

Psychiatric Hospitalization in Medicaid-Eligible Adults: Predictors of Timely Aftercare

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Overview of Presentation

- Historical context for studying follow up after inpatient psychiatric hospitalizations
- Prior research in this area
- Context and description of current study
- Results
- How results are being/can be used to improve quality of care
- Next steps

Long-term Trend: Treatment in Less Restrictive Settings

- New treatment trends emerged in the mid-1950s:
 - Prescription of unprecedented effective psychotropic medications
 - Development of social psychology
- As a result, the focus of behavioral health care policy began to diverge from its traditionally institutional-based model
- Between 1955 and 1973, the number of individuals being treated in a state psychiatric hospital decreased by 56 percent (Greenblatt et al, 1975)

Trends in Decreased Length of Inpatient Stay

- With the growing shift away from institutionalized care, the duration of stay at psychiatric hospitals became shorter (Greenblatt & Glazier, 1975; Sullivan & Bonovitz; 1981)
- Pressure to curb monetary expenditures on care also contributed to shortening the length of stay at inpatient units (Lieberman et al., 1998)
- In addition, numerous studies revealed that brief inpatient stays were comparable to extended stays (Herz et al., 1977; Hirsch et al, 1979; Platt et al., 1981)

Transition to Community-Based Care

- Increase in more comprehensive community-based models of care
- Move to more community focused care led to the need of timely and effective follow-up care after inpatient
- Importance of linkage between inpatient care and the community-based outpatient aftercare

Early Progress on Improving Follow Up after Inpatient

- Several literature reviews in 1970s and 80s (e.g., Meyerson et al, 1983) concluded that little advancement had been made to address this issue since deinstitutionalization and shorter hospital stays
- In 80' and 90's, more emphasis on follow-up compliance and predictors of follow up (Bogin et al., 1984; Miyake et al., 1985; Axelrod & Wetzler, 1989) and association of follow-up with psychiatric hospital readmission (Rosenfield et al., 1986; Lyons et al., 1997)

Predictors of Timely Follow Up

- Linkage to community provider
- Prior treatment history
- Diagnoses: MDD, Schizophrenia and Bipolar
- Involuntary admission
- Race: African American

