

Screening in Contract Design: Evidence from the ACA Health Insurance Exchanges

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Managed competition important in U.S insurance.

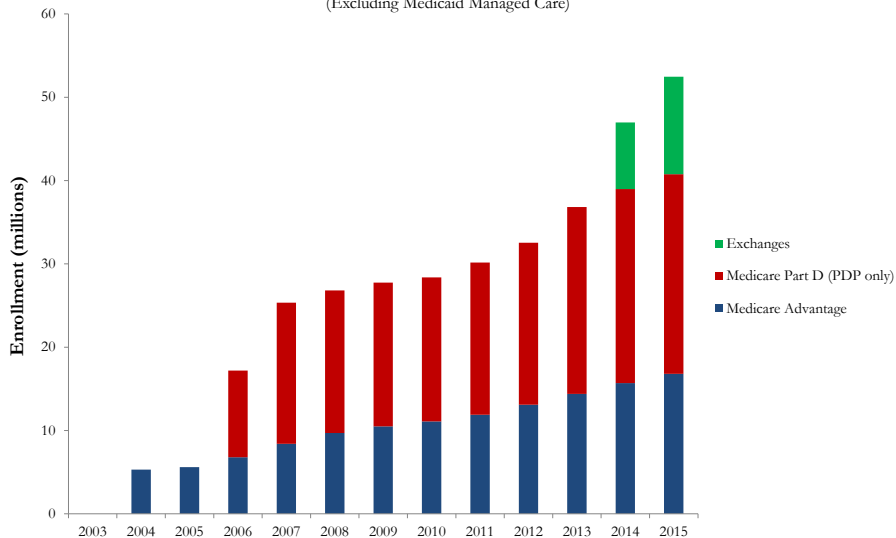
- Increasingly, individuals get insurance from managed care plans competing in highly regulated market settings
 1. Public funds / private insurers in Medicare, Medicaid, Exchanges
- In these markets, insurers generally required to
 1. Enroll anyone who wants to join a plan
 2. Charge all individuals the same price
- Explicit goal of non-discrimination

Non-discrimination and payment systems

- Non-discrimination against the chronically ill represents a major challenge in payment system design
- Without other interventions, what will an insurer want to do?
Discourage enrollment by expensive types *by offering poor coverage*
 - Many dimensions along which may distort contract
- Two types of regulatory responses
 - Require minimal coverage; Essential Health Benefits
 - Undo the problematic financial incentive with risk adjustment (RA) and reinsurance

Importance of Risk Adjustment in the US

Number of Enrollees in Diagnosis-based Risk Adjusted Health Insurance Markets
(Excluding Medicaid Managed Care)



Equity Goal, but Anecdotes of Discrimination

- Whitehouse: “Your insurance company can’t turn you down or charge you more because of your pre-existing health or medical condition...Once you have insurance, they can’t refuse to cover treatment for your pre-existing condition.”
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<http://blogs.wsj.com/pharmadocs/2015/02/24/health-insurers-discriminate-against-patients/>

LIFE

Health Insurers Discriminate Against Patients who Need Specialty Drugs?

By ED SILVERMAN

Feb 24, 2015 9:06 am ET

In a final rule issued last week concerning health benefits provided by the Affordable Care Act, the federal government noted that some health insurers are using “potentially discriminatory practices” against people with certain illnesses. As a result, they are paying more for their medicines.



ANDREW ROBERTS

Health care law did not end discrimination against those with pre-existing conditions

By Kay Tillow

HIV Patients Accuse Health Plans of Using Drug Costs to Discriminate

by John Tozzi
[@tozzi](#)

Drug Tiering in Exchanges/Marketplaces

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- Focus on formularies: Insurers have significant discretion and the coverage generosity is likely to be salient for consumers at the time of enrollment
 - Suggests possibility of screening
- Difference-in-Differences (across drug classes and ESI v HIX)
 1. Predict which drug classes are under/over-compensated by RA
 2. Examine whether underpayments predict how insurers tier drugs

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 - Both tiering (price) and utilization management (non-price) respond to profitability
 - No corresponding relationship for employer plans (control group)
 - Not about optimally responding to consumer moral hazard, or steering to cheaper alternatives
 - Not about passing through high drug costs.

