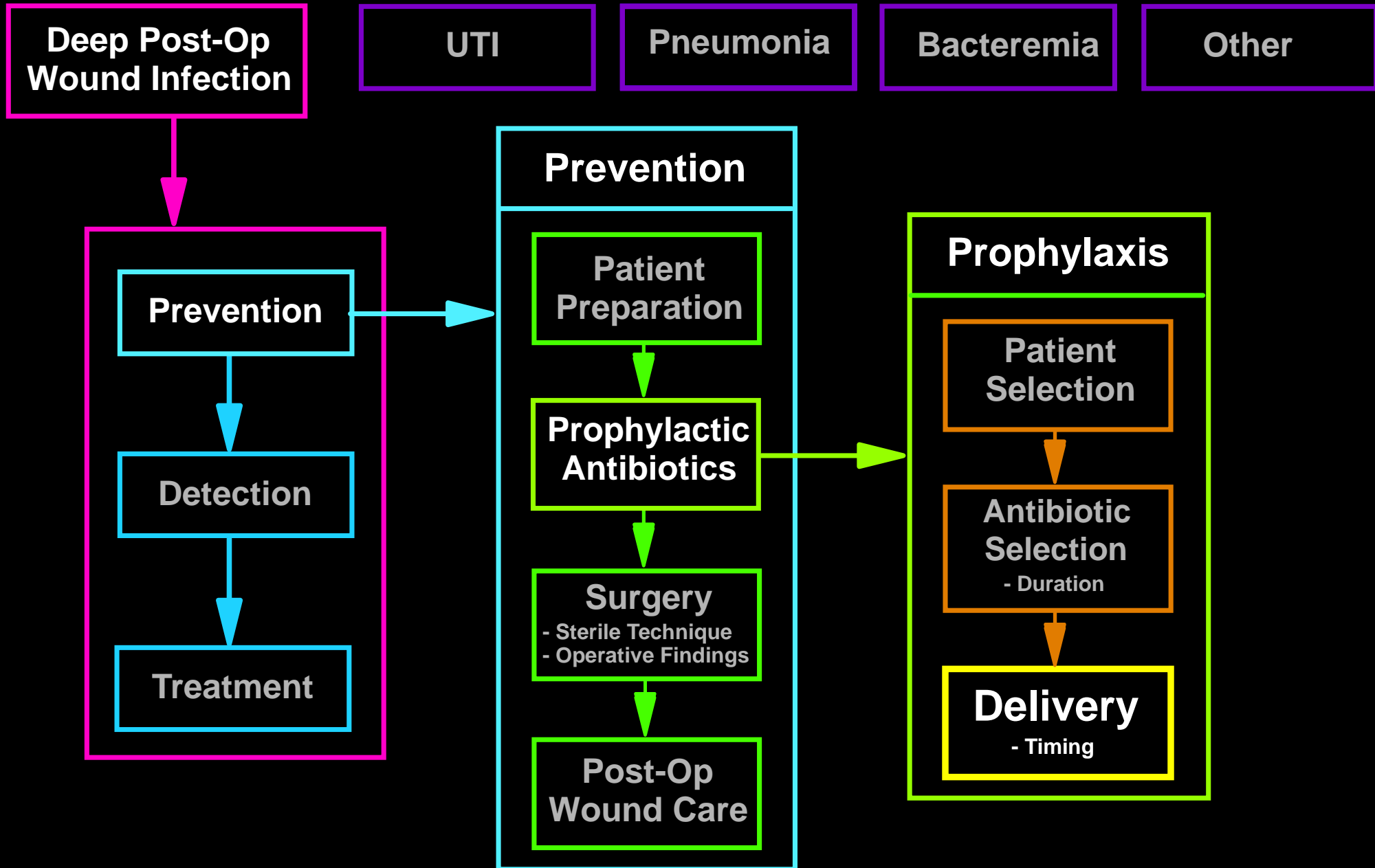


Quality Controls Costs

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Nosocomial Infections



Deep post-op wound infections

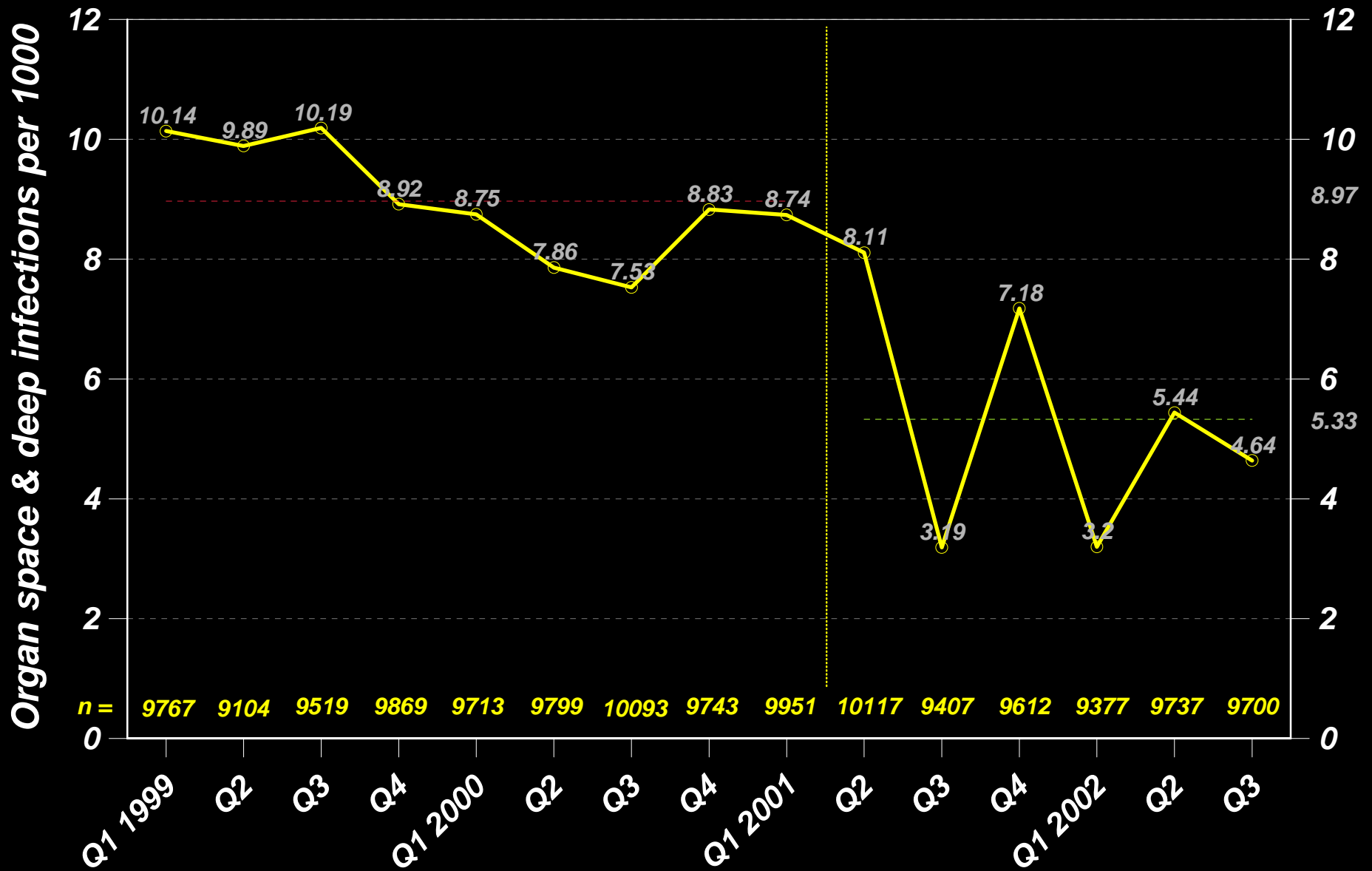
	<u>1985</u>	<u>1986</u>	<u>1991</u>
% prophylaxis given at optimal time	40	58	96
% Infections	1.8	0.9	0.4
Est. decrease in infections relative to 1985 rate	--	33	51
Est. savings at \$14,000 per case (in thousands)	--	462	714

National standard: 2 - 4% deep post-op wound infection rate

Deep post-op wound infections

	<u>1985</u>	<u>1994</u>
% elective surgeries receiving prophylaxis	38.0	37.1
% receiving first dose 0-2 hrs before incision	40.0	99.1
% continuing prophylaxis 24 hrs after surgery	43.0	14.3
Mean number of doses per case	19.0	5.3

Prophylactic antibiotics on time



Quality waste

- ▶ A step in a process fails
- ▶ A low-quality outcome results
- ▶ What can be done with it?
 - *Fix it*
 - *Throw it away*

Both options cost money!

