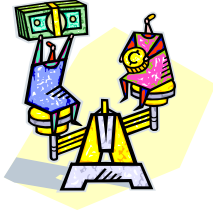


The Economics of EMS

Richard A. Keller

### The Business of Ambulance Services

- Complex economic model
- Variability between ambulance services
- Challenge to balance expenses and revenue



### Session Objectives

- Identify revenue sources
- Understand industry factors that determine costs
- Understand pricing of services

### Revenue Sources

- Fee-for-service
  - Federal health programs
  - Insurance companies
  - Contracts
  - Patients
- Subsidies

### Revenue Sources


- Other Revenue
  - Membership Programs
  - Donations
  - Miscellaneous Activities
    - Sales of services
    - Training
    - Other lines of business

### The Revenue Challenges

- Biggest payers reimburse less than cost of providing services
- Ambulance services only collect 50-60% of billed charges
- Myriad of rules and regulations to be followed

### Payer Challenges

- Each payer dictates hoops to jump through
- Medicare is most complex
- Medicaid is a close second
- Other insurers have own requirements



### Payment Limits

- Fee schedule
- Co-insurance
- Deductibles
- Usual and customary rates (UCR)
- Policy limits
- Contractual discounts
- Bad debt

### Coverage Limits

- Medically necessary
- Origin & destination requirements
- Emergency only
- Prior authorization requirements

### Revenue Determinants

- Service mix
- Payer mix

### Service Mix

- Emergency vs. non-emergency
- ALS vs. BLS
- Level of ALS

### Service Mix

- BLS
- BLS-Emergency
- ALS 1
- ALS 1-Emergency
- ALS 2
- SCT (Specialty care transport)

### Emergency & Non-emergency

15% Difference in Reimbursement

Emergency	50%		Emergency	20%	
Non-Emergency	50%		Non-Emergency	80%	
BLS	40%	\$ 231.99	BLS	64%	\$ 231.99
BLS-Emergency	15%	\$ 371.18	BLS-Emergency	6%	\$ 371.18
ALS 1	8%	\$ 278.38	ALS 1	13%	\$ 278.38
ALS 1-Emergency	33%	\$ 440.77	ALS 1-Emergency	13%	\$ 440.77
ALS 2	2%	\$ 637.96	ALS 2	1%	\$ 637.96
SCT	2%	\$ 753.95	SCT	3%	\$ 753.95
<b>Average Medicare Allowable \$ 384.01</b>			<b>Average Medicare Allowable \$ 333.76</b>		

### ALS & BLS

12% Difference in Reimbursement

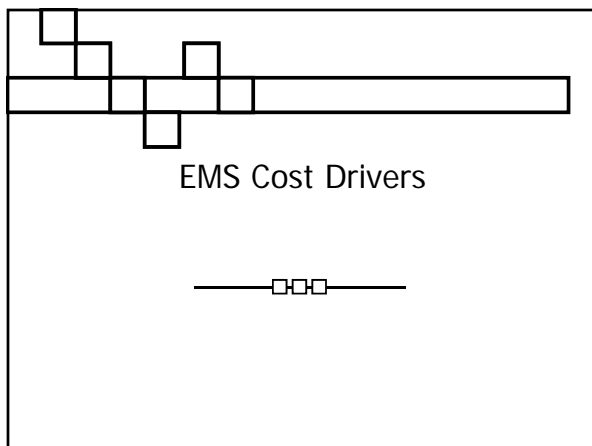
Emergency	50%		Emergency	50%	
Non-Emergency	50%		Non-Emergency	50%	
BLS	40%	\$ 231.99	BLS	50%	\$ 231.99
BLS-Emergency	15%	\$ 371.18	BLS-Emergency	50%	\$ 371.18
ALS 1	8%	\$ 278.38	ALS 1	0%	\$ 278.38
ALS 1-Emergency	33%	\$ 440.77	ALS 1-Emergency	0%	\$ 440.77
ALS 2	2%	\$ 637.96	ALS 2	0%	\$ 637.96
SCT	2%	\$ 753.95	SCT	0%	\$ 753.95
<b>Average Medicare Allowable \$ 384.01</b>			<b>Average Medicare Allowable \$ 341.56</b>		

- ### Payer Mix
- Payers pay different amounts
    - Medicare
    - Medicaid
    - Insurance
    - Private (Self) Pay
  - The Mix of payers determines amounts collected

