Average Cost Based Reimbursement Plans (ACBRPs) And Risk Theory: Implications For Health Care Policy And Practice

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Learning Objectives

1. **Describe the risk theoretic structure of average cost based reimbursement plans;**
2. **Analyze the profit and loss implications of becoming an average cost based provider of service;**
3. **Describe the effects of shifts in average costs imposed by geography, volume, experience and acuity on the risk theoretic structure of average cost based reimbursement plans;**
4. **Articulate the need for policy changes in financing of heath care services that compensate average cost based providers for the additional financial risks they assume.**

What are the essential tools for this exploration?

Stand things on their head a few minutes

View common experience in uncommon ways

Look at what things are vs what we expect

Exaggerate some things to see them clearly

Examples of Average Cost Based Reimbursement Plans:

- **Capitation agreements**
- **Diagnosis Related Groups financing**
- **Prospective financing of highly variable operations**

Risk, Profit and Insurance

The essence of an insurance contract is that one entity (the insured) enters into a contract with another entity (the insurer) and for an agreed fee, the insured transfers their exposure to uncertain future economic experience (loss) to the insurer.

Ideal Insurance

A large insurer writes many identical insurance contracts with small insureds and the huge volume of business allows the insurer to manage the risk effectively, charge a relatively small risk premium in addition to the loss and expense costs, be profitable, and provide a public service by reducing risk for all concerned. e.g.:

- **Homeowners**
- **Automobile**
- **Life insurance**

Less than Ideal Insurance

Insurer writes very few and dissimilar contracts

Poorly predicted/anticipated risk characteristics and increased expenses are more like gambling

Premiums: insured's are low; insurer's are too low

Correct premium is not 'knowable'

Risk for large losses is high and the solvency of the insurer is jeopardized

e.g. **Lloyds of London**

Event insurance

Insuring an athlete's/models legs

Business interruption insurance

Reliance Insurance Companies

How are ACBRPs like insurance?

One entity: government, policy aggregator, or management passes risk to another entity – abdicating risk management role

Average cost 'premium' is paid to cover costs and profits

Actual outcomes unknown/unknowable at transfer

Contracts either 'profitable' or 'unprofitable'

Difficult to legally/ethically alter costs

Success may be due to competence or randomness

Risk acceptor has limited loss liability

Parties at risk are third parties to contract (Patients/Clients)

Relatively large portfolio sizes

How are ACBRPs unlike insurance?

Agent ceding risk is larger than agent accepting risk

No ‘risk premium’ involved

Overall risk exposure increases due to contract

Accepting agent inadequately capitalized for risktaking

Risk acceptors unknowing perform insurance role

Timing of payments increases financial problems

No state/federal regulation of ACBRPs as insurance

No accounting standards in place

The real risk is actually transferred to the patients/insureds

Non-performance is difficult to detect – evidence dies with patient

What is wrong with ACBRPs? 1

The risk transfer goes from large entity (HMO/INSURER) to small entity/provider

Plans are priced, and payments timed, for profitability and risk avoidance by the aggregator

Risk transfer to providers means greater cost variability and lower or negative profit margins for service providers.

Poorly timed cash flows hamper financial stability

Small entities encounter more variability/less predictability in their costs

Management costs for small entities rise, rather than fall

ACBRP Providers:

Incur costs in advance to deliver services and losses may exceed operating capital