*Principle: **Do it right the first time***

*(often, work hassle = quality waste = opportunity)
(in service areas, customer service reps = quality waste)*

Inefficiency waste

- ▶ Two parallel processes
- ▶ Identical inputs, identical outputs
- ▶ One uses more resources
- ▶ Which one should you use?

In a public health setting (limited resources to serve a population),

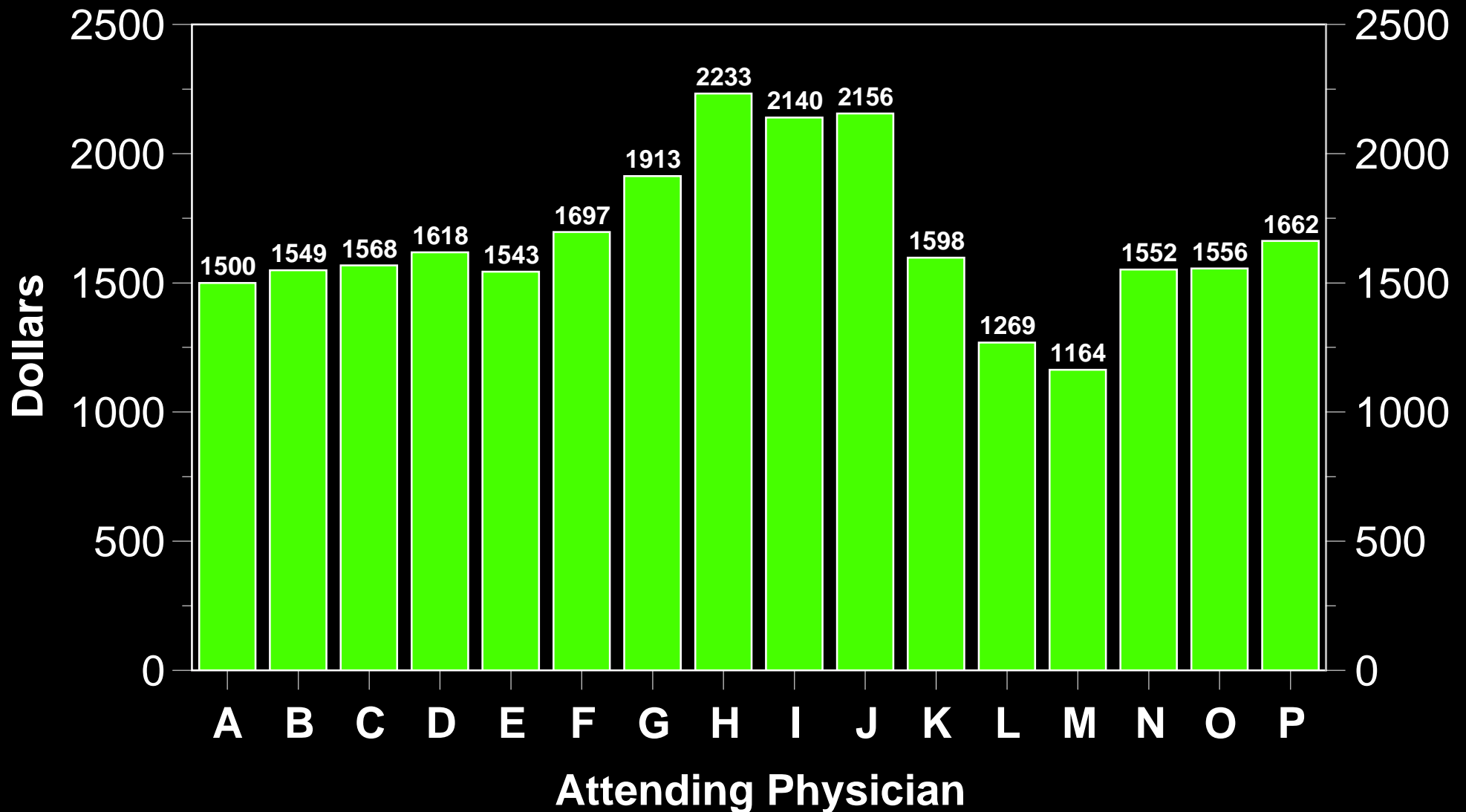
It's a matter of quality, not just cost!