### Changes in Payer Mix

16% Decrease in Collections

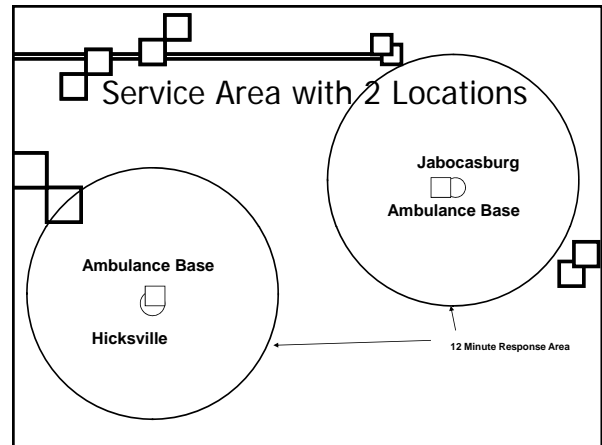
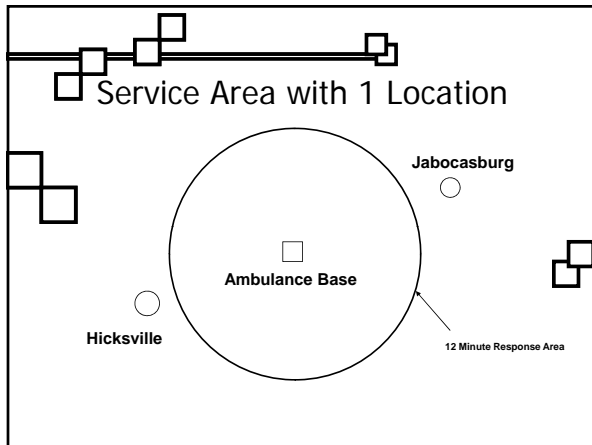
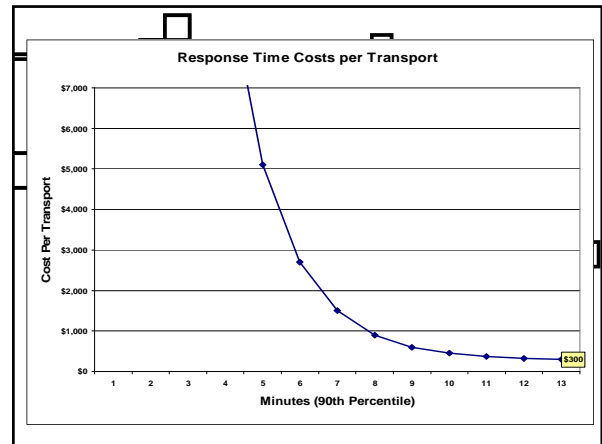
Payer	Collection %	% of Calls	% of Calls
Medicare	65%	45%	45%
Medicaid	30%	10%	20%
Insurance	80%	30%	15%
Private Pay	15%	15%	20%
<b>Average Amount Collected</b>		<b>\$345.15</b>	<b>\$296.48</b>



- ### Cost Drivers
- Response Time
  - Call Volume
  - Unit Hour Costs

### Response Time

- The most costly product in EMS is the delivery of response time performance
- Units have to be staffed in order to respond quickly—even if no calls occur
- The “Cost of readiness”



### Cost Comparison

	1 Station	2 Stations
Cost of 24/7 Unit(s)	\$500,000	\$1,000,000
Cost per Unit-hour	\$57.08	\$57.08
Overhead	\$125,000	\$125,000
Total Expenses	\$625,000	\$1,125,000
Total Transports	2,500	2,500
Cost / Transport	\$250.00	\$450.00

### The Unit-Hour

- An hour that an ambulance is staffed and on duty
- Used in calculating productivity, utilization, and costs

### Productivity

- The number of transports (revenue generating services) per staffed hour
- Calculated by dividing the number of transports by the number of staffed unit hours

### Transports per Unit-Hour

8,760 unit hours (24/7) per year  
 2,500 transports  
 $2,500 \div 8,760 = 0.29$  transports/unit-hour

17,520 unit hours (24/7 \* 2) per year  
 $2,500 \div 17,520 = 0.14$  transports/unit-hour

### Productivity Variables

- Emergency—0.12 – 0.40 transports/UH
- Non-emerg—0.30 – 0.60 transports/UH
- Rural—0.12 – 0.20 transports/UH
- Urban—0.35 – 0.60 transports/UH

### Utilization

- Percent of Unit-Hours consumed by work
- Includes responses with no transport
- If average response/transport equals one hour and the crew responds to 4 calls in 8 hours,
  - Utilization = 50%
  - $4 \text{ calls} \times 1 \text{ hour} \div 8 \text{ hours} = 50\%$