Follow Up and Readmission

- Individuals with outpatient follow up are less likely to be readmitted

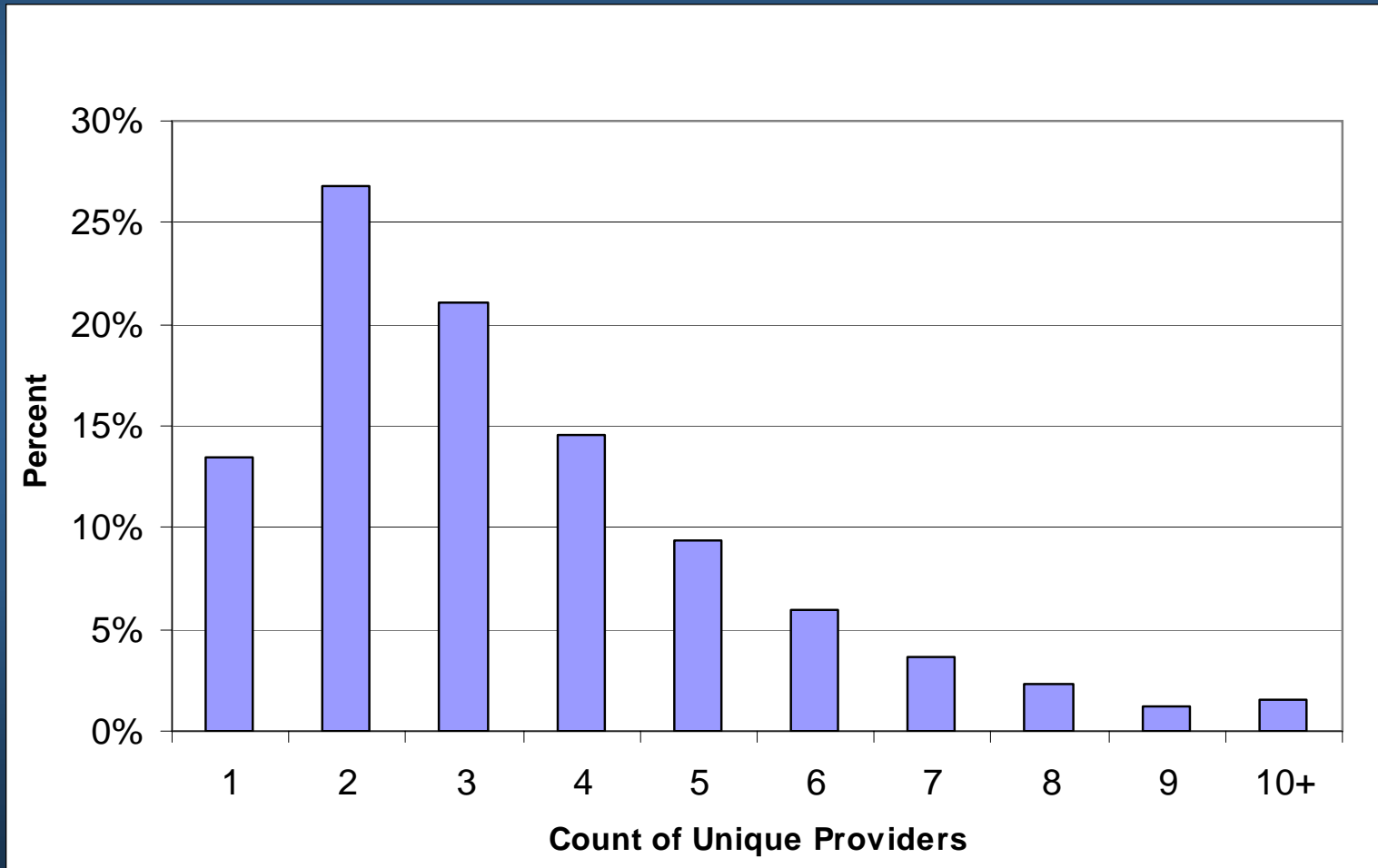
Why Examine Medicaid Population?

- Greater prevalence of serious psychiatric disorder
- Greater utilization of intensive mental health services
- Lack of population-level empirical research about predictors of follow-up in publicly insured population

MBHO uniquely positioned to study and impact follow up

- MBHOs common in commercial and increasingly common in public sector
- Hospitals and providers focus on treatment of a patient, less attentive to the mental health of a population
- Improving follow-up is a public health as well as a clinical issue
- MBHO responsible for managing mental health across providers- can support a public health approach to problems
- Population-based rather than clinic-based
- View from a supra clinical or higher level across services

Hospitalized Consumers Receive Treatment From Multiple Providers



Primary Questions

- Can we identify what groups of consumers are less likely to receive timely follow up after inpatient discharge?
- Controlling for differences in the consumers served, does provider performance in getting consumers to subsequent care vary?
- How can the Counties, Community Care, and providers use what we learn to improve follow-up rates?

About Community Care

- Behavioral Health Managed Care Company founded in 1996
- Federally tax exempt non-profit 501(c)3
- Major focus - publicly funded behavioral health care system
- Medicaid/HealthChoices membership - 600,000 as of July 2007
 - Commercial/Medicare membership - 360,000
- 1552 providers with 374 facilities including hospitals

Unique Opportunities at Community Care

- Stakeholder commitment and priorities
- Rich data sources
 - Administrative data
 - Clinical data
- Academic collaboration

Characteristics of Medicaid-Eligible Adults

- We used data from 180,448 Medicaid eligible adults aged 18-64 in established Community Care managed counties during 2004-2005
- Category of Aid:
 - Less than half SSI or SSIM
 - Majority TANF, FGA
- 60% female; 40% age 18-29
- 57% Caucasian; 27% African American
- Approximately 5% of individuals have an inpatient admission

Examining Predictors of Inpatient Mental Health Follow Up

- Identified 6730 adults age 18 to 64 years old discharged from psychiatric hospitals in 2004 through 2005
- We selected the first hospitalization for individuals with multiple admissions
- No readmission within 30 days of discharge

Variables of Interest

- Follow up
- Socio-demographic (age, gender, race/ethnicity)
- Medicaid eligibility category
- Substance use disorder
- Urban or rural setting
- Length of inpatient stay
- Inpatient Provider

