

# Mental Illness and the New Generation Psychotropics:

## Two Studies About Consumer and Provider Attitudes and Behaviors in a Large Metropolitan Area

*A presentation at the 50th CMHS National Conference on Mental Health Statistics,  
June 1, 2001, Washington DC*

## Presentation Outline

1. Agency background and current status re: new generation antipsychotic medication
2. Study 1: Impact of NGAM on continuity of service
3. Study 2: Reasons for non-adherence to medication regime.



## Agency Background

Catchment area size: 3.4 million people

Monthly number of adults with severe  
mental illness served: 8,800



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Medication budgets:

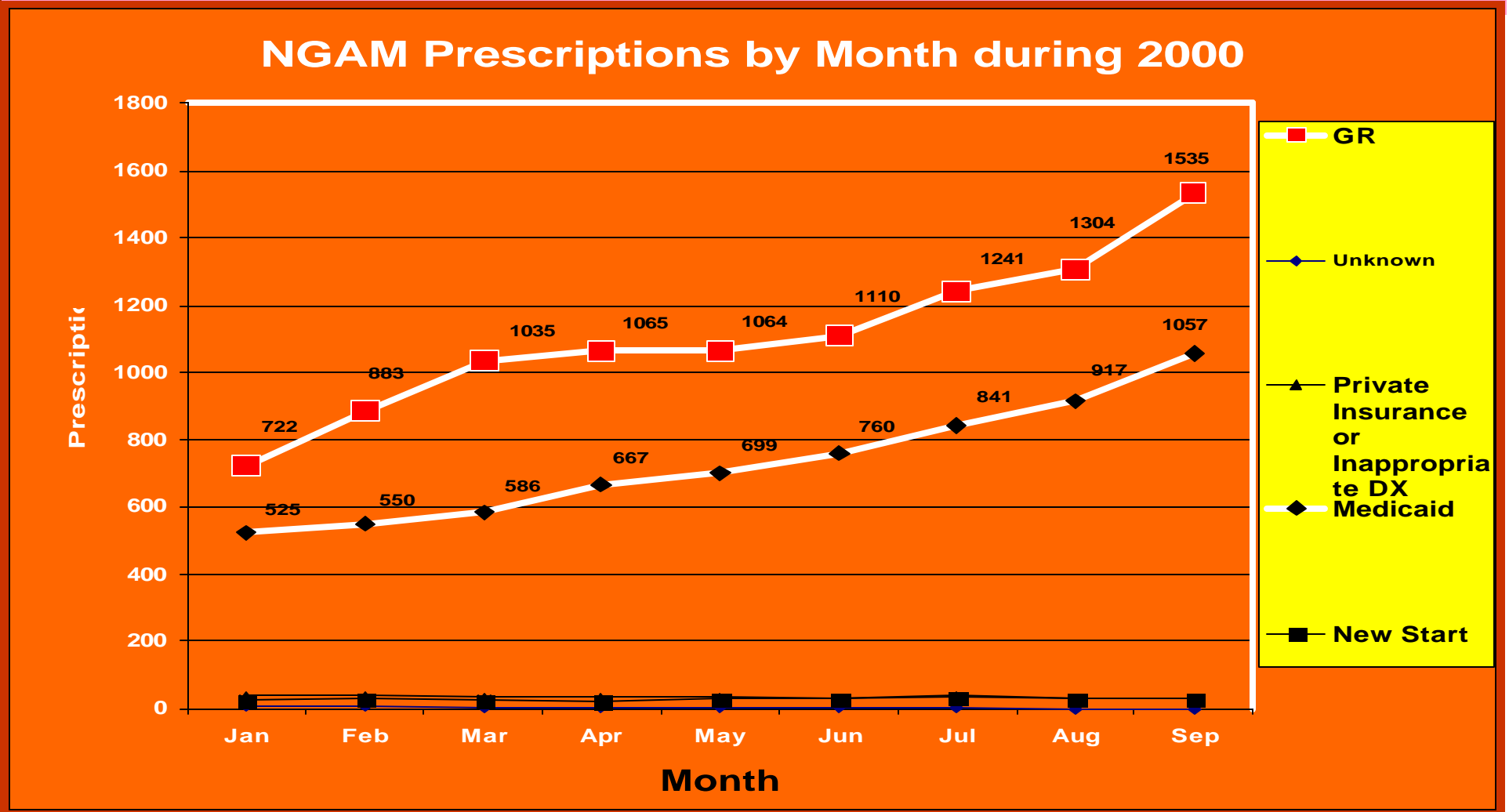
Typical: \$4 million

Atypical: \$8 million

Average monthly cost of NGAM per patient:  
< \$244.00



# Background - Earlier Trend in Use of NGAM



6/21/01

Tuan Nguyen, et al., June 1, 2001

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**Background - -  
Current NGAM Use by Brand**

	<b>In Use</b>	<b>Approve</b>	<b>Total</b>
<b>Clozapine</b>	<b>115</b>	<b>8</b>	<b>123</b>
<b>Olanzapine</b>	<b>1188</b>	<b>172</b>	<b>1360</b>
<b>Quetiapine</b>	<b>208</b>	<b>34</b>	<b>242</b>
<b>Risperidone</b>	<b>2233</b>	<b>314</b>	<b>2547</b>
<b>Ziprasidone</b>	<b>3</b>	<b>10</b>	<b>13</b>
<b>Total</b>	<b>3747</b>	<b>538</b>	<b>4285</b>

**(Data from Week of May 11, 2001)**



**Background - -  
Current Rate of NGAM Use (%)**

	<b>In Use</b>	<b>Approve</b>	<b>Total</b>
<b>Clozapine</b>	<b>3.07%</b>	<b>1.49%</b>	<b>2.87%</b>