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 - Not about passing through high drug costs.
3. Implication is that consumers with some chronic conditions face exactly the kind of discrimination that the ACA attempted to prohibit

Key Contributions

1. Provide novel evidence that Exchange risk adjustment does reasonably good job of neutralizing incentives for formulary design-for-selection
2. Provide novel evidence that Exchange plans respond to remaining incentives for formulary design-for-selection
 - Connects to theory on service-level selection: Frank, Glazer and McGuire (2000), Ellis and McGuire (2007), Veiga and Weyl (2016), and Azevedo and Gottlieb (2016)
 - Consistent with small set of evidence: in Part D, Carey (2016a), Carey (2016b), Lavetti and Simon (2016); in hospital network design, Shepard (2016); in Exchanges, Jacobs and Sommers (2015)
3. Provide new insights into how insurers respond to selection incentives
 - Outliers matter a lot; Insurers also appear sophisticated
 - Broadly, concerns over *consumer* drug prices should not ignore RA
4. Contribute to recent literature on econ of formulary design
 - Starc and Town (2016); Lavetti and Simon (2016); Einav, Finkelstein, and Polyakova (2016)

Outline

1. Institutional Background
2. Theoretical Framework
3. Data and Empirical Strategy
4. Results
5. Robustness and Mechanisms
6. Conclusion

2. Institutional Background

Regulatory Framework

2 broad categories of regulations aimed to curb design for selection

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1. Coverage mandates

- Essential Health Benefits
- EHB require Marketplace plans to cover at least one drug in each USP therapeutic category and class
- Evidence from Anderson (2016) that EHB drug rules are binding
- No requirement about how drugs should be tiered within a class

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2. Payment adjustments: Intended to align profit maximizing contracts with socially efficient contracts

- Risk adjustment
- Reinsurance

Risk Adjustment and Reinsurance

- Risk adjustment attempts to make all enrollees appear equally profitable to insurers
 - Each enrollee assigned a “risk score” based on set of 100-ish condition categories
 - Regulator enforces *ex-post* budget neutral transfers from plans with low average risk scores to plans with high average risk scores
 - Exchange risk adjustment model based on Medicare Advantage
- Exchange plans eligible for reinsurance during first 3 years
 - In first year, plans reimbursed for 100% of individual-level costs between \$45,000 and \$250,000
 - In later years, policy is less generous

3. Theoretical Framework

Contract Distortions/Service Level Selection

- The theory behind service-level selection in insurance contracts has been carefully developed elsewhere, including in Rothschild and Stiglitz (1976), Frank, Glazer and McGuire (2000), Glazer and McGuire (2000), Ellis and McGuire (2007), Veiga and Weyl (2016), and Azevedo and Gottlieb (2016)
- Some insights that guide the empirical work:
 - Screening motivation will look like all the alternatives placed on a high cost sharing tier. Suggests importance of looking at a *therapeutic class* of drugs, rather than individual products
 - Insurers should respond to the net incentive (after risk adjustment and reinsurance), not the gross cost of an individual
 - Overall profitability matters, not just the individual's spending on the particular service (in our case, drug) in a multi-service contract.
Think: expensive patients, not expensive drugs
 - Moral hazard, if correlated with the selection incentive, would confound estimates

4. Data and Empirical Strategy

Data

- Therapeutic class-by-plan as the unit of analysis below
- We require data on
 1. Formulary restrictiveness by drug class
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- We require data on
 1. Formulary restrictiveness by drug class (**MMIT**)
 2. Selection incentive by drug class (costs and revenues) (**Marketscan**)

Quantifying Restrictiveness of Formularies

Restrictiveness - Data

- 2015 Managed Markets Insight and Technology Database
- For every Exchange plan in 2015, observe how each drug was assigned to formulary tier
 - Drug = First Data Bank Code
 - Plan here nests various metal-level products offered by the same carrier in a market sharing a formulary
 - Don't observe cost sharing dollar amount, just relative tier
 - Appears to capture every covered life in the Exchanges
- Same information for self-insured ESI
- Data also lists PBM associated with the plan

Restrictiveness - Measure

- To measure restrictiveness we use harmonized tiers
 1. Generic Preferred
 2. Generic
 3. Preferred
 4. Covered/ Non-preferred Brand
 5. Specialty
 6. Not listed
 7. Medical
 8. Prior authorization/Step therapy
 9. Not covered

Restrictiveness - Measure

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 1. Generic Preferred
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 4. Covered/ Non-preferred Brand
 5. **Specialty**
 6. **Not listed**
 7. **Medical**
 8. **Prior authorization/Step therapy**
 9. **Not covered**
- We draw a line below “covered” and call tiers below the line “restrictive” and tiers above the line “non-restrictive”
- For each REDBOOK drug class, we define formulary restrictiveness as the % of drugs in the class on a restrictive tier