Variables of Interest (continued)

- Prior Treatment: Using claims data
 - Prior Clinical Treatment defined as outpatient or community-based service in 30 days prior to inpatient stay
 - Prior Case Management defined as any contact with case management/intensive case management 30 days prior to inpatient stay
- Commitment and Discharge status: Using Care Manager records
 - Individuals with involuntary admission (302)
 - Individuals with discharge against medical advice (AMA)

Analyses

- Univariate and bivariate analyses for follow up and variables of interest
- Multivariate logistic regression to examine predictors of follow up
- Multivariate logistic regression to examine provider variability controlling for clinical and sociodemographic factors

Socio-Demographic Characteristics of Consumers Admitted

n =6730	%
Gender	
Male	46.4
Female	53.6
Age (yrs)	
18-29	26.1
30-44	42.7
45-64	31.1
Race	
African-American	33.6
Caucasian	60.0
Other	6.5
Setting	
Urban	65.4
Rural	34.6

Clinical Status, Eligibility, and Treatment Experience of Consumers Admitted

n =6730	%
Clinical Status	
Co-occurring MH SA	25.6
MH no SA Diagnosis	74.4
Medicaid Eligibility	
SSI	40.4
SSIM	18.5
TANF/Other	41.0
Prior Clinical Treatment	
Yes	43.1
No	56.9
Prior Case Management	
Yes	16.6
No	83.4

Utilization Characteristics of Consumers Admitted

n =6730	%
Length of Inpatient Stay (days)	
<4	23.7
4-5	22.7
6-8	28.0
9+	25.6
Involuntary Commitment	
Yes	18.8
No	81.2
AMA	
Yes	2.7
No	97.3

Who Is More Likely To Use Inpatient Services?

- Men are more likely than women to be admitted
- African Americans are more likely to be admitted than Caucasians; both are more likely to be admitted than Hispanics/other
- Higher admission rates are seen in those aged 30-44 and 45-64 and those categorized as SSI and SSIM
- Consumers from Urban counties are more likely to be admitted than those from Rural counties

Socio-Demographic Predictors of 7-Day Follow Up

	% w follow up	Adjusted Odds Ratio
Total	30	
Gender		
Male	28.6	
Female	31.8	1.07
Age (years)		
18-29	31.9	
30-44	30.6	0.93
45-64	28.4	0.79
Race		
African American	23.9	0.69
Caucasian	33.3	
Other	35.2	1.07
Setting		
Urban	30.0	1.18
Rural	30.8	

Clinical Status and Medicaid Eligibility Predictors of 7-Day Follow Up

	% w follow up	Adjusted Odds Ratio
Medicaid Eligibility		
SSI	32.6	1.01
SSIM	25.3	0.66
TANF/Other	30.2	
Clinical Status		
Co-occurring MH SA	30.0	0.78
MH no SA Diagnosis	30.4	