<b>Olanzapine</b>	<b>31.71%</b>	<b>31.97%</b>	<b>31.74%</b>
<b>Quetiapine</b>	<b>5.55%</b>	<b>6.32%</b>	<b>5.65%</b>
<b>Risperidone</b>	<b>59.59%</b>	<b>58.36%</b>	<b>59.44%</b>
<b>Ziprasidone</b>	<b>0.08%</b>	<b>1.86%</b>	<b>0.30%</b>

**(Data from Week of May 11, 2001)**



**Background - -  
Who Pays for NGAM?**

	In Use	Approve	Total
<b>Medicaid</b>			
Number	1302	155	1457
<i>Column %</i>	<i>35.11%</i>	<i>29.30%</i>	<i>33.67%</i>
<b>Indigent (State Funds)</b>			
Number	2406	374	2870
<i>Column %</i>	<i>64.89%</i>	<i>70.70%</i>	<i>66.33%</i>
<b>Total Number</b>	<b>3708</b>	<b>529</b>	<b>4327</b>

**(Data from Week of May 11, 2001)**



# **Study I: Effect of the New Generation Antipsychotics on Continuity of Treatment**

**Tuan D. Nguyen, Ph.D., J. Scott Hickey, Ph.D.,  
Jay Johnson, Ph.D., and Steven B. Schnee, Ph.D.**

*A presentation at the 50th CMHS National Conference on Mental Health Statistics,  
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## Study I: Objectives

- \* Are there differences in treatment continuity for different medication types (new generation vs. typical)?
- \* Are there differences in treatment continuity among different groups of consumers?



## Study I: Method

Follow up a cohort of consumers who were active and received a medication service in July 2000 for following measures:

- *Number of days in treatment during the follow-up period;*
- *Length of first continuous episode;*
- *Rate of consumers (per group) staying active throughout the follow-up period.*



