Primer on cost-effectiveness analysis

Nancy Ray and Emma Achola

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Background

- During the September 2017 meeting, we discussed FFS Medicare's coverage process
- Commissioners requested background information on cost-effectiveness analysis
- In MedPAC's June 2005 report, we described methods used to conduct cost-effectiveness analyses and use of such analyses by public and private entities

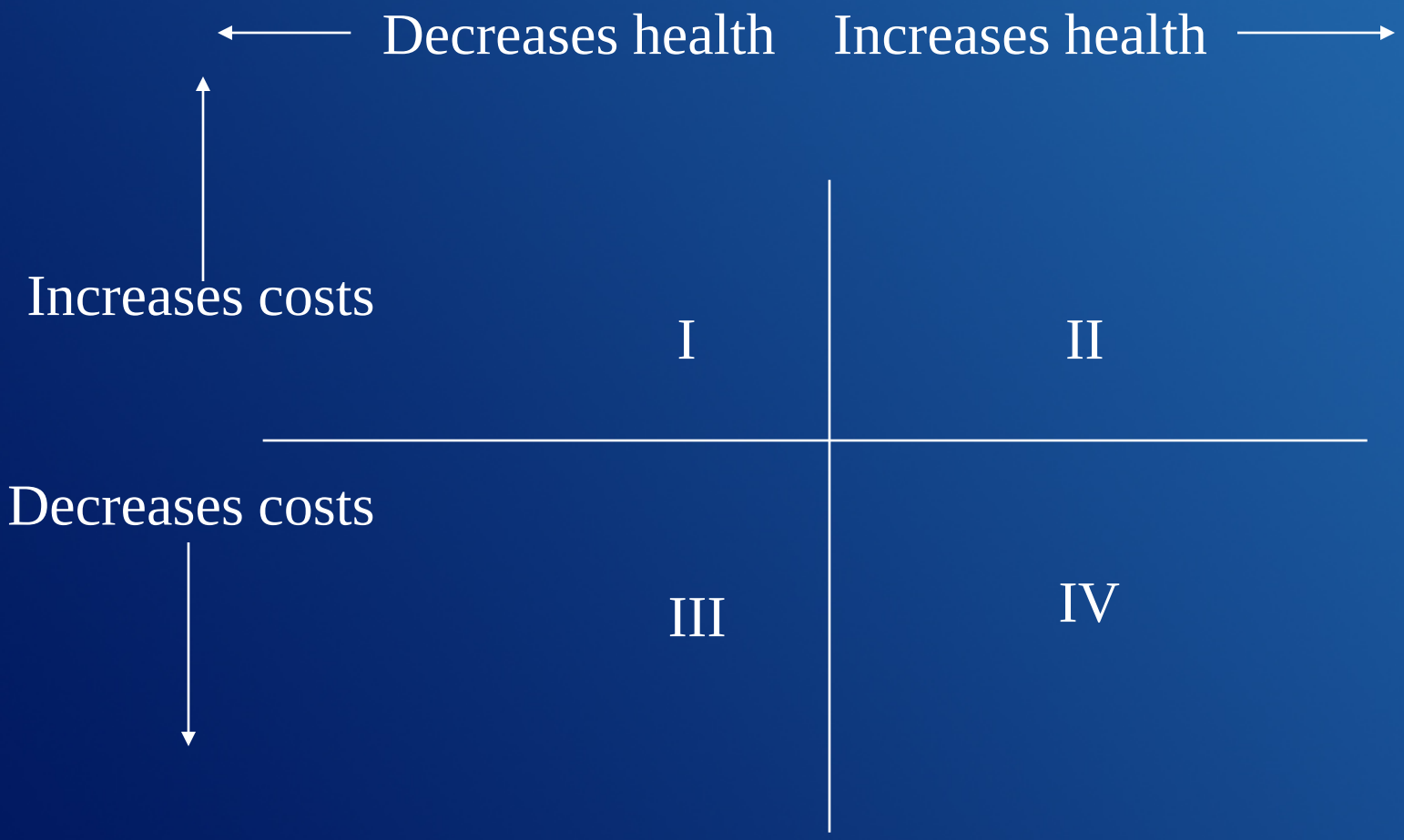
Today's session

- Objectives and design elements of cost-effectiveness analysis
- FFS Medicare's history in considering cost-effectiveness analysis
- Movement towards using cost-effectiveness analysis
- Some stakeholders' concerns about the use of such analysis