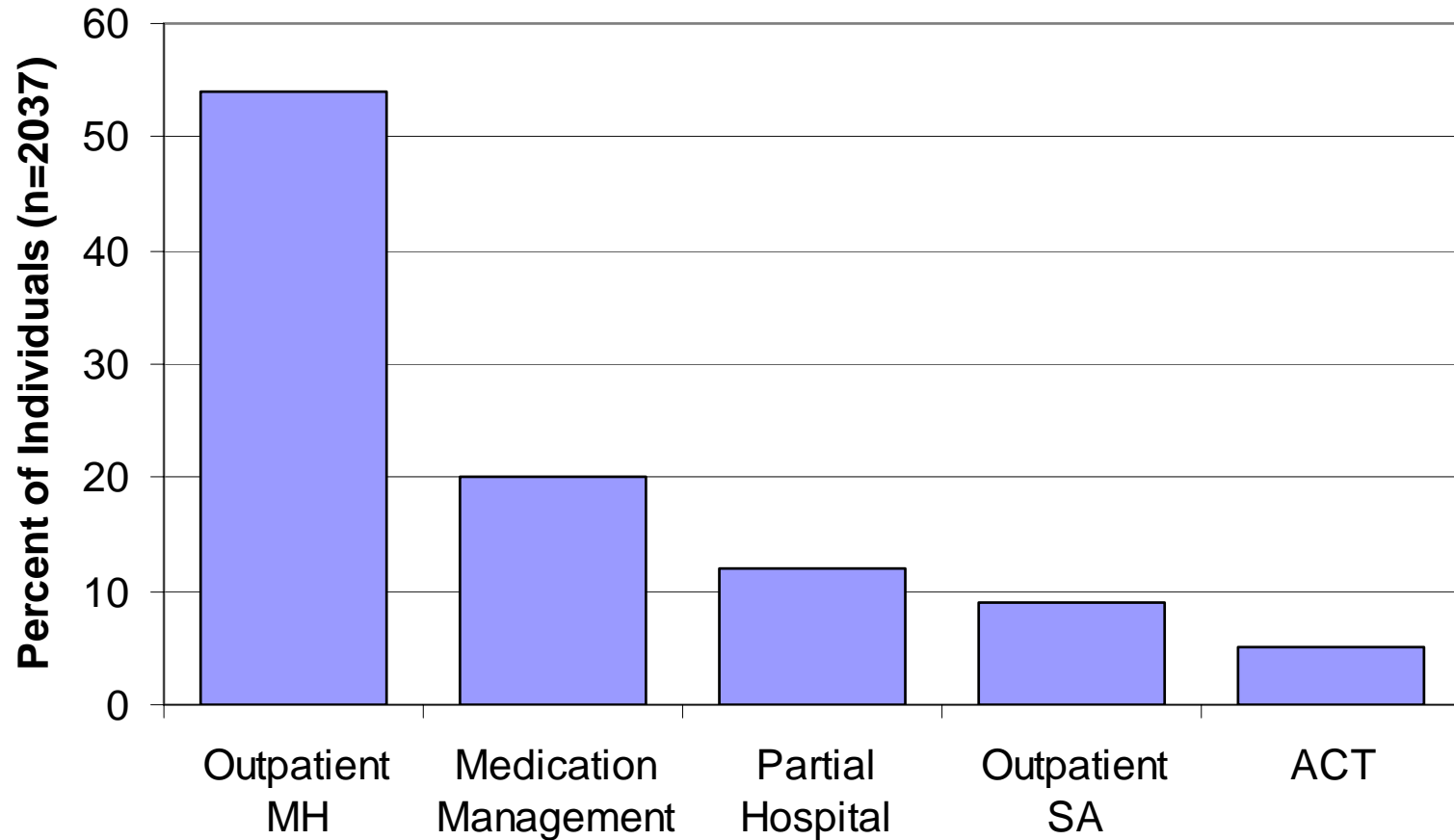
Admission and Discharge Predictors of 7-Day Follow Up

	% w follow up	Adjusted Odds Ratio
Involuntary Admission		
Yes	28.3	0.79
No	30.7	
AMA		
Yes	17.4	0.59
No	30.6	
Length of Inpatient Stay (days)		
<4	26.4	
4-6	28.0	0.96
7-9	31.6	1.14
10+	34.4	1.34

