GI Health Foundation

Impact of IBD on Healthcare Systems

Supported by an educational grant from Janssen Biotech, Inc.

IMPACT OF IBD ON HEALTHCARE SYSTEMS

Pharmacoeconomic Impact and Burden of IBD

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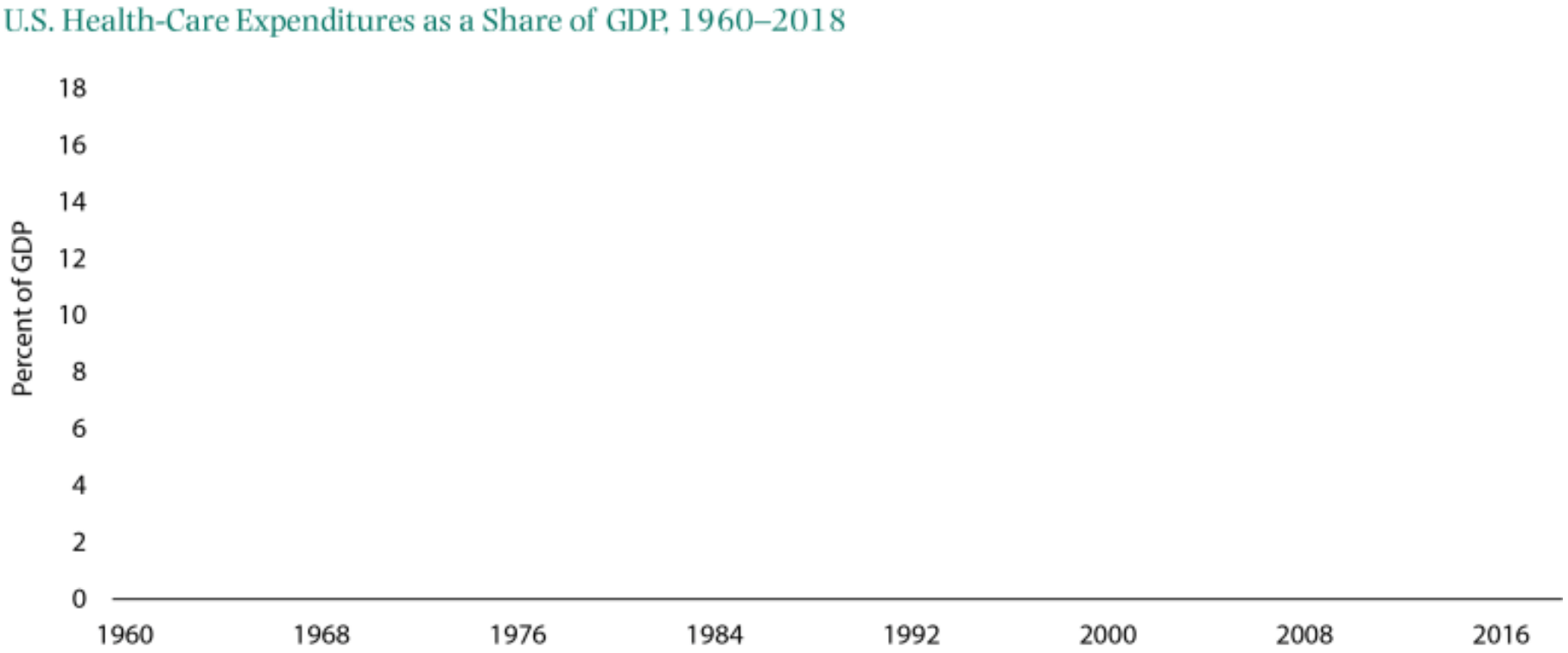
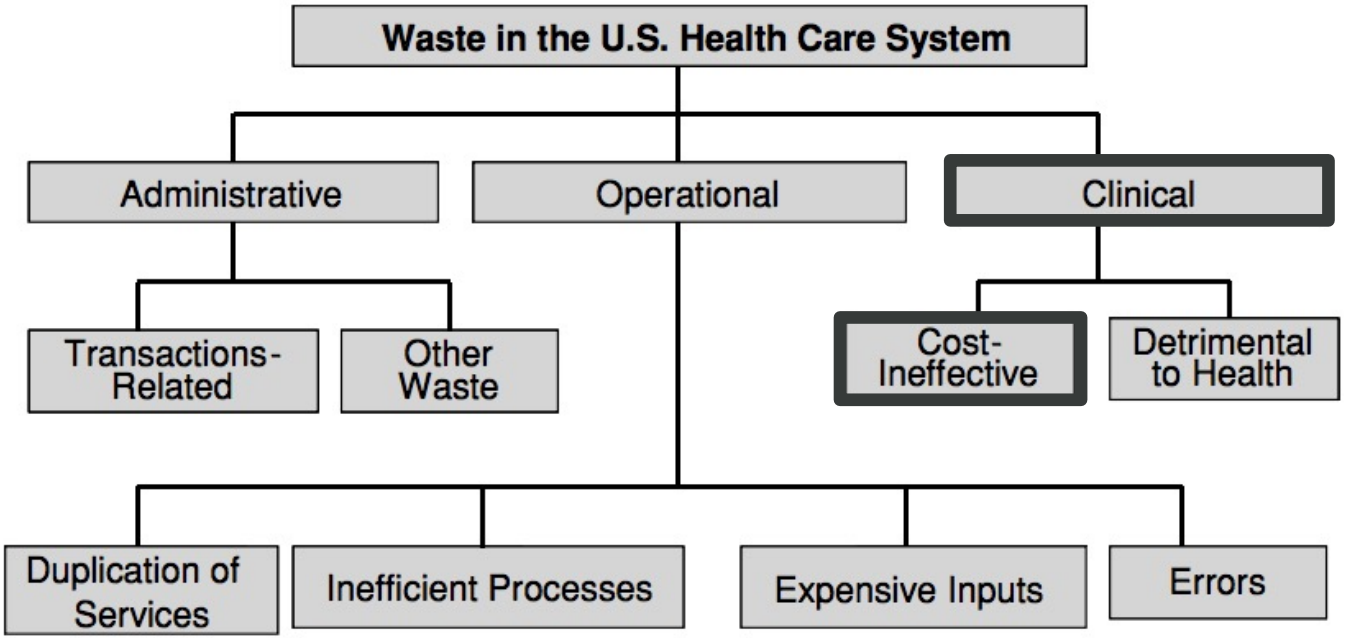
US Healthcare Expenditures



