



Partnership for Health Analytic Research, LLC

Does Improving Quality of Care Save Money? Review of the Cost Effectiveness of a National Set of Quality Indicators

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OBJECTIVE: To determine whether improving quality of care saves money.

METHODS: We created a model using published CEAs that compared HEDIS-compliance to non-compliance and reported costs and benefits. We calculated the total annual costs and benefits associated with moving from 2006 HEDIS compliance rates to 95% compliance on every measure.

RESULTS: We found no CEAs for 7 measures. On 4 measures, better compliance saved money and improved health. On 14 measures, increased compliance cost money and improved health with \$/QALY saved between \$180 and \$40,000. On 2 measures, better compliance saved money but worsened health. Achieving 95% compliance on these 20 HEDIS measures would cost \$12 billion and save 6.2 million QALY per year. It would not save money but would have a cost effectiveness ratio of \$1,970/QALY.

CONCLUSION: Unless new quality measures addressing overuse become widely accepted, improving quality, like increasing prevention, will provide better value but not save money. Reducing costs will require significant administrative and clinical changes to the US health care system.

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Introduction

US health care costs have risen to over \$2 trillion in 2008,¹⁻³ and political will to reform the US health care system by improving access is increasing.⁴ Finding a way to pay for improved access will be a significant challenge. Some argue that health care quality improvement will reduce costs.

No single agency sets priorities for quality improvement, but NCQA's HEDIS measures are used by more than 90% of US health plans.^{5,6} To determine if improving quality would reduce cost, we examined the cost, savings, and health benefits of improved compliance with the 2006 HEDIS measures.

Methods

We created an economic model that estimated the annual total cost and benefit of reaching 95% compliance with the 2006 HEDIS measures.

Data source: CEAs found in PubMed, the Tufts CEA Registry⁷, and bibliographies of key articles.

Article inclusion criteria:

- full-length original research article published in English since 1998
- compared care compliant with a HEDIS measure to care that was not compliant
- US or Western European setting
- reported results such that costs and benefits of compliance could be calculated

We abstracted (or calculated) the cost, effectiveness, and incremental cost effectiveness of each intervention. Using US Census data and condition-specific incidence, we calculated the total annual costs and benefits associated with moving from 2006 HEDIS compliance rates to 95% compliance. We summed costs and benefits and presented individual and overall cost effectiveness ratios.

Data were inflation adjusted to 2006 dollars using the CPI and non-US currencies converted to USD with purchasing power parity (PPP) exchange rates.⁸

Results

1,738 articles identified; 245 remained after title/abstract review; 20 remained after rejecting articles not relevant to a HEDIS measures. No measures had > 1 CEA identified; 20 measures had 1; 7 measures had none.

Results (continued)

On 4 measures, better compliance saved money and improved health. On 14 measures, increased compliance cost money and improved health with between \$180 and \$40,000 spent for every QALY saved. On 2 measures, better compliance saved money but worsened health (Table).

Achieving 95% compliance on these 20 HEDIS measures would cost \$12.2 billion and save 6.2 million QALYs per year. It would not save money but would have a cost effectiveness ratio of \$1,970/QALY.

Table: Cost Effectiveness of 2006 HEDIS Measures

<i>Improved Health and Decreased Cost</i>	Savings per treatment	2006 HEDIS performance rates	Annual cost of 95% compliance	QALY gained by 95% compliance
Childhood immunizations	\$489	77.7	-\$345,352,270	4,404 ^b
Adolescent immunizations	\$95	78.5	-\$64,825,700	827 ^b
Appropriate treatment for URI	\$33 ^a	82.9	-\$19,069,239	not reported
Inappropriate antibiotics for acute bronchitis	\$24	66.1 ^c	-\$53,881,004	not reported
<i>Improved Health and Increased Cost</i>	Cost per QALY gained			
AOD dependence treatment	\$180	44.5	\$791,063,843	4,403,618
Smoking cessation – advised to quit	\$615 ^d	71.2	\$224,087,372	364,477 ^b
Smoking cessation – discussed strategies	\$974 ^d	39.0	\$990,260,303	1,016,881 ^b
Flu shot (≥65 years)	\$1,147	70.3	\$43,071,476	37,565
Chlamydia screening	\$2,751	34.4	\$79,807,985	29,008
Cervical cancer screening	\$4,703 ^d	81.8	\$87,023,849	18,505 ^b
Beta-blocker treatment	\$5,285	96.6	\$0	0
Glaucoma screening	\$9,791	61.6	\$20,469,890	2,091
Colon cancer screening	\$13,987 ^d	52.3	\$1,409,845,926	100,799 ^b
Antidepressant medication management	\$15,471	45.1	\$2,443,391	158
Follow-up care for ADHD medication use	\$18,166	33.0	\$11,910,290	656
Comprehensive diabetes care	\$21,768	45.9	\$7,028,386,566	322,878
Flu shot (50–64 years)	\$32,832	36.3	\$1,017,630,304	30,995
Breast cancer screening	\$39,805	72.0	\$1,495,001,262	37,558
<i>Reduced Health and Decreased Cost</i>	Savings per QALY lost			
Appropriate testing for pharyngitis	\$839,022	69.7	-\$108,993,122	- 130
Imaging studies for back pain	\$2,380	75.4	-\$391,158,283	- 164,338
Total			\$12.2 billion	6.2 million

^a\$ saved by not receiving an antibiotic; ^bLife-years saved; ^cLower rate is better; ^dPer life-years gained; AOD = alcohol and other drug; ADHD = attention deficit/hyperactivity disorder

Discussion

Improving quality (as measured by HEDIS) will increase the value of health care spending but will not reduce costs. Increasing preventive care has a similar effect: it improves health but increases cost.⁹

At less than \$2,000/QALY the HEDIS measures are very cost effective; they are much more so than most medical spending over the last several decades, which has cost about \$30,000-\$85,000 for every QALY saved.¹⁰

Are there other ways to reduce spending enough to pay for improved access to health care?

\$36-65 billion is spent annually on health care that provides little or no value.¹¹ Reducing this clinical waste should be a top priority, and some of the \$1.1 billion recently allocated for comparative effectiveness research might be used for this purpose. Health plans focus on improving their HEDIS compliance, so research into additional measures discouraging overuse of procedures (e.g., hysterectomy, carotid endarterectomy, and spinal fusion) and reducing unnecessary variation in care could provide billions in savings.¹²⁻¹⁵

Up to \$200 billion annually may be wasted on administrative inefficiencies.¹¹ Adoption of electronic health records may be able to reduce this by \$80 billion (net of implementation costs) and may also improve quality.¹⁶

Limitations

- 95% compliance target arbitrary, but this choice did not affect direction of findings.
- Examined only 1 set of measures, but it is a set used by 90% of health plans.^{6,17}
- Compliance estimated from health plans that publicly report data, may not be representative.
- Did not account for the cost of quality improvement programs.

Conclusion

Unless new quality measures addressing overuse become widely accepted, improving quality, like increasing prevention, will provide better value but not save money. Reducing costs will require significant administrative and clinical changes to the US health care system.

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