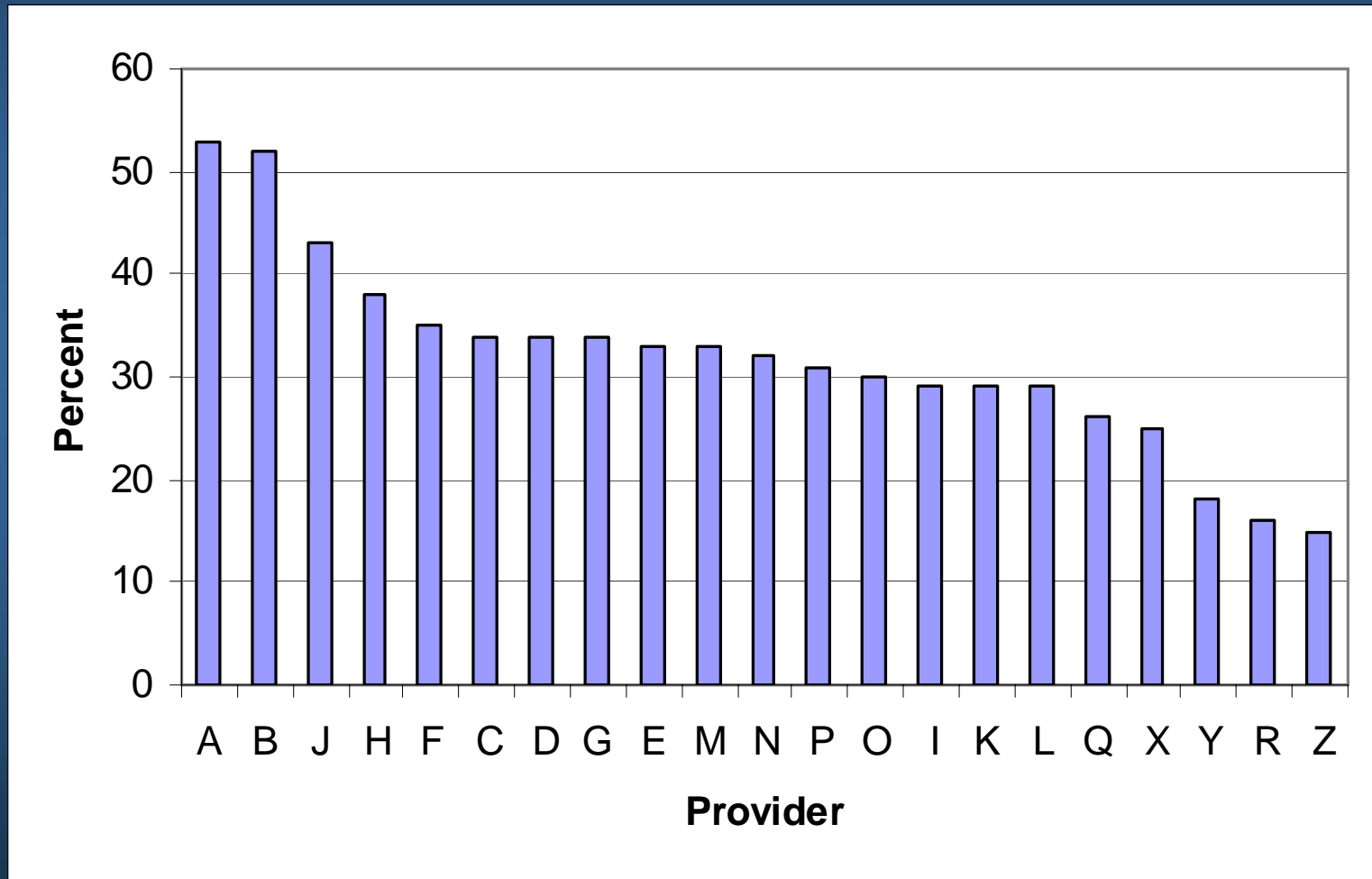
Treatment Predictors of 7-Day Follow Up

	% w follow up	Adjusted Odds Ratio
Prior Clinical Services		
Yes	45.9	3.59
No	18.5	
Prior Case Management		
Yes	39.9	1.24
No	28.4	