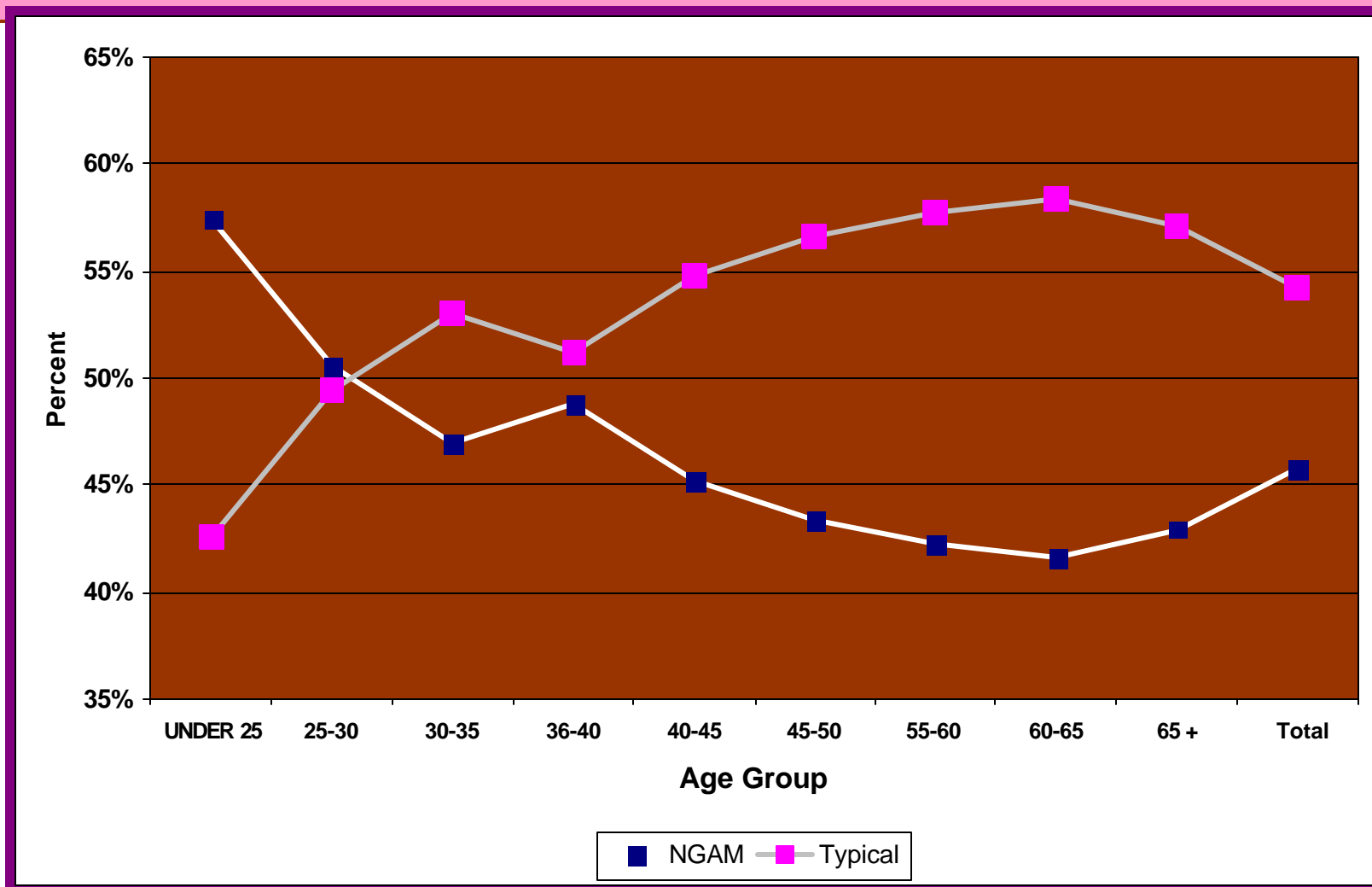
## Study I: Cohort's Sex by Medication Category

### SEX

	<u>NGAM</u>	<u>Typical</u>	Total
Male	632 (50.8%)	612 (49.2%)	1244
Female	729 (42.4%)	1000 (57.8%)	1729
Total	1361	1612	2973