Source: CMS 1960–2018.

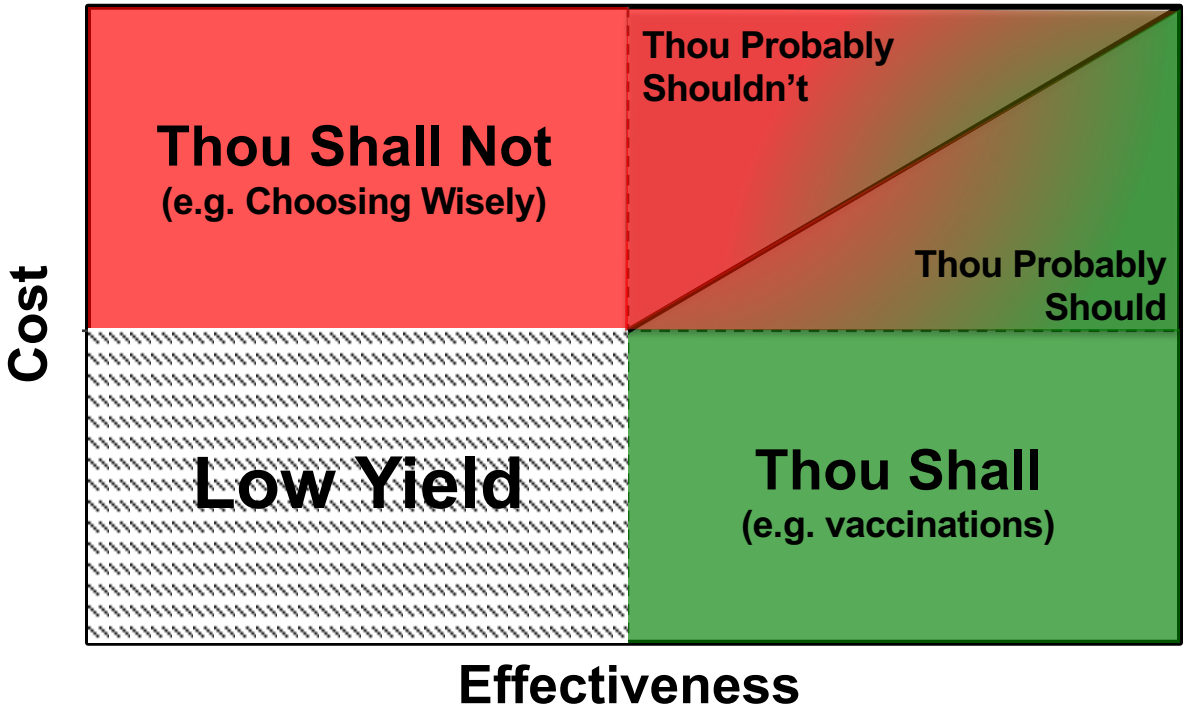
Waste is pervasive in American medicine

Waste in the U.S. Health Care System: A Conceptual Framework



Tanya G.K. Bentley, Rachel M. Effros, Kartika Palar, and Emmett B. Keeler.

Value-Based Care: The Big Picture



Third Party Payor vs. Societal Costs

Cost Component	Third Party Payor	Societal
Formal Health Care Sector Costs		
Costs paid by third-party payers	Yes	Yes
Costs paid out-of-pocket by patients	No	Yes
Informal Health Care Sector Costs		
Patient-time costs	No	Yes
Unpaid caregiver-time costs	No	Yes
Transportation costs	No	Yes
Non–Health Care Sector Costs		
Productivity	No	Yes
Consumption	No	Yes
Social services	No	Yes
Legal or criminal justice	No	Yes
Education	No	Yes
Housing	No	Yes
Environment	No	Yes
Other (e.g., friction costs)	No	Yes

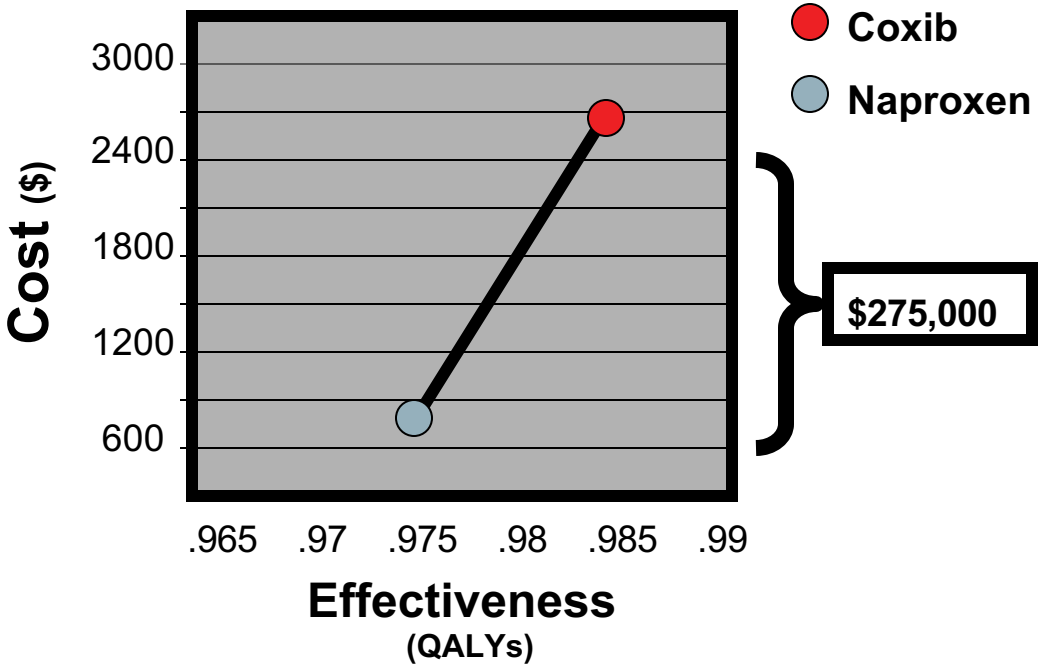
Cost Ordering

- **Initial:** Costs incurred upon initiating an intervention
- **Induced:** Costs resulting from an intervention
- **Transition:** Costs from transitioning between states
- **Averted:** Costs of events avoided by intervention
- **Terminal:** Costs of death

