

The Economics of Living Longer and Living Better: Implications for Cancer Screening

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Economics of Living Longer and Living Better

- Improvements in health of past 50 years highly valuable
 - Length of life, quality of life
 - Quality-adjusted life years (QALYs)
 - At \$100,000/LY, value of increased LE = value of increased per capita income
- Rising health care costs increasing policy concern
 - Both affordability and value questions
- Question of how to maximize value of spending
 - Maximize benefits subject to resource constraints
 - Cost-effectiveness ratio = $\Delta\text{Costs}/\Delta\text{benefits}$ ($\Delta\text{Costs}/\Delta\text{QALY}$)

Cost-Effectiveness of Medical Interventions

Intervention	Cost/LY
Neonatal PKU screening	<0
Sec. prev. hyperchol. men age 55-64	2,000
Sec. prev. hyperchol. men age 75-84	25,000
Pri. prev. mild hyperchol. men age 55-64	99,000
Screening exercise test men age 40	124,000
Screening ultrasound every 5 yr. for AAA	907,000

Cost-Effectiveness of Pap Smears

Frequency	Increase in LE vs. no screening	Increase in Cost vs. no screening	Average Cost per Life-Yr Saved	Marginal Increase in LE	Marginal Increase in Cost	Marginal Cost per Life-Yr Saved
3 years	70 days	\$500	\$2,600/LY	70 days	\$500	\$2,600/LY
2 years	71 days	\$750	\$3,900/LY	1 day	\$250	\$91,000/LY
1 year	71 days 8 hours	\$1,500	\$7,300/LY	8 hours	\$750	\$830,000/LY

Value of 70 days = \$9600 vs. Cost = \$500

Value of 1 day = \$137 vs. Cost = \$250

Value of 8 hours = \$ 45 vs. Cost = \$750

Cost-Effectiveness of Pap Smears

Frequency	Increase in LE vs. no screening	Increase in Cost vs. no screening	Average Cost per Life-Yr Saved	Marginal Increase in LE	Marginal Increase in Cost	Marginal Cost per Life-Yr Saved	Percent US Women who get Pap smears who get them at this Frequency	Percent of Pap Smears in US given at this Frequency
3 years	70 days	\$500	\$2,600/LY	70 days	\$500	\$2,600/LY	0.18	0.07
2 years	71 days	\$750	\$3,900/LY	1 day	\$250	\$91,000/LY	0.19	0.16
1 year	71 days 8 hours	\$1,500	\$7,300/LY	8 hours	\$750	\$830,000/LY	0.63	0.77
Average in the US			\$6,400/LY					

Per Capita Value of Identifying Best Population-level and Individual-level Care in Prostate Cancer

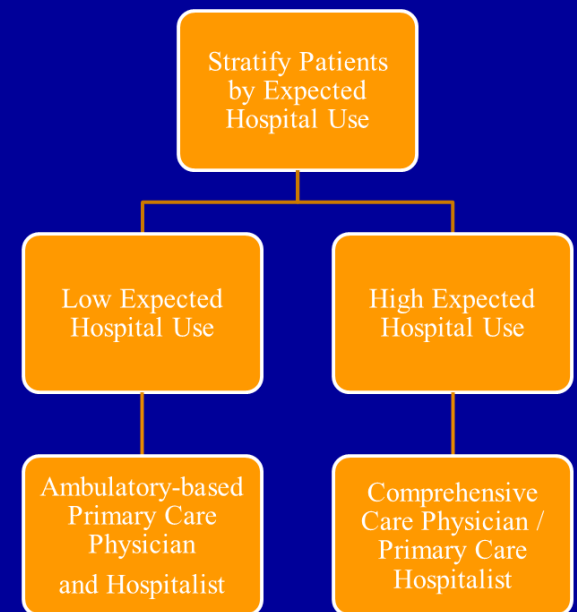
	Value
Best Population-level Therapy	\$29
Best Individual-level Therapy	\$2958

Individualizing Care

- Genetics and personalized medicine
 - UGT1A1 for irinotecan vs. warfarin
- Decision aids
 - Many examples, few hard outcomes
- A strong doctor-patient relationship
 - Knowledge, communication, interpersonal relationship, trust
 - Lung CA patients cared for by own doctor in terminal hospitalization have 25% lower (OR=0.74, $p<0.01$) odds ICU use (Sharma et al, Annals, 2009)
 - Complex VA patients randomized to see same PCP vs. different PCP in each primary care visit. Continuous care group:
 - 49% lower emergent hospitalizations (20% vs. 39%, $p<0.002$)
 - 38% lower hospital days (6.6 vs. 9.1, $p<0.02$)
 - 74% lower ICU days (0.4 vs. 1.4, $p<0.01$) (Wasson et al JAMA, 1984)

CMMI Comprehensive Care Physician Study

- Test if having same doctor care for patients in inpatient & outpatient setting can improve costs/outcomes
 - Focus on high cost patients
 - AM in hospital, PM in clinic
 - 2,000 patient RCT
 - Innovative delivery model for ACOs
 - Hope to pilot in cancer care
 - Address comorbidities in acute treatment
 - Facilitate transition to palliative care if needed
 - Provide continuing care and monitoring in survivorship



Thank you!