**Chi-square=22.80, df=1, p.<.000**

# Study I: Cohort's Age by Medication Category



**Study I: Cohort's Preferred  
Language  
by Medication Category**

**Language**

**NGAM**

**Typical**

**English**

**1297 (46%)**

**1520 (54%)**

**Spanish**

**38 (36%)**

**67 (64%)**

**Asian Languages**

**46 (52%)**

**21 (48%)**

**Chi-square=13.63, df=2, ns**



**Study I: t-tests Results:  
Duration of Follow-up**

**Duration of Follow-up**

<b>Mean</b>	<b>286.62</b>
<b>Median</b>	<b>286</b>
<b>Std. Deviation</b>	<b>7.83</b>

**Minimum 273**

**Maximum 301**



# Study I: t-tests Results: Number of Days in Treatment

	Mean <u>NGAM</u> (n=1,361)	Mean <u>Typical</u> (n=1,612)	<u>t-value</u>	<u>p-</u>
Number of days in treatment	285.15	264.45	9.29	.000

Mean maximum # of days of follow-up = 286.62



# Study I: t-tests Results

## Length of First Episode

<u>Mean</u> <u>NGAM</u> (n=1,361)	<u>Mean</u> <u>Typical</u> (n=1,612)	<u>t value</u>	<u>p value</u>
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Length of first episode	113.85	137.90	1.82	.071
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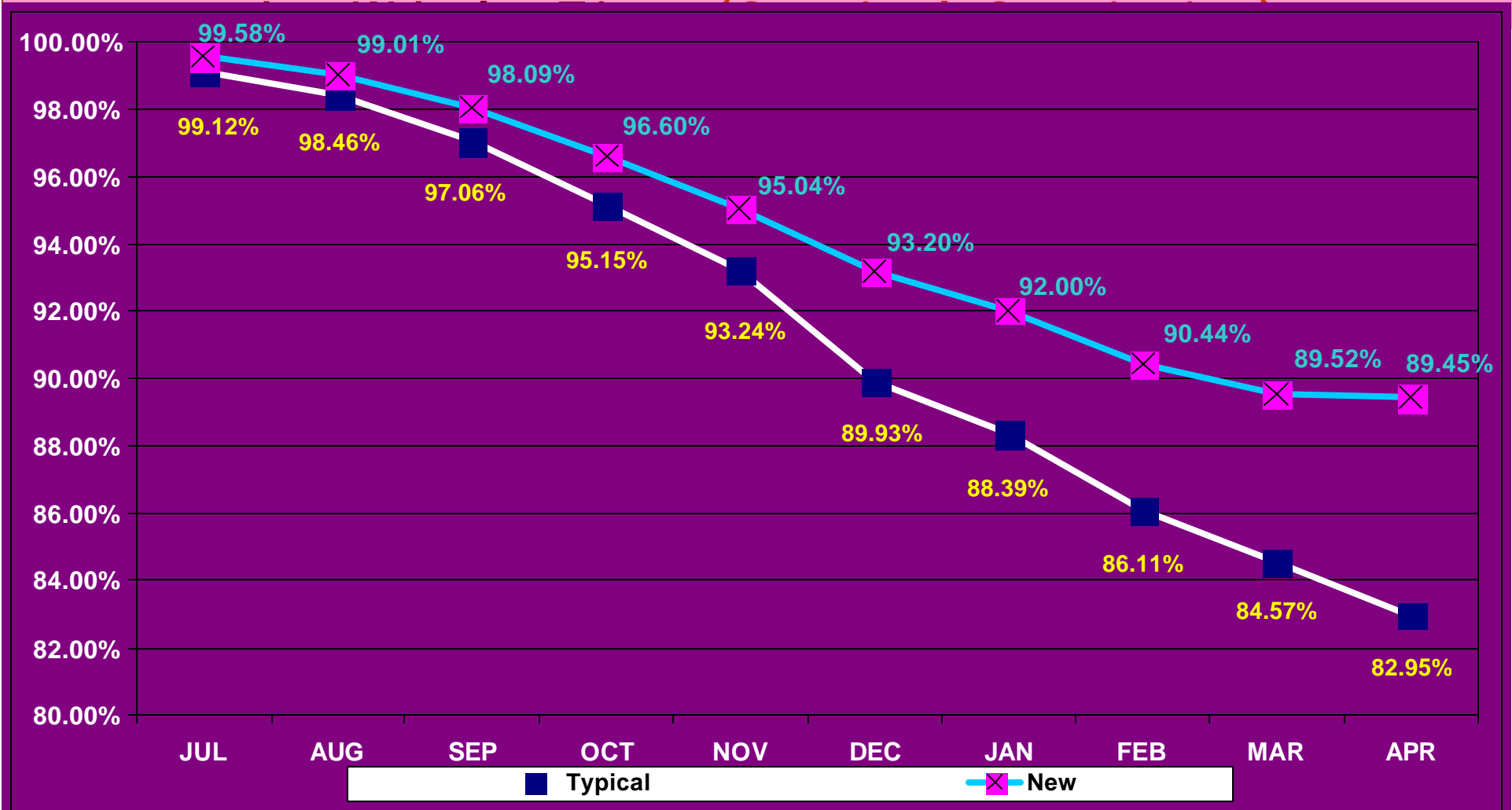
**Study I: Rate of Persons Staying in  
Treatment the Whole Time by  
Medication**