IHC QUE Studies

- ▶ Six clinical areas:
 - Transurethral prosectomy (TURP)
 - Cholecystectomy
 - Total hip arthroplasty
 - Coronary artery bypass graft (CABG)
 - Permanent pacemaker implantation
 - Pneumonia
- ▶ Well-defined patient cohorts
- ▶ Balanced presenting disease, comorbidities, complications, and outcomes

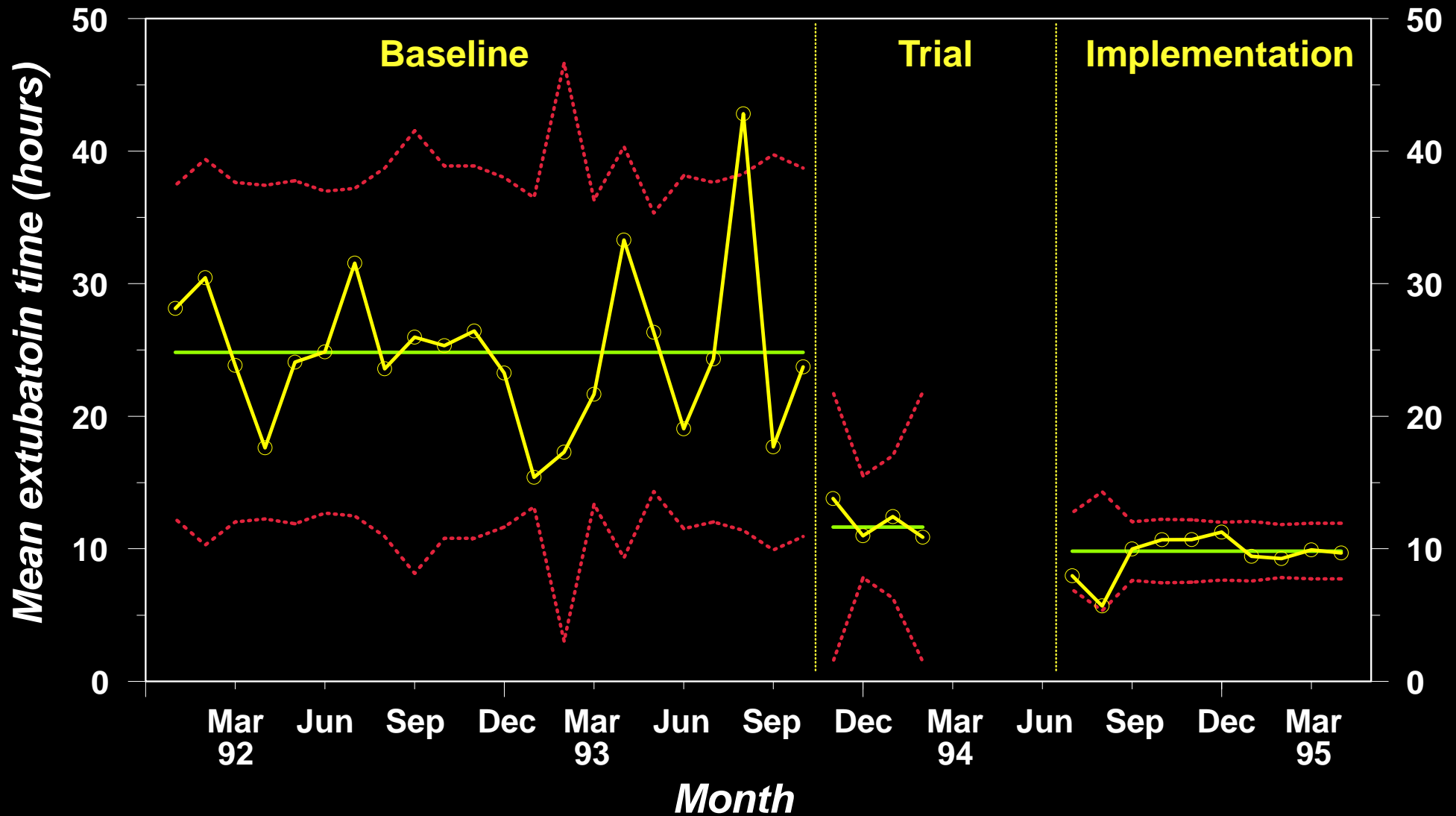
IHC TURP QUE Study

Average Hospital Cost

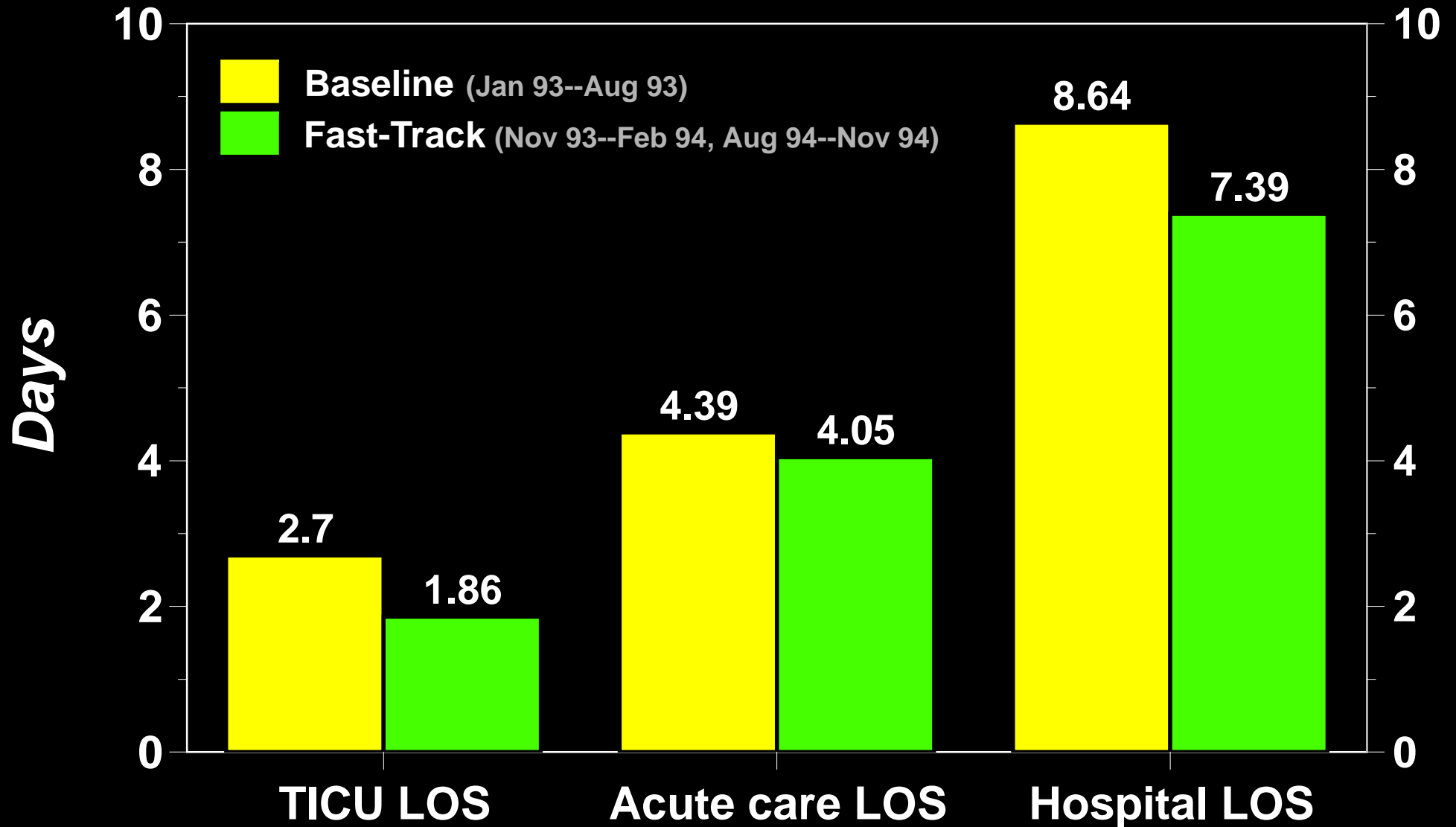