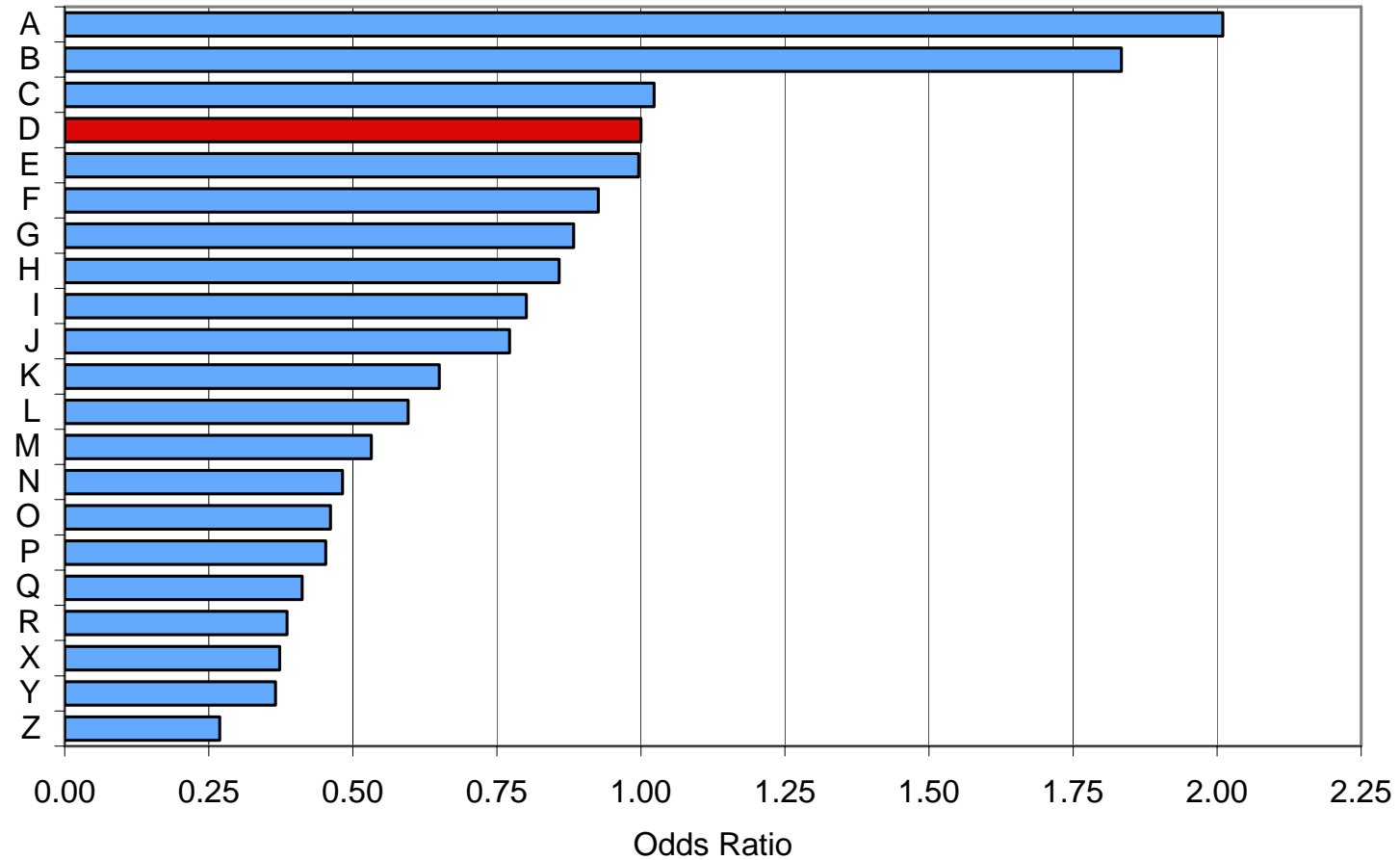
What Was the First Follow Up Service?