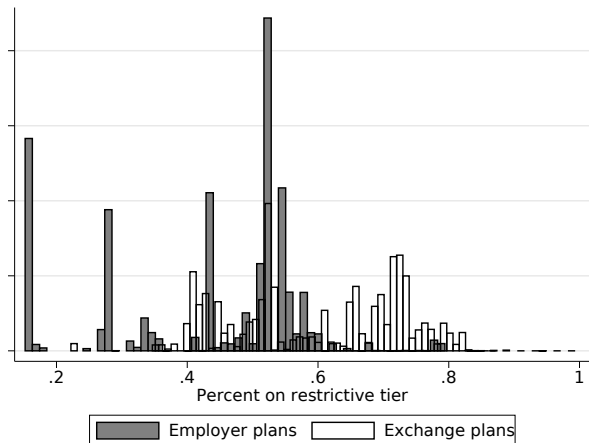
Restrictiveness - Summary Stats

	Formulary Data		CCIIO Cost-Sharing Data	
	Employer Plans (1)	Exchange Plans (2)	Mean Silver Copay, if no Coinsurance (3)	Fraction Subject to Coinsurance (4)
Number of plans	3194	501		
Covered lives per plan	14,723	20,343		
Non-Retrictive Tiers Total:	0.57	0.41		
Generic preferred	0.21	0.17	\$10	11%
Generic	0.00	0.05		
Preferred brand	0.09	0.05	\$41	18%
Covered/ Non-preferred brand	0.28	0.14	\$73	30%
Restrictive Tiers Total:	0.43	0.59		
Specialty	0.00	0.01	\$117	66%
Not listed	0.33	0.27		
Medical	0.00	0.01		
Prior Authorization/Step (PA/ST)	0.01	0.10		
Not covered	0.08	0.20		
Therapeutic Classes	220	220		

Analysis will control for overall generosity difference

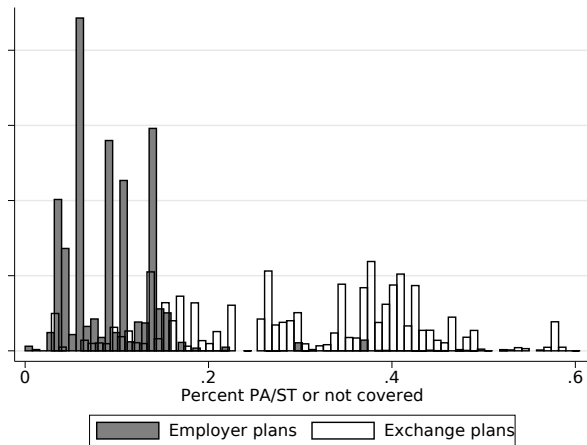
Restrictiveness - Summary Stats

Figure : Plan-level Histogram of Assignment to Restrictive Tier



Restrictiveness - Summary Stats

Figure : Plan-level Histogram of Non-price Hurdles to Access



Quantifying Selection Incentive

Selection Incentive - Data

- Marketscan administrative health insurance claims data (mostly self-insured employers)
- We restrict to individuals in non-capitated plans in 2013 (around 7 million)
- For each individual we observe
 - Demographics
 - Total spending
 - Prescription drug claims
 - All diagnoses appearing in claims
- Use HHS formulas/software (plus assumption of perfect competition and a symmetric equilibrium) to generate person-specific plan revenues
 - Premiums
 - Risk adjustment transfer
 - Reinsurance

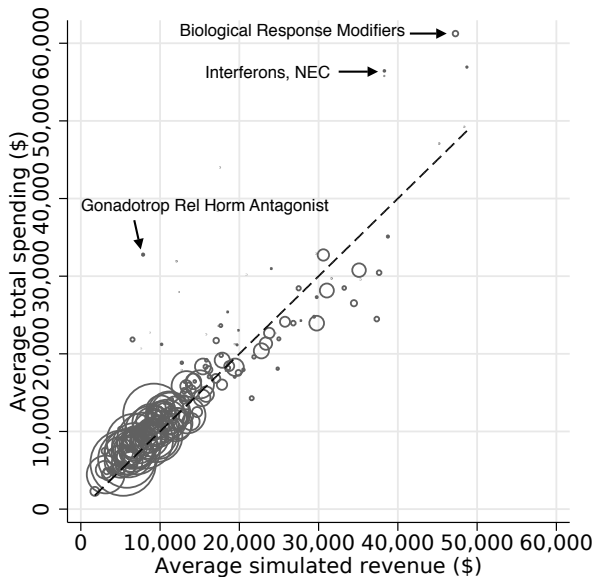
Selection Incentive - Construction

- S_c : selection incentive, for 220 mutually exclusive drug classes c
- Based on patient-specific costs, C_i , and revenues, R_i , cond'l on use of c
- For each i , sum *all* spending (not just drug costs, not just related costs)
- Find means \overline{C}_c and \overline{R}_c

$$S_{HIX, c} = \begin{cases} \overline{C}_c - \overline{R}_c & \text{Cost-revenue difference,} \\ \frac{\overline{C}_c}{\overline{R}_c} & \text{Cost-to-revenue ratio,} \\ EM_c & \text{Ellis-McGuire predictable profitability.} \end{cases} \quad (1)$$