### Unit Hour Summary

- Productivity defines how much is produced (transports) for a given resource commitment (unit-hours)
- Utilization defines how many resources (unit-hours) are consumed to produce the product (transports)

### Unit Hour Costs

- Marginal costs
  - The expenses required to add one more hour of staffed duty time
- Total unit-hour costs
  - The total expenses of the organization divided by the total number of unit-hours

### Unit-Hour Cost Comparison

	1 Station	2 Stations
Cost of 24/7 Unit(s)	\$500,000	\$1,000,000
Cost per Unit-hour	\$57.08	\$57.08
Overhead	\$125,000	\$125,000
Total Expenses	\$625,000	\$1,125,000
Total cost per Unit-hour	\$71.35	\$64.21

### Personnel Costs

- Largest cost component for ambulance services
- Range from 50% to 80% of the total expenditures
- Highest percentage for personnel costs paid by rural/small services and public providers

### Pricing of Service

### Pricing Methodologies

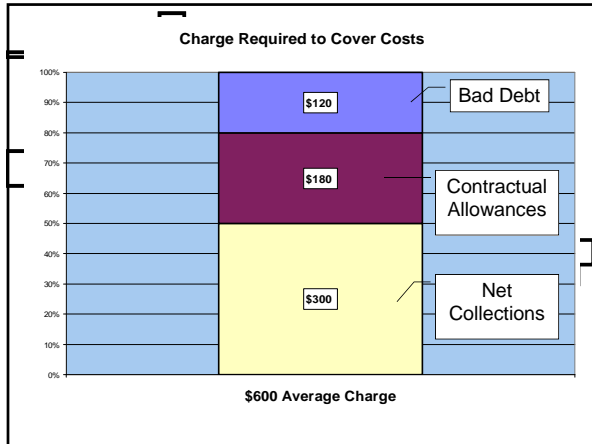
- By Service Line
  - Emergency / non-emergency
  - ALS / BLS
  - Level of ALS service
- Competitive Pricing
  - What are the others charging

### Pricing Methodologies

- Marginal Pricing
  - Cost of providing additional service plus a margin (profit)
- Full Cost Pricing
  - Total expenses (plus margin) of organization divided by number of transports

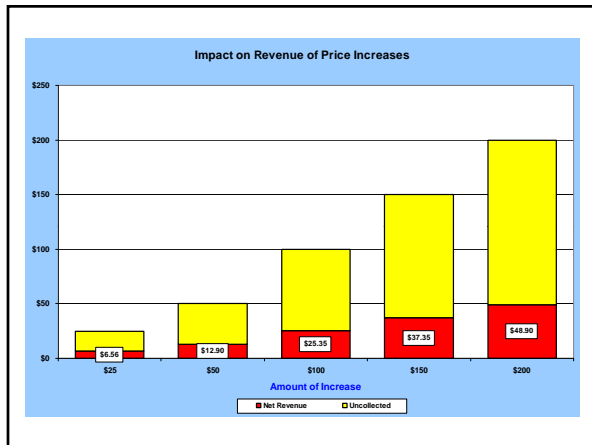
### Cost Relationship to Price

- Prices should be based on costs
- Prices have to incorporate contractual allowances and bad debt



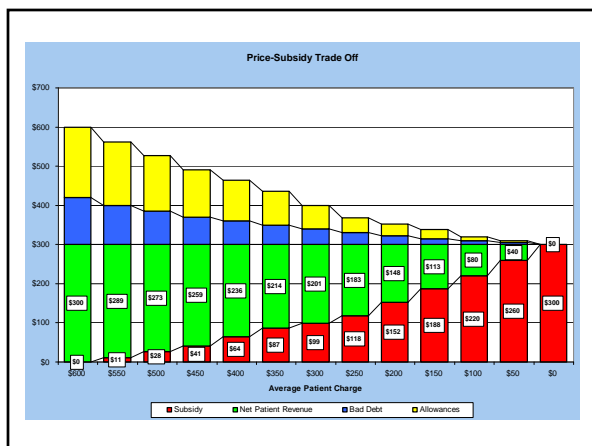
### Impact of Price Increases

- Diminishing returns as prices increase
- Increased charges do not equate to increased payments for all payers
- Fee schedule payers
  - UCR payers
  - Medicare
  - Medicaid



### Subsidies

- Subsidies provided by municipal government
- Subsidies provided to public providers
- Subsidies provided to hospital providers
- Direct and Indirect



### Conclusion

- Many external influences on revenue and costs
  - Payer limitations on payment
  - Cannot discriminate against those who cannot pay
  - Response time expectations
  - Service expectations