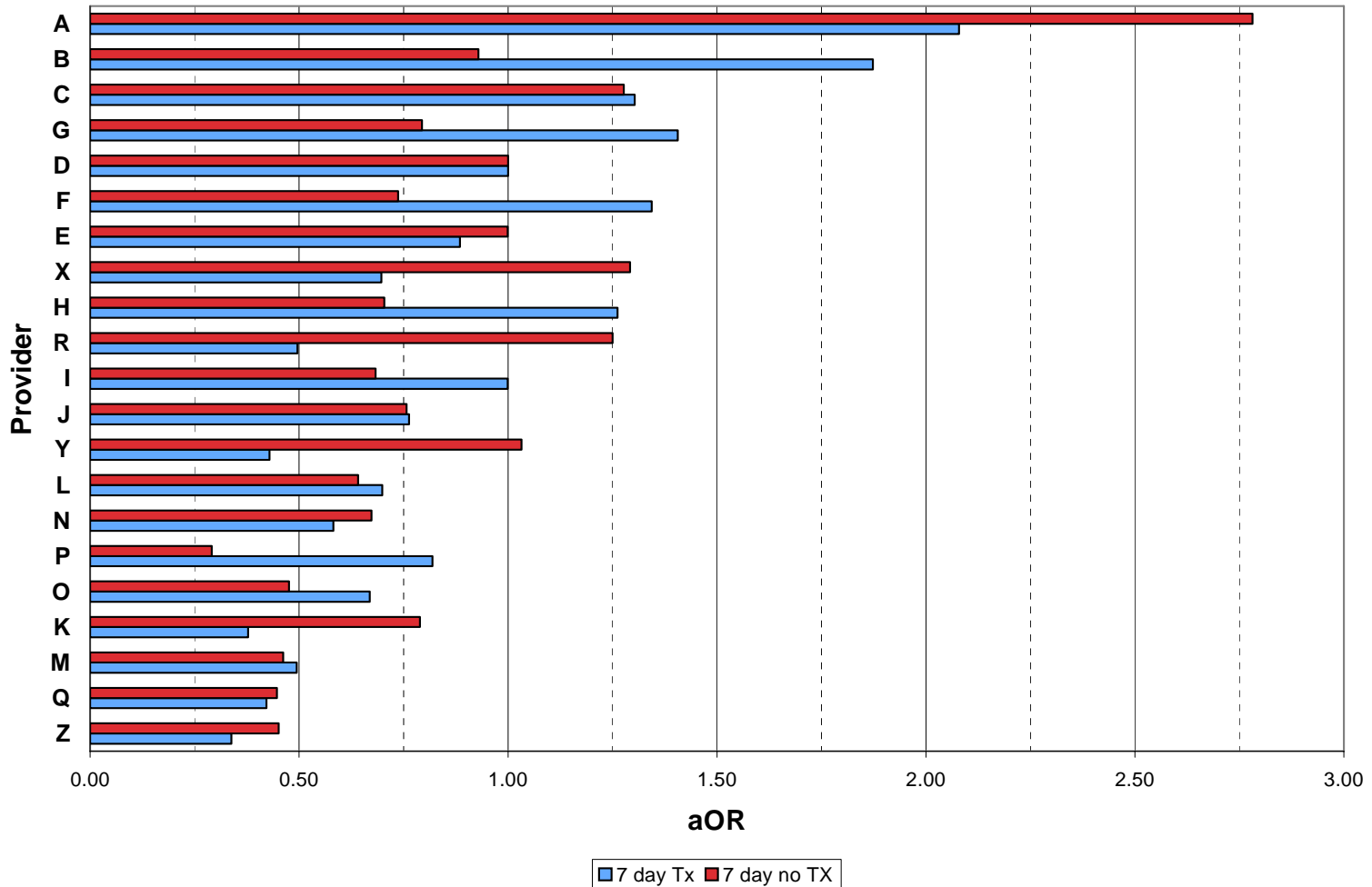
Percent Receiving 7-Day Follow Up



Inpatient Provider Variation on Follow Up



Provider Variation in 7-Day Follow Up By Prior Treatment



What about follow up in 30 days?

- 49% of all adults had follow up within 30 days
- Rural and involuntary admission no longer significant predictors of lower rates of follow up

What Did We Learn?

- 30 % rate of follow up in 7 days and increases to almost 50% at 30 days
- Those in prior treatment 3-4 times more likely to have timely follow up
- Individuals with co-occurring substance abuse are at risk for lower rates of follow up
- African Americans are at risk for lower rates of follow up

What Did We Learn? (continued)

- Individuals living in rural areas are at risk for lower rates of follow up soon after discharge
- Individuals involuntarily committed and discharged AMA at risk for lower rates of follow up
- Significant provider variation

Limitations

- Administrative data lacks rich clinical data
- Results may not generalize to other behavioral health systems
- No information about quality of follow up care
- Timely follow up may not impact other important outcomes

Subsequent Questions

- What about the outpatient provider?
- Does follow up impact readmission?

How These Types of Analyses Might Be Used to Improve Quality of Care

- Different interventions for different populations
- Develop and implement effective interventions
- Identify factors that might influence care more broadly
- Use provider variability as a learning tool for consumers, providers, and decision makers

Future Directions

- Continue effort to tie follow up to other important outcomes
- Look beyond standard of 7 and 30 day to dose/pattern to define follow up
- Incorporate patient report and/or medical record to verify administrative data
- Include clinical information around quality and/or appropriateness of services