline

- Evidence and decision-making
- ICER comparative effectiveness review process
- Formatting and communicating judgments on comparative clinical effectiveness and comparative value
- How formatted results can support translation
- Challenges and next steps

# Globalize evidence, localize decisions

- Whose decisions?
- The possible spectrum for CER
  - Compilation
  - Synthesis
  - Interpretation
  - Recommendation
  - Decision-making

# ICER Appraisal Process

- Topic selection
- Evidence Review Group
  - Patients
  - Clinical and methodological experts
  - Health plans
  - Manufacturers
- Scoping phase
- Technology assessment
  - Clinical effectiveness
  - Comparative value
- Final Report with Integrated Evidence Rating

# ICER Integrated Evidence Rating

## Comparative Clinical Effectiveness

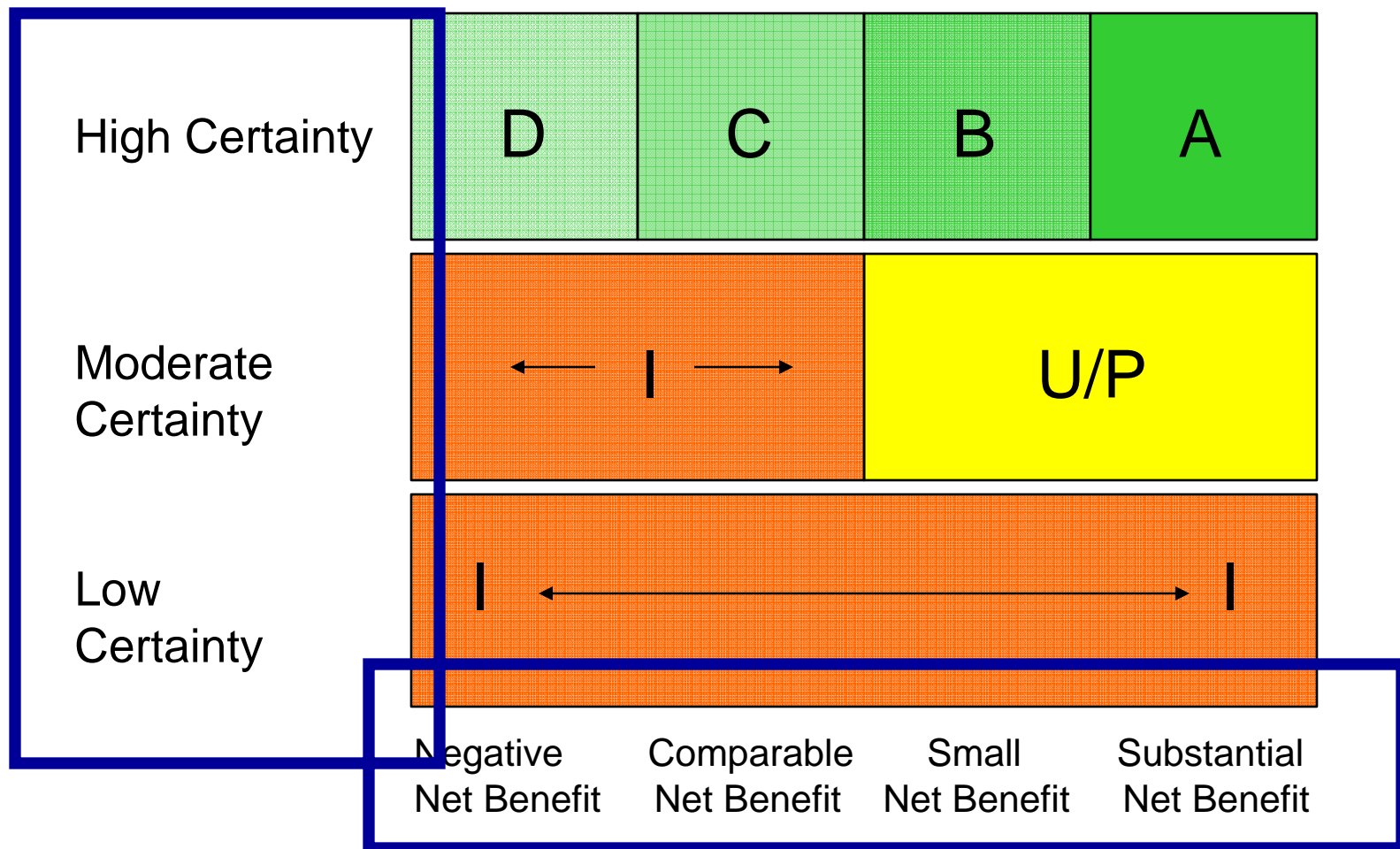
Superior	A	Aa	Ab	Ac
Incremental	B	Ba	Bb	Bc
Comparable	C	Ca	Cb	Cc
Unproven	U/P	Ua	Ub	Uc
Insufficient	I	I	I	I

**Comparative Value**

a	b	c
High	Reasonable/ Comparable	Low

# EBM Matrix

## Comparative Clinical Effectiveness



# Comparative Value Evidence Table (CVET)

- Impact on service use
  - tests, hospitalizations
- Cost to reduce adverse outcomes
- Cost to achieve same clinical goal
- Cost per life year gained
- Cost per QALY
- Budget impact per 1,000
- System issues, e.g. manpower, acceptability

# Selected Outcomes

Table 1. Estimated clinical outcomes for selected interventions for low-risk prostate cancer.