- Throughout, we standardize these measures (z-scores)

Revenue vs Cost by Drug Class



EM Measure

Ellis and McGuire (2007) show that a profit-maximizing insurer's incentive to distort coverage is defined by the following index:

$$EM_c = \underbrace{\frac{\sum_{i \in I_c} (\widehat{C}_{ic} - \overline{C}_{ic})^2}{\overline{C}_c}}_{\text{predictability of condition}} \times \underbrace{\rho_c}_{\text{predictiveness of spending}} \quad (2)$$

- First term: predicted spending \widehat{C}_{ic} reflects consumers' ability to forecast drug needs in class c based on past use of drugs in any class
- Second term: ρ_c is correlation of individual-level profitability ($R_i - C_i$) and spending in therapeutic class c in the same period (\overline{C}_c)
- Unlike the other two measures, EM considers the predictability of use of a drug
- e.g. there is little benefit in distorting coverage for a drug class for which consumers cannot anticipate need

Selection Incentives - Top Drug Classes

Selection Rank	Class	Most Used Drug in Class	Per Capita Enrollee Spending	Per Capita Enrollee Revenue	Implied Net Enrollee Profit	Ratio: Spending/Revenue	Ellis-McGuire Measure
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Largest Incentives to Avoid							
1	Gonadotropins, NEC	Ovidrel	\$21,848	\$6,522	\$15,326	3.3	0.3
2	Biological Response Modifiers	Copaxone	\$61,245	\$47,268	\$13,977	1.3	1.3
3	Opiate Antagonists, NEC	naltrexone	\$23,639	\$17,662	\$5,977	1.3	0.3
4	Ovulation Stimulants, NEC	clomiphene citrate	\$10,306	\$5,003	\$5,304	2.1	0.2
5	Pituitary Hormones, NEC	desmopressin	\$21,711	\$17,078	\$4,633	1.3	1.0
6	Vitamin A and Derivatives, NEC	Claravis	\$7,472	\$3,044	\$4,428	2.5	0.2
7	Bioflavonoids and Comb, NEC	Metanx (algal oil)	\$19,170	\$15,840	\$3,329	1.2	0.2
8	Oxytocics, NEC	methylergonovine	\$11,183	\$8,112	\$3,071	1.4	0.5
9	Analg/Antipyrr, Opiate Agonists	hydrocodone-acetaminophen	\$12,214	\$9,212	\$3,001	1.3	0.8
10	CNS Agents, Misc.	Lyrica	\$18,369	\$15,405	\$2,965	1.2	1.3
Largest Incentives to Attract							
211	Antineoplastic Agents, NEC	methotrexate sodium	\$28,157	\$31,042	-\$2,885	0.9	-0.4
212	Multivit Prep, Multivit Plain	Folbic	\$21,928	\$24,986	-\$3,058	0.9	0.0
213	Coag/Anticoag, Anticoagulants	warfarin	\$30,775	\$35,103	-\$4,328	0.9	-0.5
214	Cholelitholytic Agents, NEC	ursodiol	\$28,481	\$33,232	-\$4,751	0.9	-0.7
215	Diuretics, Loop Diuretics	furosemide	\$23,946	\$29,759	-\$5,813	0.8	-0.7
216	Ammonia Detoxicants, NEC	lactulose	\$30,452	\$37,633	-\$7,181	0.8	-0.6
217	Anticonv, Hydantoin Derivative	phenytoin sodium extended	\$14,284	\$21,559	-\$7,275	0.7	-0.5
218	Cardiac, Antiarrhythmic Agents	amiodarone	\$26,519	\$34,461	-\$7,942	0.8	-0.5
219	Digestants and Comb, NEC	Creon	\$44,621	\$56,971	-\$12,350	0.8	-0.7
220	Cardiac, Cardiac Glycosides	Digox	\$24,480	\$37,338	-\$12,857	0.7	-1.0

Our Measure Correlates with Independent Reports

- Second least profitable patient type is the group taking Biological Response Modifiers. On average will generate \$61,000 in claims costs but only \$47,000 in net revenue after accounting for risk adjustment and reinsurance payments
- Most used drug in this class is Copaxone, treats MS
- From WSJ: “The federal government noted that some health insurers are using ‘potentially discriminatory practices’ against people with certain illnesses. The U.S. Department of Health & Human Services noted that one method is to place ‘most or all drugs that treat a specific condition on the highest cost tiers.’ ...For instance, 51% percent of Silver Plans placed all multiple sclerosis drugs on a specialty tier this year”
- Note that the last Table has nothing to do with the exchanges; its an out of sample prediction of who an insurer should be incentivized to discriminate against...