May need to borrow money – makes it worse

Do not know how much it costs to provide contract services

Do not realize they are now insurers

Have difficulty managing different contract plans

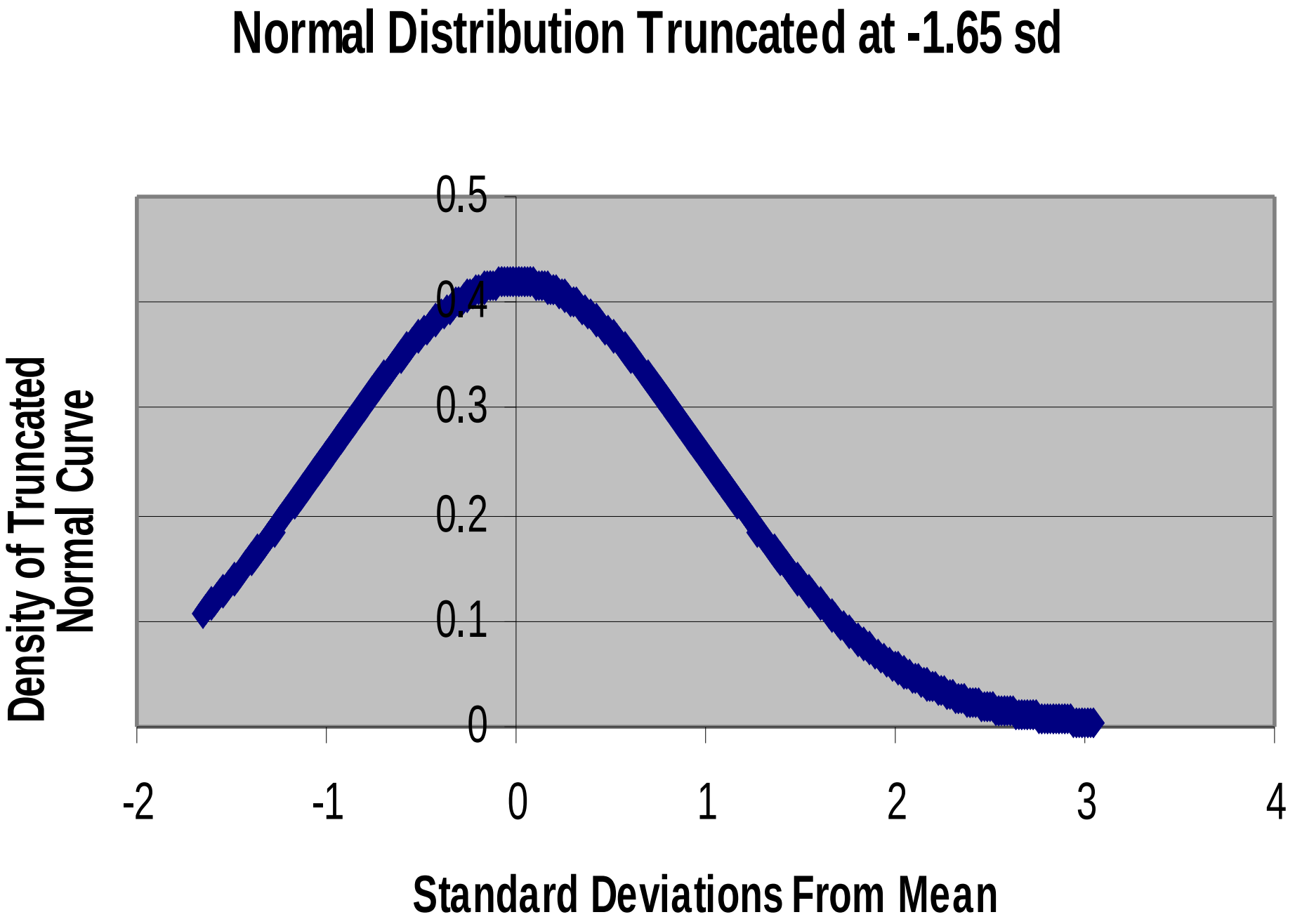
Feel ethically compromised

Incur unanticipated costs deferred by other providers

Risk Comparison Between Aggregators and Providers – Normal Curve

Expected loss = .85
Std error = 0.05
Portfolio Assumed = 1/20

Loss Ratio	Insurer Risk	Provider Risk		Relative Risk
0.85	0.5000	0.5000		1.0000
0.86	0.4207	0.4822		1.1460
0.87	0.3446	0.4644		1.3480
0.88	0.2743	0.4466		1.6290
0.89	0.2119	0.4290		2.0250
0.90	0.1587	0.4115		2.5940
0.91	0.1151	0.3942		3.4260
0.92	0.0808	0.3771		4.6700
0.93	0.0548	0.3603		6.5740
0.94	0.0359	0.3437		9.5650
0.95	0.0228	0.3274		14.3890
0.96	0.0139	0.3114		22.3960
0.97	0.0082	0.2958		36.0780
0.98	0.0047	0.2805		60.1760
0.99	0.0026	0.2656		103.9550
1.00	0.0013	0.2512		186.0540


Normal Distribution Truncated at -1.65 sd
Density of Truncated Normal Curve
0.5
0.4
0.3
0.2
0.1
0
-2
-1
0
1
2
3
4
Standard Deviations From Mean

Disaggregation Statistical Problems I

Estimate of process mean may be too low

Process means shift with region, severity, capacity, time, technology, competence

Greater variability in experience solely due to inverse effect of the law of large numbers

Conflagration hazards due to concentration of risk
Influenza

- **Accident**
- **Environmental problems**

Using normal distribution – ACBRP providers have fatter tails than aggregators – opposite of insurance

Disaggregation Statistical Problems II

The loss distribution is not normally distributed

The distribution has a fatter upper tail – greater probability of a large loss than our model

An insurer assumes risk and wants a small probability of bankruptcy

Competitive insurance sector drives prices to minimum

Provider groups have a greater probability of adverse financial experience

Providers less capable of withstanding adverse experience

Risk assuming insurers cannot compete against risk-avoiding aggregators – must lower premiums and services

What if providers cannot perform? 1

If the provider cannot meet its responsibilities under the contract - one of the following may happen:

The provider may:

Be vulnerable to “buy out” by the aggregator or others

Engage in ‘belt-tightening’ to try to curtail costs

Limit access to diagnostic services

Deny/Delay diagnosis and appropriate treatment

Shut their doors

What if providers cannot perform? 2

If the provider cannot meet its responsibilities under the contract - one of the following may happen:

The insurer may:

Tell the consumer that they chose the provider and not let them switch

Say that patients have to deal with their primary providers

Make it financially advantageous - through incentive plans - to have providers deny benefits to consumers

Purchase provider entities to cover service obligations

What is clear about ACBRP financing?

The risk transfer goes in the wrong direction.

If correctly viewed as insurance, these agreements violate state/federal insurance regulations

ACBRPs are insurance agreements that insulate the aggregator against its manageable risks and costs

Under the pretense of financial advantage, the unwary provider is lulled into a false sense of enrichment.

In the end, the exigencies, the risks, the losses, and the harms extend in only one direction - through the practitioner - to the patient

“The pump don't work 'Cause the vandals took the handles”

SUBTERRANEAN HOMESICK BLUES

ACBRPs like spider webs catch the unwary

Policy Implications

Separate diagnosis and cost control issues

Fully fund national and universal primary health care: exams, shots, preventive care

Non-social insurance for universal costs is inappropriate – need a single payor insurance mechanism to reduce costs/inefficiencies

Insurers role must be to manage risk *not* avoid it

Extend practice privileges to lower cost providers for primary care – NPs, PAs, barefoot doctors

Reduce end of life/beginning of life care

Increase funding on prevention activities

Take responsibility for rationing access to health care

Regulate risk transfer contracts as insurance contracts

Make sure providers understand risk issues in contracts