

American Enterprise Institute

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Beyond Health Insurance

Towards Health

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Expand Health Insurance → Improve Health

Assumes:

1. Health Insurance → Increases Consumption of Health Services
2. Health Services → Improves Health Outcomes

Challenge Assumptions

Insurance increases consumption?

- True, in part.
- But is it the consumption we want?
 - By the individuals we want to consume more?
E.g., to reduce disparities
 - Of the health services that should be consumed?
E.g. that prevents subsequent costly care, that has positive spillovers?

Consumption Improves Health?

- Repeat everything Bob Kaestner just said
- What health services should be covered under a socially oriented insurance plan?

Real Question: What do we want from health insurance?

- Health. Not health services.
- Insurance, protection from risk. Not prepaid services.

Two Research Trajectories

1. What happens when heterogeneous population receives specialized insurance benefits?
2. How can Medicaid (& Medicare, Private Health Insurance) incorporate all of Bob Kaestner's great lessons?
Bob: Yes we can.

The Data, The Project

- Health Claims data on all Duke Univ. employees
 - 22,000 employees, 5+ years
 - Demographic information on each employee; substantial diversity across race, income, education
 - Claims data includes all services consumed (prescriptions, treatments, etc.), diagnoses, out-of-pocket payments & insurance payments for services
- Research possibilities: health outcomes, healthcare consumption behaviors, interplay between health & employment, insurance selection, cost effectiveness
- Made possible by university-wide cooperation (HR, Social Sciences, DUHS, Provost)



The Data – Demographics

	Duke Sample	Durham County	North Carolina
Population	20,722	223,314	8,049,313
% White	68.4	50.9	70.2
% African American	24.6	39.5	21.6
% Asian	5.5	3.3	1.4
% Latino	1.3	7.6	4.7
Median Income, Males	\$36,800	\$35,939	\$32,132
Median Income, Females	\$36,014	\$30,683	\$24,978

- Data largely representative of North Carolina. Extrapolation appropriate...
- Except:
 - 65% female (health sector employment; hospitals)
 - Latinos: median income equals overall median, median education *higher* than overall median (most low-wage Latinos probably subcontractors, not employees).

Preliminary Results

Health Affairs (Sept/Oct 2007)

EXHIBIT 1

Dependent Variable: Probability Of At Least One Mental Health Claim In A Year In The Insured Sample, 2001–2004

Model	Race only	Income only	Race and income	Race, income, and education	All variables ^a
Intercept	0.077****	0.028****	0.071****	-0.011	0.0188
Sex ^b	-0.022****	-0.016****	-0.015****	-0.014***	-0.016****
Age	0.0005****	0.0002*	0.0003**	0.0003*	0.0002
African American	-0.064****		-0.060****	-0.055****	-0.056****
Asian	-0.059****		-0.058****	-0.072****	-0.069****
Annual income ^c		0.0087****	0.0026***	-0.0043**	-0.0073****
Education				0.0077****	0.0062****
Exemption status ^d					0.024****

SOURCE: Duke Human Resources.

Consequences in \$\$:

- Whites extract 4x Blacks, 3x Asians in MH Ins\$
- 75th percentile income extracts 65% more MH Ins\$ than 25th

Preliminary Results, cont'

Health Affairs (Sept/Oct 2007)

EXHIBIT 4

Estimated Annual Insurance Spending For Pharmaceutical Claims, Using Two-Stage Smearing, In The Insured Sample, 2001-2004

Control variables	Race			Control variables	Income	
	White	African American	Asian		25th percentile	75th percentile
Age, sex, race	\$649.73	\$505.69	\$158.50	Age, sex, income	\$587.16	\$628.79
Age, sex, race, income	682.78	487.66	190.09	Age, sex, income, race	607.87	631.28
Age, sex, race, income, education	708.66	483.17	164.88	Age, sex, income, race, insurance plans	609.01	630.90
All controls	707.13	483.78	168.13	All controls ^a	652.65	637.25

SOURCE: Duke Human Resources.

^aIncluding education and exemption.

Provocative Title: Insurance Expansions: Do They Hurt Those They Are Designed To Help?

Looking for Explanations

1. **Provider Discrimination?**

- Preferential rates in referrals, dispensing expensive treatments, prescriptions
- *Institute of Medicine, Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*

2. **Racial patterns in perceptions of mental illness?**

- USSG 2001 report: *Mental Health: Culture, Race, and Ethnicity*
- Lack of Trust? *Sullivan Commission, Missing Persons: Minorities in the Health Professions (2004)*
- (These reports encourage seeking treatment, reducing barriers)

3. **Differences in Preferences**

- Cultural differences in approaches to traditional medicine. Alternative sources of support & care.

Next Questions:

Do low-users consume substitute services?

Does disparate consumption affect outcomes?