Selection Incentives - Summary Stats for 220 Classes

Focus on Ratio and EM measures; least correlated ▶ Rank-Rank Correlations

Figure : Ratio Measure

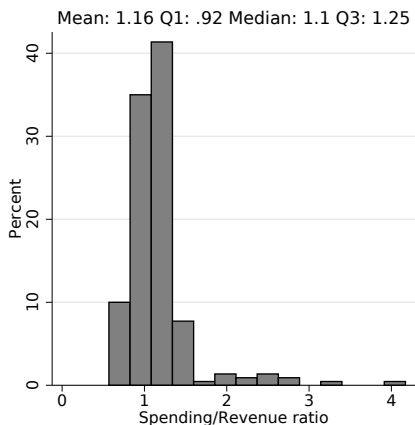
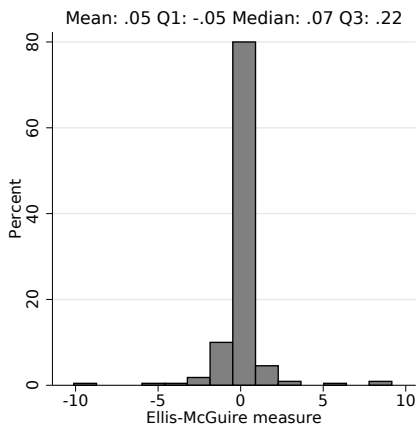


Figure : Ellis-McGuire Measure



Do Formularies Track This Incentive?

Identification Problem

- Goal is to identify causal link between selection incentive and formulary restrictiveness
- Key identification problem is that drugs used by unprofitable groups differ on dimensions other than the selection incentive (but are possibly correlated with selection incentive and insurer's formulary design problem)
 - Cost: e.g., Could be the case that unprofitable drugs are also likely to be expensive drugs
 - Consumer demand elasticity
- Need a way to control for any unobserved drug characteristics

Identification Solution

- Insight: Employer plans (ESI) don't get to select enrollees
- And employers don't face the payment scheme of Exchange plans
- So if we were to see employer plans reacting to the payment scheme selection incentive, indicates that the incentive we calculate is picking up something else that matters about drug classes

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- So if we were to see employer plans reacting to the payment scheme selection incentive, indicates that the incentive we calculate is picking up something else that matters about drug classes
- Regression will identify: *Is the difference between ESI formularies and HIX formularies predicted by the HIX selection incentive?*

Regression Framework

- Diff-in-diff strategy in a sample of HIX and ESI plans
- Empirical specification:

$$Y_{jc} = \beta[S_{mc} \times HIX_j] + \gamma_c + \alpha_j + \epsilon_{cj} \quad (3)$$

- Y_{jc} is the fraction of drugs in the class placed on a restrictive tier
- S_{mc} is the selection incentive in market m for drug class c
- HIX_j is Exchange dummy
- γ_c and α_j are drug class and plan fixed effects

- Employer plans identify drug class fixed effects and control for any unobservables that matter for formulary design but aren't related to selection.

5. Results

Main Result: Selection Incentive and Restrictive Tiering

Restrictive Tier Definition: Selection Incentive Variable:	Specialty or Higher			PA/ST/Not Covered		
	Ratio (1)	Diff. (2)	E-M (3)	Ratio (4)	Diff. (5)	E-M (6)
Marketplace X selection incentive	.046*** (.014)	.044** (.017)	.047*** (.018)	.018* (.011)	.020* (.011)	.018* (.010)
Therapeutic class FEs	X	X	X	X	X	X
Plan FEs	X	X	X	X	X	X
Therapeutic classes	220	220	220	220	220	220
Observations (plan X state X class)	858,440	858,440	858,440	858,440	858,440	858,440

- Regressor of interest normalized into standard deviation
- 1 std dev increase in selection incentive corresponds to 4.5 pct pt increase in drugs in restrictive tiers

Main Result: Selection Incentive and Restrictive Tiering

Figure : $S_c = \text{Ratio}_c$

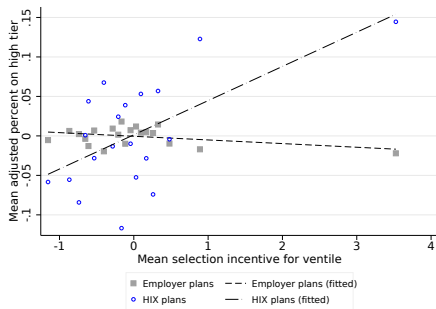
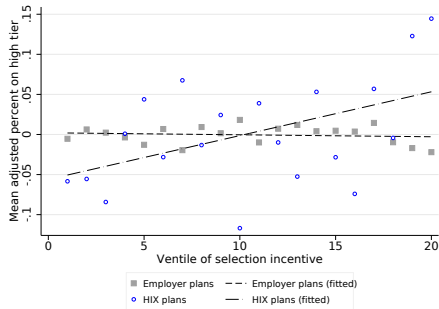