	<u>NGAM</u>	<u>Typical</u>	
Staying the whole time	1164 (86%)	1160 (72%)	2324
Less than full duration	197 (14%)	452 (28%)	649
<b>Total</b>	<b>1361</b>	<b>1612</b>	<b>2973</b>

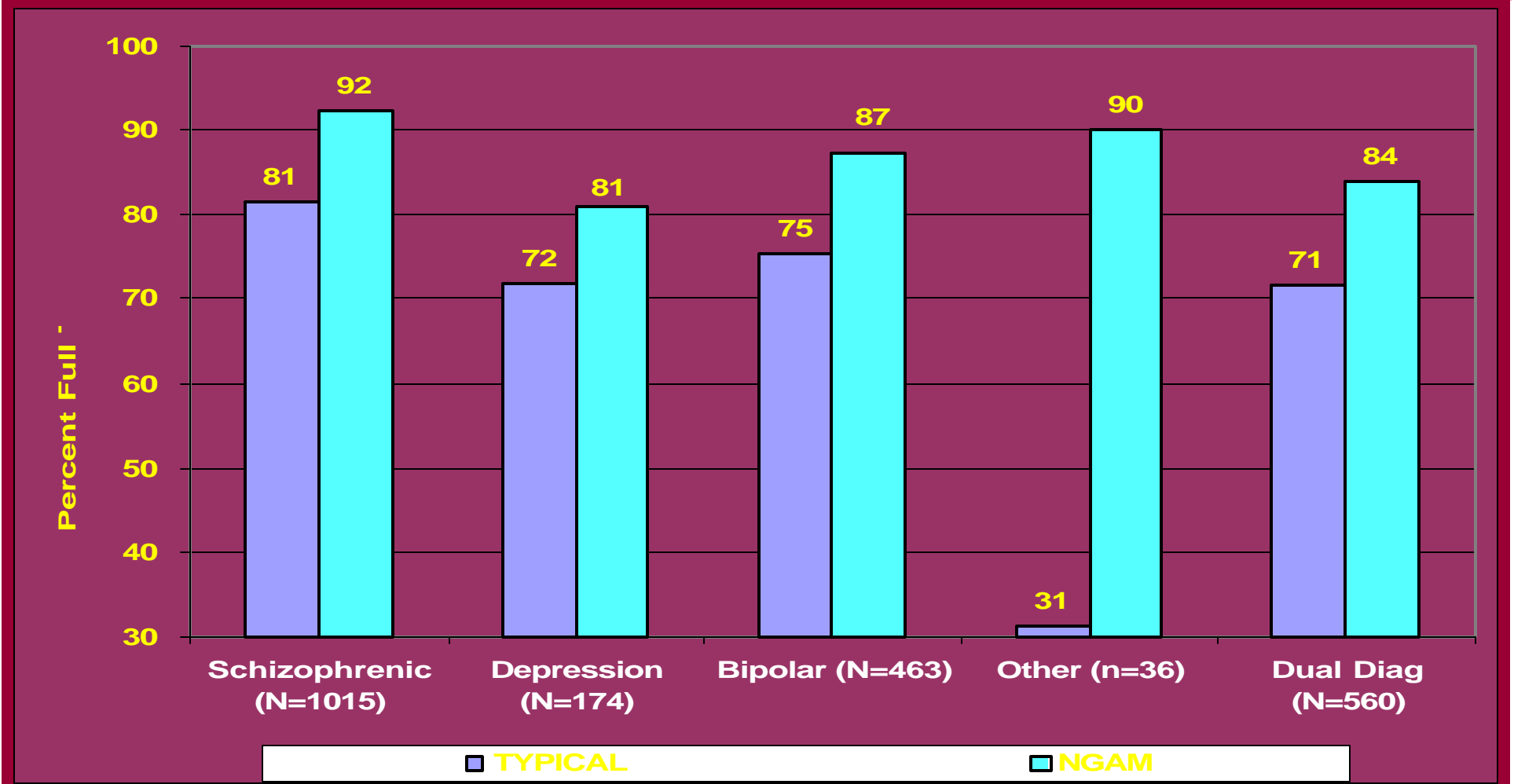
**Chi-square=79.58, df=1, p<.000**



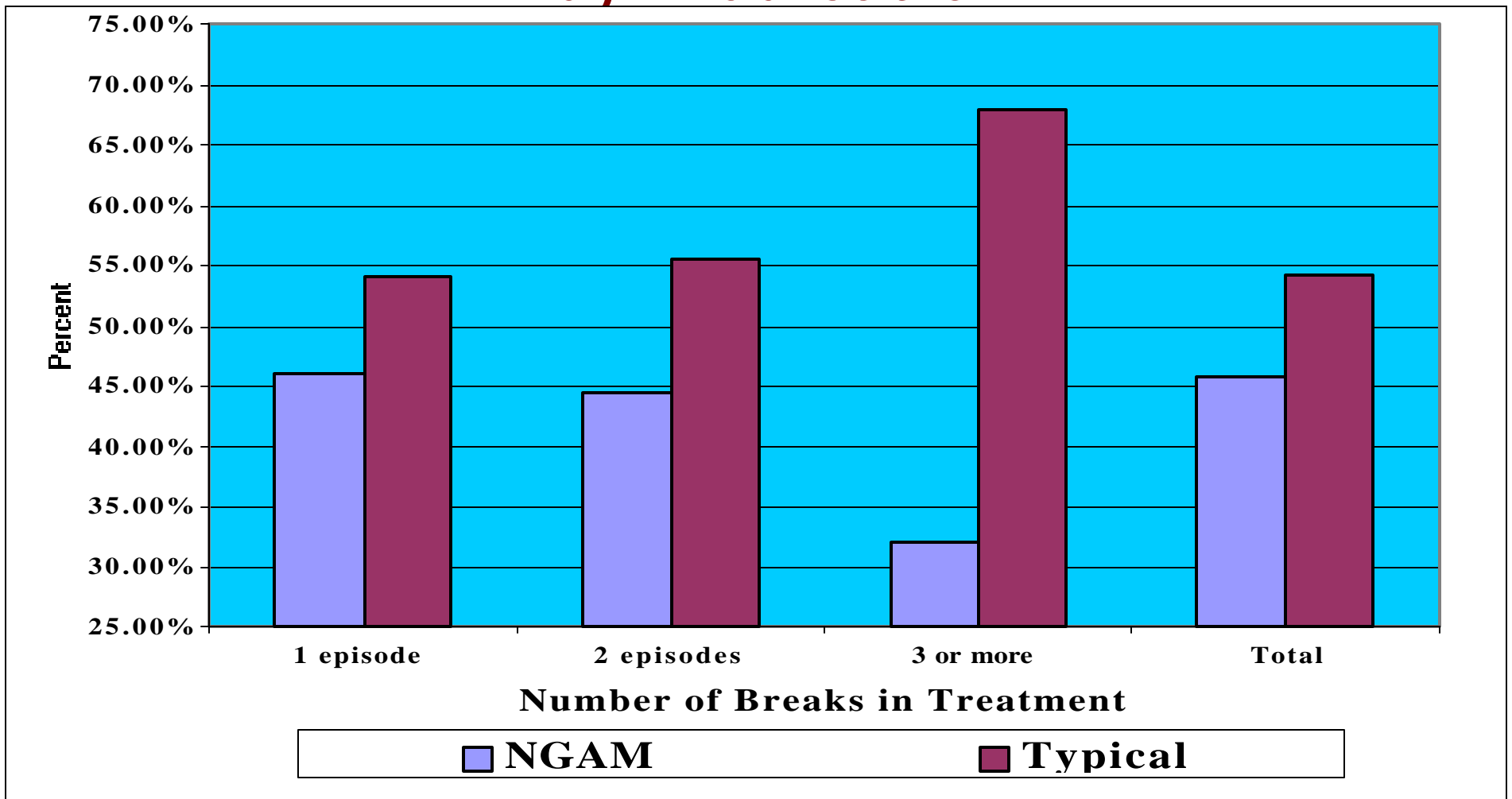
# Study I: Monthly Rates of Persons Staying in Treatment