Outcome (% , except where noted)	Active Surveillance	Open Radical Prostatectomy	Difference (ORP-AS)
Prog. to treatment	55.0%	N/A	N/A
Recurrence	24.0%	21.0%	-3.0%
Peri-operative death	N/A	0.3%	N/A
Minor complications	N/A	6.0%	N/A
Major complications	N/A	4.0%	N/A
Incontinence	40.0%	35.0%	-5.0%
ED	45.0%	60.0%	15.0%
Life years (mean)	16.00	16.00	0.00
QALYs (mean)	12.25	12.26	0.01

***NOTE: Hypothetical Data***

# Disaggregated Costs

Table 2. Estimated lifetime costs for selected interventions for low-risk prostate cancer, by cost component.

Cost (\$)	Active Surveillance	Open Radical Prostatectomy	Difference (ORP-AS)
Initial treatment	1,000	15,000	14,000
Tests	4,000	3,500	(500)
Visits	6,000	5,000	(1,000)
Biopsies	8,000	0	(8,000)
Patient time	3,000	4,000	1,000
Complications	0	4,000	4,000
Side effects/symptoms	6,000	8,000	2,000
<b>TOTAL</b>			
Undiscounted	28,000	39,500	11,500
Discounted	24,000	34,500	10,500

**NOTE: Hypothetical Data**

## ICER Comparative Value Evidence Table (CVET)



Measure	Active Surveillance	Open Radical Prostatectomy	Difference (ORP-AS)
<b>1. Service Impact</b>			
Tests	27.4	17.9	(9.5)
Visits	31.6	24.8	(6.8)
Hospitalizations	0.0	1.0	1.0
Hospital days	0.0	3.0	3.0
Days of missed work	4.7	5.9	1.2
Pathway Total	63.7	52.6	(11.1)
<b>2. Cost-Consequences</b>			
\$ to Prevent 1 Case of Incontinence		\$210,000	
\$ to Prevent 1 Recurrence		\$350,000	
<b>3. Cost per Life-Year Saved</b>			
		N/A	(equivalent survival)
<b>4. Cost per QALY Gained</b>			
% of Cost/QALY <\$100,000		\$1,050,000	2.63%
SA 1: Surg Compl. 50% of Basecase		\$547,000	<u>CEAC</u>
SA 2: ED 50% of Basecase		\$442,000	
<b>5. Budget Impact (per 1,000, 2 years)</b>			
		\$1,425,000	
<b>6. Fixed Budget Tradeoffs</b>			
		19.0	Nurse FTEs @ \$75K each
		11.4	MD FTEs @ \$125K each
		1	Robotic Surgical System @ \$1.3M each

**NOTE: Hypothetical Data**

# Wash. state coverage decision

## Virtual colonoscopy

### Comparative Clinical Effectiveness

Superior	A	Aa	Ab	Ac
Incremental	B	Ba	Bb	Bc
Comparable	C	<b>CTC 1/3-price</b>	Cb	<b>Non-coverage</b>
Unproven	U/P	Ua	Ub	Uc
Insufficient	I	I	I	I
<b>Comparative Value</b>		a High	b Reasonable/ Comparable	c Low