Figure : $S_c = \text{Ratio}_c$



- Each ventile bin contains 10-11 drug classes; each class, many drugs
- Hollow blue circles are Exchange plans

Main Result: Selection Incentive and Restrictive Tiering

Figure : $S_c = E - M_c$

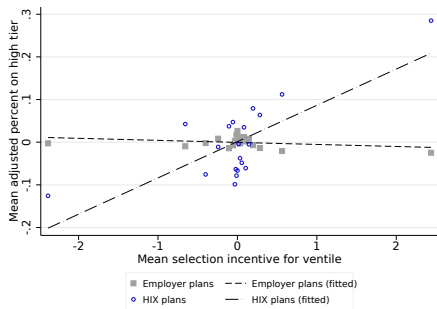
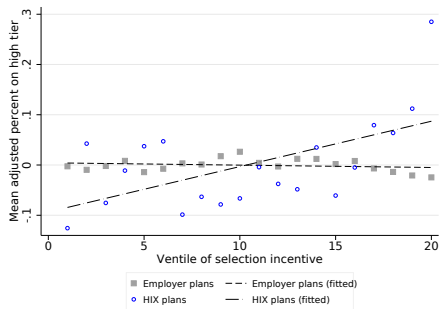


Figure : $S_c = EM_c$



- Each ventile bin contains 10-11 drug classes; each class, many drugs
- Hollow blue circles are Exchange plans

Main Result: Non-linear Version

Panel A						
Dependent Variable:	Fraction of Class Tiered Specialty or Higher					
Selection Incentive Variable:	Ratio (Cost/Revenue)		Difference (Cost - Revenue)		Ellis-McGuire Measure	
	(1)	(2)	(3)	(4)	(5)	(6)
Exchange X Selection incentive	0.046*** (0.014)	0.045** (0.022)	0.044** (0.017)	0.012 (0.014)	0.046*** (0.018)	0.010 (0.015)
Exchange X Selection incentive ventile 20		0.006 (0.105)		0.300*** (0.076)		0.296*** (0.089)
Therapeutic class FEs	X	X	X	X	X	X
Plan FEs	X	X	X	X	X	X
Therapeutic classes	220	220	220	220	220	220
Observations (plan X state X class)	858,440	858,440	858,440	858,440	858,440	858,440

Panel B						
Dependent Variable:	Fraction of Class Tiered Prior Auth./Step Therapy/Not Covered					
Selection Incentive Variable:	Ratio (Cost/Revenue)		Difference (Cost - Revenue)		Ellis-McGuire Measure	
	(7)	(8)	(9)	(10)	(11)	(12)
Exchange X Selection incentive	0.018* (0.011)	0.031** (0.016)	0.020* (0.011)	0.008 (0.011)	0.018* (0.010)	-0.002 (0.014)
Exchange X Selection incentive ventile 20		-0.074 (0.092)		0.108 (0.083)		0.159** (0.078)
Therapeutic class FEs	X	X	X	X	X	X
Plan FEs	X	X	X	X	X	X
Therapeutic classes	220	220	220	220	220	220
Observations (plan X state X class)	858,440	858,440	858,440	858,440	858,440	858,440

Main Results: Summary

- Marketplace and employer restrictiveness differ for drug classes with very strong selection incentives
- Even after controlling for a linear relationship between S_c and restrictiveness:
 - Drugs in the top ventile bin face an additional 69 percent probability of being placed on a restrictive tier, compared to employer plans
 - These same eleven classes face 1.8X probability of being dropped from coverage or of utilization mgmt
- Both cost-sharing and utilization management are margins of distortion

6. Insurer Sophistication

What Are Insurers Responding To?

Dependent Variable: Selection Incentive Variable:	Fraction of Class Tiered Specialty or Higher						Ratio and E-M Simultaneously
	Ratio (1)	Ellis- McGuire (2)	Ratio (3)	Ellis- McGuire (4)	Ratio (5)	Ellis- McGuire (6)	
Exchange X Selection incentive	0.046*** (0.014)	0.046*** (0.018)	0.051*** (0.015)	0.041*** (0.013)	0.043*** (0.013)	0.025 (0.019)	
Exchange X Average spending associated with class			0.042*** (0.011)	0.041*** (0.009)			
Exchange X Average in-class, drug-only spending					0.047*** (0.013)	0.036** (0.018)	
Exchange X Ratio measure							0.038*** (0.014)
Exchange X Ellis McGuire measure							0.039*** (0.017)
Therapeutic class FEs	X	X	X	X	X	X	X
Plan FEs	X	X	X	X	X	X	X
Therapeutic classes	220	220	220	220	220	220	220
Observations (plan X state X class)	858,440	858,440	858,440	858,440	858,440	858,440	858,440

- Not about expensive consumers (cols 3 & 4)
- Not about expensive drugs (cols 5 & 6, more below)
- About profitability, net of transfers

Exploiting Salience?