What is cost-effectiveness analysis?

- Comparative clinical effectiveness compares the clinical effectiveness of two or more medical interventions
- Cost-effectiveness analysis compares the incremental costs and clinical effectiveness (outcomes) of two or more medical interventions
- Researchers have used cost-effectiveness analysis to assess a wide range of interventions, including drugs, devices, procedures, disease screening, diagnostic tests, preventive care, and radiation therapy

The impact of a new medical intervention



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Designing cost-effectiveness analysis: Measuring costs and outcomes

- The incremental cost-effectiveness ratio expresses the difference in costs and outcomes between two alternatives
- Measures of costs
  - Direct medical costs
  - Direct non-medical costs (e.g., transportation costs)
  - Non-health care costs (e.g., the value of lost productivity due to illness)
- Measures of outcomes
  - Quantitative outcomes: number of cases of an illness prevented, number of years of life gained
  - Quantitative and qualitative outcomes: quality-adjusted life years, disability-adjusted life years, healthy-years equivalents

Designing cost-effectiveness analysis: Other elements

- Defining the reference case
- Defining the perspective
- Selecting alternative interventions
- Data sources
- The time horizon
- Sensitivity analysis

Illustrative example

	Cost	Life-years gained	Additional cost ($) per additional life-year gained
Standard of care	$100	20.0	-
Intervention B	$500	23.0	$133
Intervention C	$1,000	23.5	$257

- Compared to the standard of care, the cost per additional year-of life gained is $133 for intervention B and $257 for intervention C

FFS Medicare's history considering cost-effectiveness analysis

- FFS Medicare generally does not consider cost effectiveness in its coverage decisions
- CMS twice contemplated cost effectiveness in the coverage process
  - 1989 proposed rule
  - 2000 notice of intent
- FFS Medicare has utilized cost-effectiveness evidence for preventive services
- The Patient Protection and Affordable Care Act of 2010 constrains Medicare's use of cost-effectiveness analysis

Medicare's 1989 proposed regulation

- Would have established criteria in the coverage process to determine whether a new service was "reasonable and necessary"
- Added cost effectiveness as a criterion for coverage
- A new item or service would be cost effective if it was:
  - Less costly and at least as effective as a covered alternative
  - More costly and effective than a covered alternative
  - Less costly and effective than a covered alternative, but is a viable alternative for some beneficiaries
- The proposed rule was never finalized

Medicare's 2000 notice of intent

- Outlined criteria that would determine whether a service was reasonable and necessary
- A new item or service would be reasonable and necessary if it:
  - Demonstrated medical benefit
  - Added value
- Cost would have been considered for new services that were substantially equivalent to a covered alternative
- The notice of intent was not finalized

Movement towards cost-effectiveness analysis

- Some payers, purchasers, and PBMs have expressed interest in using cost-effectiveness data
- Pharmaceutical and device manufacturers are increasingly entering into value-based arrangements with payers
- Payers, purchasers, and government agencies using assessments by the Institute for Clinical and Economic Review
- Cost-effectiveness analyses are widely used in countries outside of the United States

Some stakeholders' concerns about cost-effectiveness analysis

- Methodological issues
- Effect on patients' access to care and clinician-patient relationships
- Effect on innovation

For Commissioner discussion

- Consider this information in the context of its inclusion in a June report on coverage and low-value care
- Clarifications about material