# Study I: Rate of Persons Staying in Treatment the Whole Time by Diagnosis



# Study I: Breaks in Treatment Continuity by Medication



# **Study II: Why Don't Consumers Stay with the New Generation Antipsychotics?**

**Tuan D. Nguyen, Ph.D., Jay Johnson, Ph.D.,  
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*A presentation at the 50th CMHS National Conference on Mental Health Statistics,  
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## Study II: Objectives

- What are the reasons for stopping medication?
- Do the doctors and the consumers report the same reasons?
- Are the reasons for stopping the same or different for different types of medication?

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- Do the doctors and the consumers report the same reasons?
- Are the reasons for stopping the same or different for different types of medication?
  
- **What made people continue on the medication?**
  
- **What could improve people compliance with medication regimen?**

# Findings from the literature: Non Influential Variables

Age at onset	No relationship
Age at first hospitalization	No relationship
Premorbid condition	No relationship
Cognitive capacity	No relationship
Stability of living situation	No relationship



# Findings from the literature: Non Influential Variables

Age	Weak relationship
Gender	Weak relationship
Ethnicity	Weak relationship
Complex medication regimen	Weak relationship

## References:

- > Fenton, Wayne S.; Blyler, Crystal R.; Heinssen, Robert K. Determinants of medication compliance in schizophrenia: Empirical and clinical findings. Schizophrenia Bulletin. 1997 Vol 23(4) 637-651
- > Cramer, Joyce A. & Rosenheck, Robert. Compliance with medication regimens for mental and physical disorders. Psychiatric Services, 49(2), 1998, 196-201.



## Findings from the literature: Influential Factors

- Greater illness symptom severity or grandiosity or both
- Lack of insight
- Substance abuse comorbidity

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- Greater illness symptom severity or grandiosity or both
- Lack of insight
- Substance abuse comorbidity
- Disphoric medication side effects
- Subtherapeutic or excessively high dosages
- Inadequate support or supervision
- Practical barriers (i.e., money or transportation)
- Poor consumer–doctor therapeutic alliance



# Study II: Methods Used

Telephone Interview of Consumers

Paper-pencil Survey of Psychiatrists

Analyze Available Data in Databases



# Study II: Interview Consumers

## Four Groups Randomly Sampled

1. Stopped NGAMs within last 7 months
2. Continued NGAMs for at least 90 days
3. Stopped traditional antipsychotics within last 7 months
4. Continued traditional antipsychotics for at least 90 days



# Study II: Consumer Interview Process

## Open-ended phone survey

Four basic questions

Followed by a series of  
response checklist

Record respondent verbatim  
comments



## Study II: Survey of Psychiatrists

Each psychiatrist of record for every member of the four consumer groups was also surveyed



## Study II: Content of Psychiatrist Questionnaire,

The reason for discontinuance was (check all that apply):

1. a change to a different antipsychotic medication for the same diagnosis was indicated.
2. there was a change in diagnosis, which led to a change in medication.
3. consumer requested change in medication because of side effects.