Panel A

Within-Class Subsample:

Most Popular Drugs in Class

Selection Incentive Variable:	75th Percentile of Popularity or Higher		90th Percentile of Popularity or Higher	
	Ratio (Cost/Revenue)	Ellis-McGuire Measure	Ratio (Cost/Revenue)	Ellis-McGuire Measure
	(1)	(2)	(3)	(4)
Exchange X Selection incentive	.061*** (.022)	.081*** (.022)	.074*** (.025)	.098*** (.022)
Therapeutic class FEs	X	X	X	X
Plan FEs	X	X	X	X
Therapeutic classes	188	188	156	156
Observations (plan X state X class)	733,576	733,576	608,712	608,712

Panel B

- Coefficients are 2X larger than the main estimates
- Insurers be exploiting salience, or displaying same bias

7. This is Not Efficient Discrimination

Incentivizing Substitution to Cheap Drugs? No

Within-Class Subsample:

	Least Expensive Drugs in Class			
	25th Percentile of Cost or Lower		10th Percentile of Cost or Lower	
Selection Incentive Variable:	Ratio (Cost /Revenue)	Ellis- McGuire Measure	Ratio (Cost /Revenue)	Ellis- McGuire Measure
	(5)	(6)	(7)	(8)
Exchange X Selection incentive	0.058*** (0.015)	0.051** (0.020)	0.061*** (0.015)	0.048** (0.020)
Therapeutic class FEs	X	X	X	X
Plan FEs	X	X	X	X

- Coefficients in columns 5-8 indicate that this is not about steering consumers to low cost options within class.

Just About Nudging Toward Generics? No

Panel B			
Within-Class Subsample:	Generic Drugs Only		
Selection Incentive Variable:	Ratio (Cost /Revenue)	Difference (Cost - Revenue)	Ellis-McGuire Measure
	(4)	(5)	(6)
Exchange X Selection incentive	0.040*** (0.013)	0.029* (0.015)	0.024 (0.019)
Therapeutic class FEs	X	X	X
Plan FEs	X	X	X
Therapeutic classes	192	192	192
Observations (plan X state X class)	749,184	749,184	749,184

Incentivizing Drugs with Lower Negotiated Prices? Probably Not

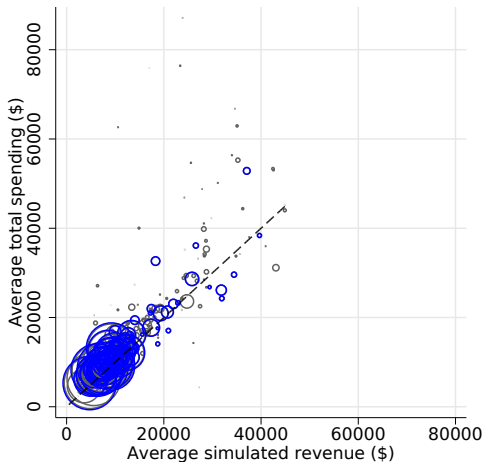
Selection Incentive Variable:	Ratio	E-M	Ratio	E-M
	(1)	(2)	(3)	(4)
Marketplace X selection incentive	.041*** (.013)	.038** (.015)	.046*** (.014)	.042** (.017)
Therapeutic class FEs	X	X	X	X
Plan FEs	X	X	X	X
PBM FE X selection incentive	X	X		
PBM FE X state X selection incentive			X	X
Therapeutic Classes	220	220	220	220
Observations (plan X state X class)	838,034	838,034	749,280	749,280

- e.g., Optum Rx Marketplace plans in Texas to Optum Rx ESI plans in Texas in cols 3 and 4

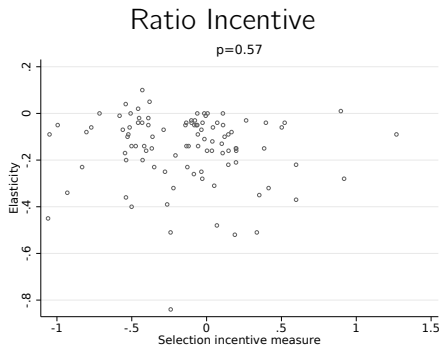
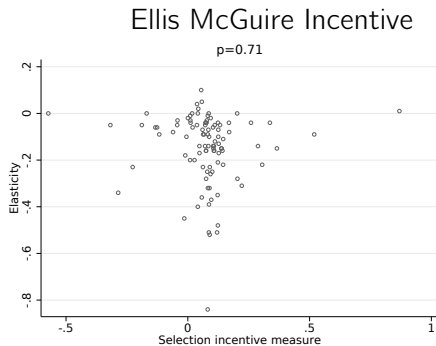
Optimal Response to Moral Hazard? No