Fast-track extubation protocol

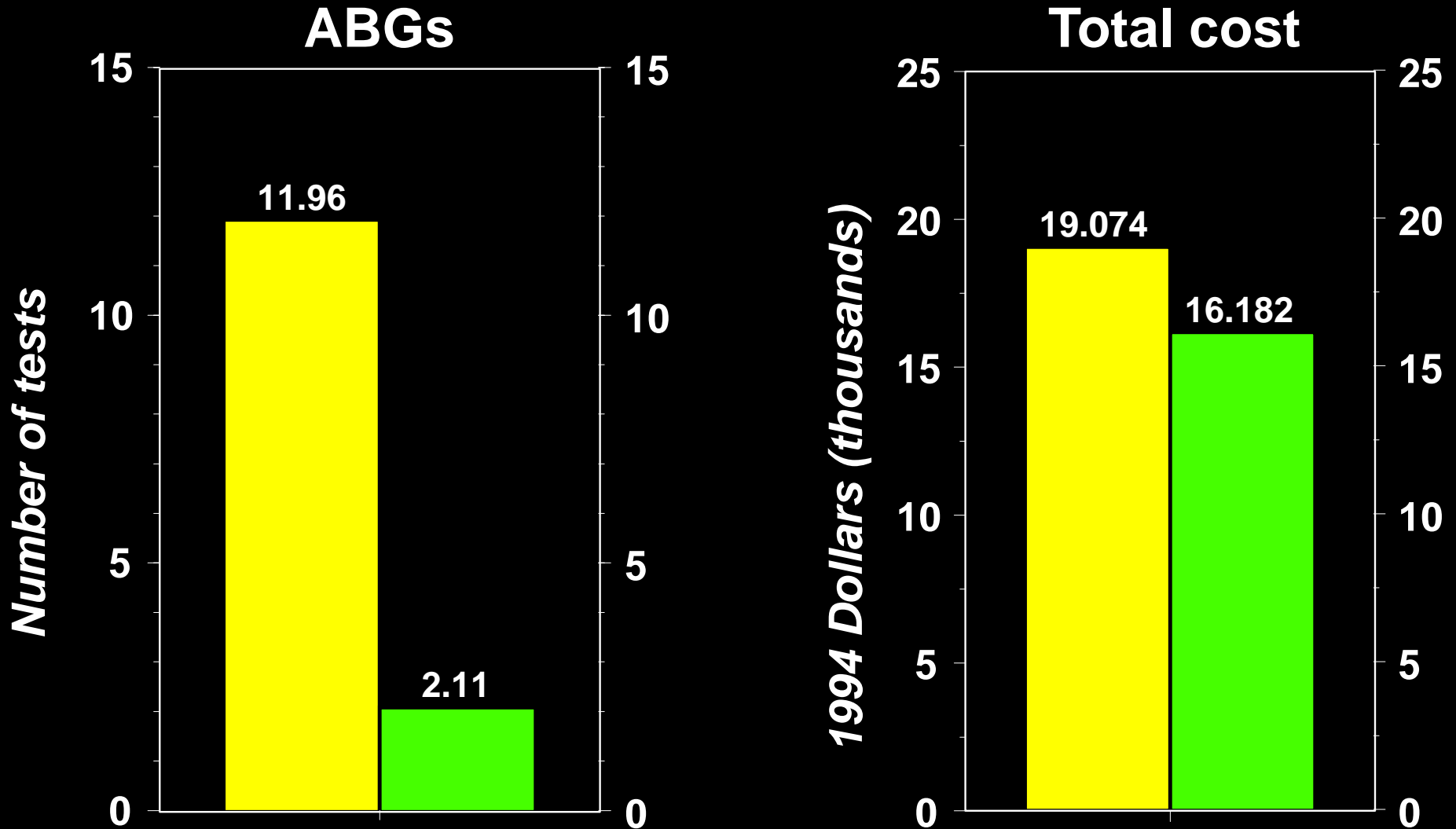
X-Bar Chart - 0.01 control limits



Fast-track extubation protocol



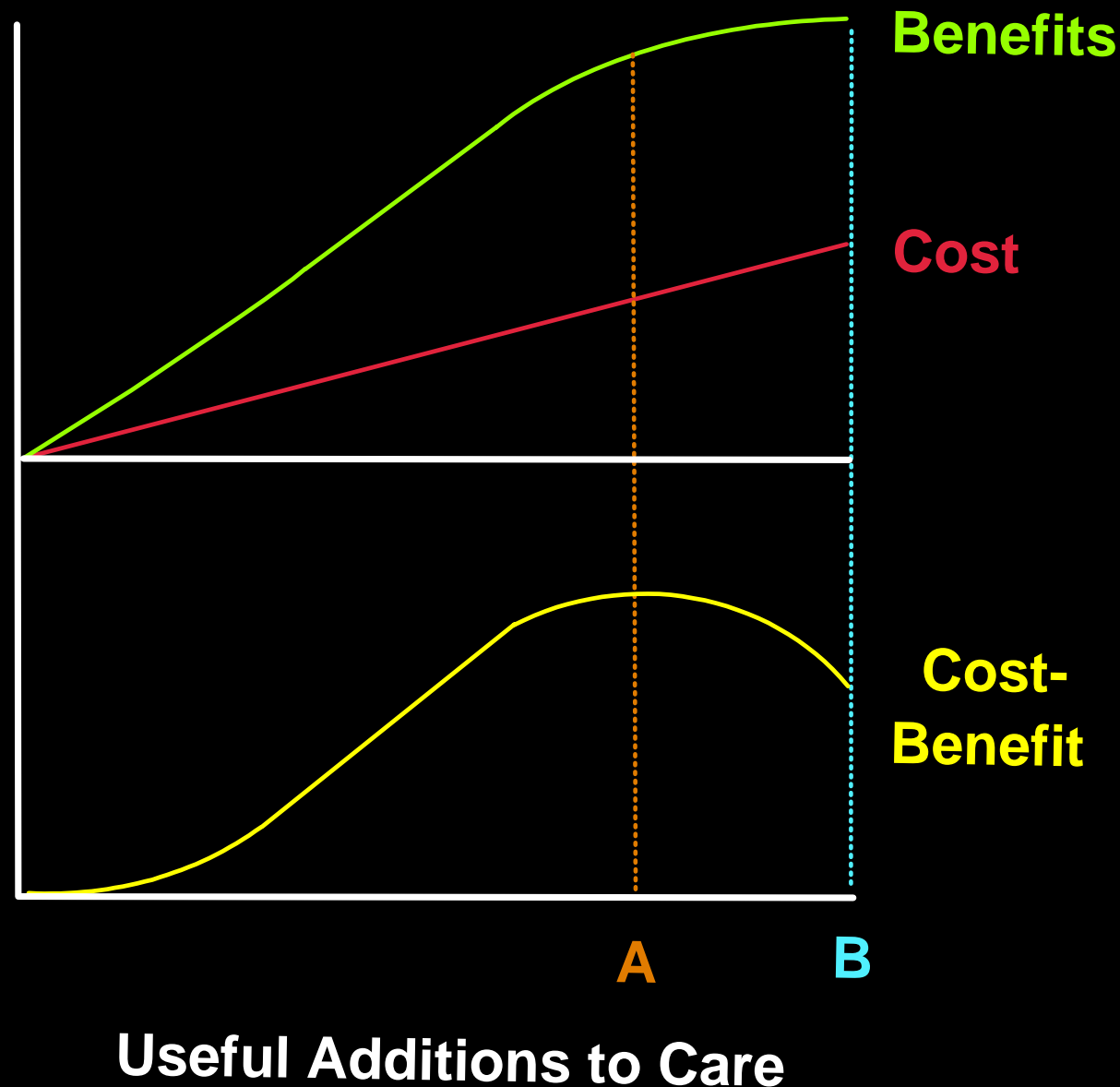
Fast-track extubation protocol



Baseline (Jan 93--Aug 93)
Fast-Track (Nov 93--Feb 94, Aug 94--Nov 94)

LDS Hospital Heart Services

Optimalist-Maximalist Argument



New technology

- ▶ defines a new level of output
- ▶ often (appropriately) costs more
- ▶ a societal issue -- what is justified?

Quality controls cost

	<u>Quality</u>	<u>Cost</u>	<u>Forum</u>	<u>Potential Savings</u>
Waste:				
<i>Quality waste</i>	↑	↓	<i>internal</i>	<i>25-40%</i>
<i>Inefficiency waste</i>	-	↓	<i>internal</i>	<i>> 50%</i>
Cost-benefit	↑	↑	<i>society</i>	<i>(none)</i>

Indications guidelines

◆ **Overuse**

- ◆ *Inappropriate surgical procedures and medical treatments, where the risk to the patient outweighs any potential benefit*
- ◆ *Inefficient at best, quality waste overlaying inefficiency at worst*

◆ **Underuse**

- ◆ *Failure to deliver care that would benefit the patient (e.g., beta blockers and ASA for established IHD)*
- ◆ *Inefficient at best, quality waste -- through delayed care -- overlaying inefficiency at worst (must measure the entire disease process with all impacts on total patient life)*

◆ **Misuse**

- ◆ *Translates directly into quality waste and inefficiency*