Cost Categories

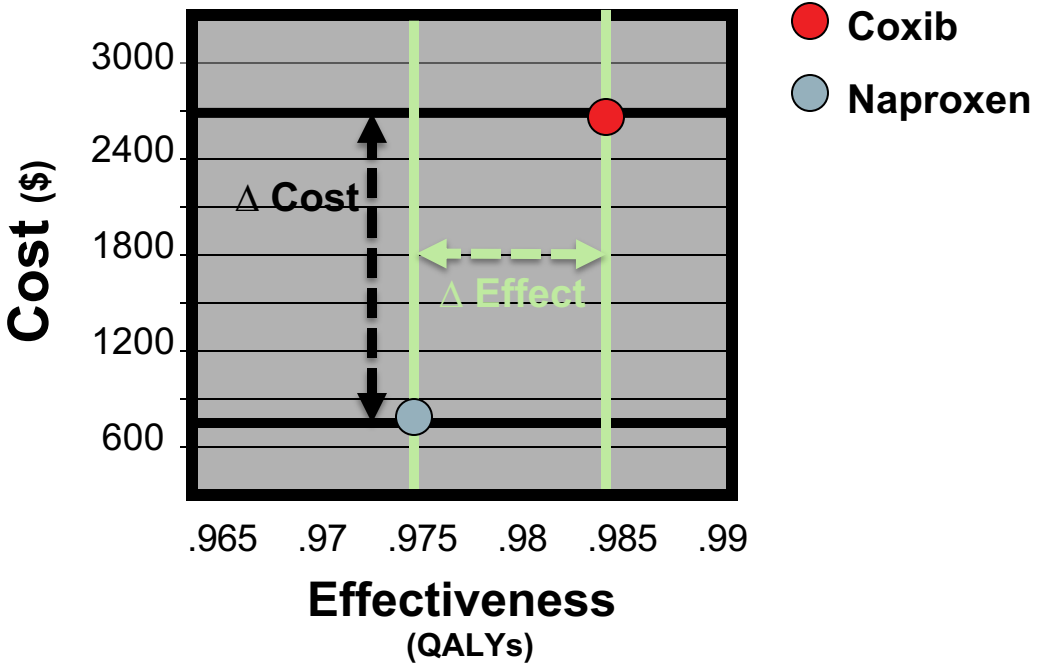
- Pharmacotherapy (including side effects)
- Non-drug interventions (including complications)
- Laboratory
- Imaging
- Staffing time
- Supplies and equipment
- Facility costs

The Cost-Effectiveness Plane



Spiegel et al. *Ann Int Med.* 2004.

The Cost-Effectiveness Plane



Spiegel et al. *Ann Int Med.* 2004.

Is the Juice Worth the Squeeze?

$$\text{ICER} = \frac{\Delta \text{ Cost}}{\Delta \text{ Effect}}$$

League Table (Non-IBD Examples)

COST DESCRIPTION	Cost per QALY ICER
Motorcycle helmets, seat belts, immunizations	Cost Saving
Antidepressants for people with major depression	$1000
Antihypertensives in patients >65 with high blood pressure	$3000
Breast cancer screening	$5000
Pap smear screening	$16,000
Chemo in 75-year-old women with breast cancer	$58,000
Dialysis in seriously ill patients hospitalized with renal failure	$140,000
GM-CSF in elderly patient with leukemia	$235,000
Celebrex vs. naproxen for chronic arthritis	$275,000
Intravenous PPI therapy for ulcer bleed	$708,735

ICERs of Biologics for IBD

RESEARCH ARTICLE

A Systematic Review of the Cost-Effectiveness of Biologics for the Treatment of Inflammatory Bowel Diseases

Saara Huoponen*, Marja Blom

Conclusions

With a threshold of 35,000 €/Quality-Adjusted Life Year, biologics seem to be cost-effective for the induction treatment of active and severe inflammatory bowel disease. Between biologics, the cost-effectiveness remains unclear.

League Table of Recent CEAs

COST DESCRIPTION	Cost per QALY ICER
Proactive vs. reactive therapeutic drug monitoring	**$146,494[1]**
IFX/AZA vs. AZA alone	**$511,384[2]**
IFX monotherapy vs. AZA monotherapy	**$1.3 million[2]**
Biologic/tofacitinib + 5ASA vs. biologic/tofacitinib alone	**Dominated[3]**

1. Negoescu et al. *IBD.* 2020;26;103; 2. Shaffer et al. *Am J Gastro.* 2021;116:125; 3. Vasudeven et al. *IBD.* 2020;369

Unmet Needs

- More budget impact models
- Tailored models to individual healthcare systems
- More comparative effectiveness data
- Active involvement of patients and providers in designing models and discussing with payers

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