# Wash. state coverage decision

## Cardiac CT Angiography

### Comparative Clinical Effectiveness

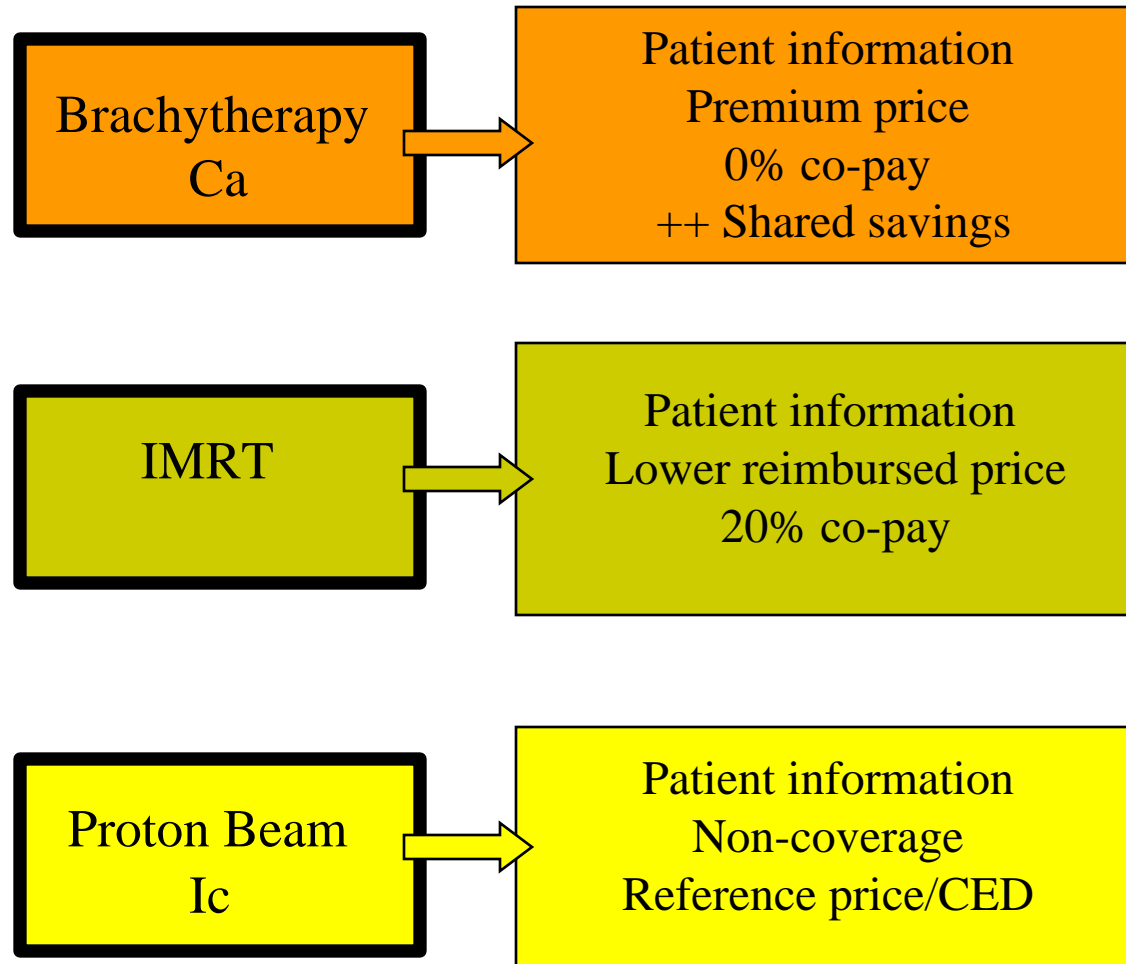
Superior	A	Aa	Ab	Ac
Incremental	B	Ba	Bb	Bc
Comparable	C	<b>Covered</b>	Cb	Cc
Unproven	U/P	Ua	<b>Non-coverage</b>	Uc
Insufficient	I	I	I	I
<b>Comparative Value</b>		a High	b Reasonable/ Comparable	c Low

# Radiation for prostate cancer Compared to IMRT

## Comparative Clinical Effectiveness

Superior	A	Aa	Ab	Ac
Incremental	B	Ba	Bb	Bc
Comparable	C	<b>Brachytherapy Ca</b>	Cb	Cc
Unproven	U/P	Ua	Ub	Uc
Insufficient	I	I	I	<b>PBT = Ic</b>
<b>Comparative Value</b>		a High	b Reasonable/ Comparable	c Low

# From Comparative Effectiveness to Medical Policy



# EACH members



Providers

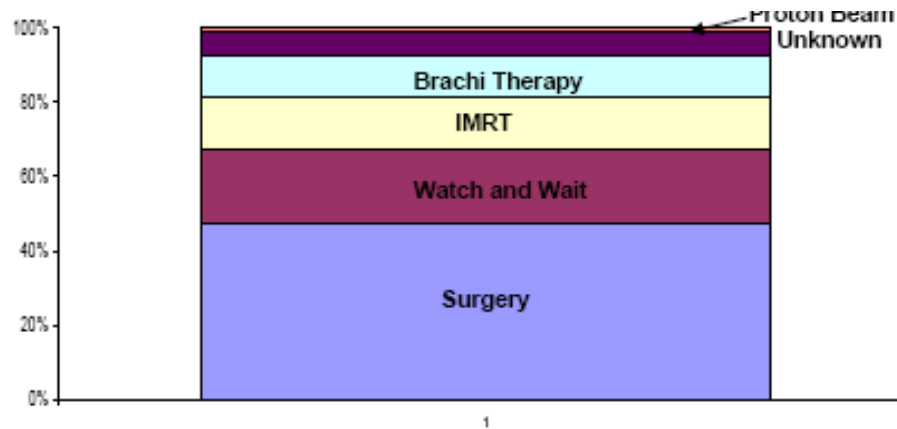
Health Plans

Employers

Other



# One view of the mix of therapies



Type of Therapy	Total %	Range Across Reviewed
Surgery	48%	38%-64%
Watch and Wait	20%	8% - 28%
IMRT	14%	6% - 21%
Brachi Therapy	12%	5% - 21%
Unknown	5%	0% - 11%
Proton Beam	1%	0% to 3%

PreliminaryChartReviewData

# Challenges

- Ratings require a common comparator
- May need multiple ratings for important patient subpopulations and/or indications
- Level of certainty/strength of evidence less visible in the final rating
- Thresholds between ratings always involve a subjective element
- Is format for translation to medical policies the best format for patients and clinicians?

# Conclusion

- Whose decisions?
- The possible spectrum for CER
  - Compilation
  - Synthesis
  - ***Interpretation***
  - Recommendation
  - Decision-making



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**For further information:**

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