- Could be that exchange plans do better in reacting to moral hazard, compared to employer enrollees
 - Ramsey Rule logic says cost sharing should track demand elasticity
 - Problem only if differential price sensitivity by class is correlated with selection measures
- Can compare our selection measures to drug class price sensitivity estimates from Einav, Finkelstein, and Polyakova (2016)

We recode data to be matchable to Einav, Finkelstein, and Polyakova (2016)



Selection Incentive Uncorrelated with Elasticity



Regressions with Elasticity Controls [▶ Table](#)

Conclusion

- Study formulary design-for-selection in Exchange plans
 - Find that risk adjustment works reasonably well at neutralizing perverse incentives for most drug classes
 - Find robust evidence consistent with theory that plans design formularies to avoid unprofitable enrollees
 - Insurers appear sophisticated enough to follow net incentives, not merely avoid high cost consumers

Conclusion

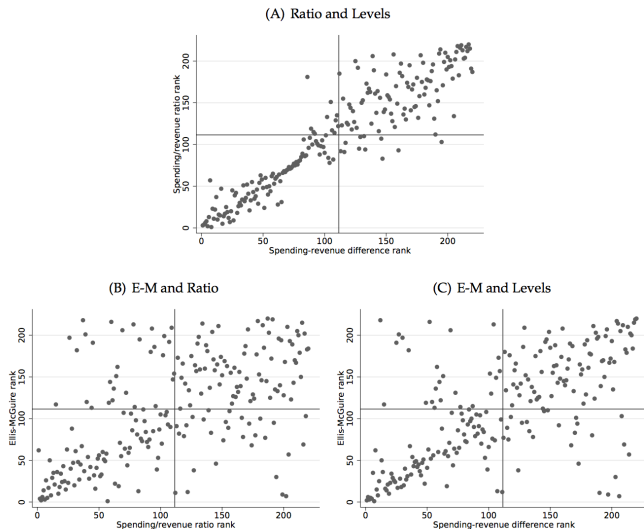
- Study formulary design-for-selection in Exchange plans
 - Find that risk adjustment works reasonably well at neutralizing perverse incentives for most drug classes
 - Find robust evidence consistent with theory that plans design formularies to avoid unprofitable enrollees
 - Insurers appear sophisticated enough to follow net incentives, not merely avoid high cost consumers
- Problems may be solveable with fairly minor reforms
 - Top-down EHB mandates are insufficient to guarantee coverage
 - Dropping reinsurance (holding other pieces fixed) may exacerbate problem
 - Compensating insurers for people who use high cost drugs may (efficiently) improve access to those drugs
 - Incorporating diagnoses X drug utilization into RA scheme?

APPENDIX

Rank-Rank Correlations

[▶ Back](#)

Figure A1: Rank-Rank Correlations of the Three Selection Incentive Measures



Controlling for Class-Specific Elasticities ▶ Back

Panel A

Dependent Variable:

Fraction of Class Tiered Specialty or Higher

Selection Incentive Variable:	Ratio (Cost/Revenue)			Difference Measure			E-M Measure		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Exchange X Selection incentive	0.037** (0.016)	0.098** (0.045)	0.097** (0.045)	-0.004 (0.023)	0.349** (0.168)	0.348** (0.165)	-0.006 (0.021)	0.228 (0.140)	0.226 (0.139)
Exchange X Elasticity			-0.053 (0.089)			-0.066 (0.095)			-0.059 (0.090)
Therapeutic class FEs	X	X	X	X	X	X	X	X	X
Plan FEs	X	X	X	X	X	X	X	X	X
Therapeutic classes	294	99	99	294	99	99	294	99	99
Observations (plan X state X class)	1,147,188	386,298	386,298	1,147,188	386,298	386,298	1,147,188	386,298	386,298

Panel B

Dependent Variable:

Fraction of Class Tiered Prior Auth./Step Therapy/Not Covered

Selection Incentive Variable:	Ratio (Cost/Revenue)			Difference Measure			E-M Measure		
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Exchange X Selection incentive	0.006 (0.012)	0.065** (0.029)	0.065** (0.029)	0.006 (0.013)	0.248*** (0.094)	0.248*** (0.093)	0.006 (0.013)	0.105 (0.087)	0.105 (0.087)
Exchange X Elasticity			0.001 (0.043)			-0.008 (0.045)			-0.005 (0.042)
Therapeutic class FEs	X	X	X	X	X	X	X	X	X
Plan FEs	X	X	X	X	X	X	X	X	X
Therapeutic classes	294	99	99	294	99	99	294	99	99
Observations (plan X state X class)	1,147,188	386,298	386,298	1,147,188	386,298	386,298	1,147,188	386,298	386,298