Next Steps: (Preliminary Results)

Consumption Patterns

Table 1. Multinomial logit: Relative risk ratios (RRR) of receiving mental healthcare from alternative providers compared to receiving no mental healthcare

	Outpatient Mental Health (OMH)		Psychotropics/ No OMH		General Practitioner only	
	RRR	P value	RRR	P value	RRR	P value
Male	0.56	0.000	0.46	0.000	1.05	0.328
Age	1.02	0.000	1.05	0.000	1.03	0.000
African American	0.29	0.000	0.43	0.000	1.24	0.000
Asian	0.24	0.000	0.23	0.000	0.65	0.001
Income	1.03	0.002	0.94	0.002	0.91	0.000

Table 2. Multinomial logit: RRR of receiving alternative forms of mental healthcare for those who obtain some form of mental health care compared to psychotropics/ No OMH

	OMH		General Practitioner only	
Male	1.26	0.000	2.31	0.000
Age	0.97	0.000	0.98	0.000
African American	0.65	0.000	2.91	0.000
Asian	0.99	0.936	2.84	0.000
Income	1.10	0.000	0.96	0.065

Next Steps, Cont'

Preventing Hospitalizations

Table 4. Competing risk between the likelihood of hospitalization versus exiting the sample: Effect of mental health consumption

	Hospitalization		Exiting sample	
	HR	P value	HR	P value
Outpatient mental health (OMH)	9.01	0.000	0.08	0.000
Psychotropics/No OMH	3.23	0.000	0.22	0.000
General practitioner only	1.60	0.101	0.43	0.003
Black	1.22	0.190	0.70	0.017
Asian	1.20	0.572	0.89	0.728
Income	0.80	0.000	1.12	0.071

Table 5. Competing risk: including severity index

	Hospitalization		Exiting sample	
	HR	P value	HR	P value
Severity	1.48	0.000	0.67	0.000
Outpatient mental health (OMH)	0.77	0.429	0.93	0.828
Psychotropics/No OMH	0.58	0.073	1.24	0.490
General practitioner only	0.20	0.000	3.58	0.001
Black	1.24	0.152	0.68	0.012
Asian	1.24	0.513	0.86	0.661
Income	0.82	0.001	1.09	0.144

Next Steps, Cont'

Preventing Re-Hospitalizations

Table 6. Competing risk: Hazard ratios (HR) of failure to adhere to post-hospitalization follow-up treatment versus (v.) exiting the sample

	Treatment failure		Exiting sample	
	HR	P value	HR	P value
Severity	0.83	0.000	1.41	0.012
Male	1.21	0.265	1.23	0.653
Age	0.99	0.326	0.97	0.073
Black	1.92	0.000	0.52	0.201
Asian	1.64	0.231	2.75	0.287
Income	0.92	0.191	0.66	0.059

Table 7. Competing risk: HR of rehospitalization within 1 year v. exiting the sample: Effect of Treatment failure

	Rehospitalization		Exiting sample	
	HR	P value	HR	P value
Treatment failure	0.65	0.263	0.36	0.070
Severity	1.12	0.277	0.97	0.809
Male	1.52	0.186	1.20	0.660
Age	1.02	0.186	0.96	0.036
Black	1.05	0.908	1.68	0.357
Asian	1.00	0.997	3.80	0.234
Income	0.92	0.480	1.00	0.982

What Does This Mean?

Bob told you education improves health more than health services (health insurance less effective in promoting health)

I told you certain health insurance benefits don't provide insurance (and that they also facilitate a wealth transfer)

What to do?

1. Crack the "education" nut
2. Reform insurance policy (esp. Medicaid) accordingly

Behavioral Reforms

What does “education” mean?

- Information? Health-related information?
- Influence of Social Norms?
- Less discounting of the future?
 - “S-goods”, Becker & Mulligan (1997)

Other nonmedical interventions

- Trust
- Social Support

Policy Instruments

- Medicaid Section 1115 Waivers, EPSDT
- SCHIP
- Medicare repayments to encourage “Medical Homes”, synthesize delivery of medical care with education, with S-goods

Conclusions (so far)

1. Does health insurance encourage consumption?
Less so for nonwhites and low-income individuals.
 - They consume fewer OMH & Pharma services than their white and more affluent coworkers (wealth transfer?)
 - More likely to seek care from general practitioners
 - Results persist even following a hospitalization, despite discharge instructions
2. Does receiving medical services care improve health?
Does it protect against risk?
Little evidence for OMH.
 - Does not reduce the probability of hospitalization
 - And following a hospitalization, does not reduce the probability of rehospitalization

Concluding Speculations/Musings

3. Health insurance needs to focus on insurance – protection from risk – and on improving health. Not generally on prepaying health-related services.
4. To improve health, nonmedical interventions might be underrated, medical interventions might be overrated
5. Need to be sensitive to heterogeneous population, to potential of counterproductive wealth transfers
6. Need creative thinking, search for innovative uses for Medicaid & public funds.