## Study II: Content of Psychiatrist Questionnaire ,

3. consumer requested change in medication because it did not help (lack of treatment response).
4. lack of compliance.
5. consumer could not follow directions.
6. consumer could not travel to clinic and/or pharmacy for refill.

# Study II: Content of Psychiatrist Questionnaire ,

## Question 1

7. consumer did not believe (any) medication is necessary.
8. consumer believed the medications were not effective.
9. consumer was transferred to another physician's care (but was maintained on the same medication).

## Study II: Content of Psychiatrist Questionnaire ,

10. consumer was transferred outside MHMRA; medication status unknown.
11. consumer dropped out during treatment.
12. other reasons

**Study II: Content of  
Psychiatrist Questionnaire:  
Question 2**

**In your opinion, what are three best ways to increase compliance with medication regimen(s) among your consumers?**

## Study II: Timeline

Recruited and trained interviewers	Nov 27-Dec 5
Installed telephone bank	Nov 27-29
Draft letter to send to psychiatrists	Dec 4 - Dec 8
Mail letter to psychiatrists	Dec 11 - Dec 13
Present methodology and progress to Program Committee	Dec 11
Interview selected consumers	Dec 5 - Dec 29



## Study II: Interview process

All interviewers have had clinical experience  
(case workers, case managers, nurse)

Oversample Hispanic clientele

Successfully interviewed 516 consumers

No refusal by any consumer who was  
successfully contacted.



# Study II: Consumer Respondent Characteristics (n=516)

Distribution according to self-reported medication status:

<b>NGAM-discontinuers</b>	<b>74</b>
<b>NGAM-continuers</b>	<b>361</b>
<b>Typical antipsychotic consumers</b>	<b>53</b>
<b>Missing</b> (Unknown medication or status)	<b>28</b>



## Study II: Respondent Characteristics

**60% female;**

**44% African-Americans (n=229);**

**41% Whites (n=201);**

**13% Hispanic Americans (n=65);**

**2% Asian (n=12).**

**The mean age = 43 years**

## Study II: Gender by Medication Status

<u>Medication Status</u>	<u>Female</u>	<u>Male</u>	<u>Total</u>
NGAM-discontinuers	35 (12%)	39 (20%)	74 (14%)
NGAM-continuers	224 (76%)	137 (70%)	361 (74%)
"Typical" consumer	34 (12%)	19 (10%)	53 (10%)
No Information	15	13	28
<b>Total (Adjusted N)</b>	<b>308 (293)</b>	<b>208 (195)</b>	<b>516 (488)</b>



# Study II: Ethnicity by Medication

## Status

(self-report)

Medication Status	White	African American	Hispanic	Other	Total
<b>% of Sample</b>	<b>41%</b>	<b>44%</b>	<b>13%</b>	<b>2%</b>	
NGAM-discontinuers	32 (43%)	30 (40%)	9 (12%)	3 (4%)	74 (14%)
NGAM-continuers	127 (35%)	163 (45%)	64 (18%)	7 (2%)	361 (74%)
"Typical" consumer	28 (53%)	15 (28%)	8 (15%)	2 (4%)	53 (10%)
No Information	14	8	5	1	28
<b>Total (Adjusted)</b>	<b>201 (187)</b>	<b>216 (208)</b>	<b>86 (71)</b>	<b>13 (12)</b>	<b>516 (488)</b>



## Study II: Ethnicity by Medication Status

There are more Whites among the NGAM-discontinuers (43%) as well as among consumers on “typical” (53%) than in the sample (39%). But a lower proportion among NGAM-continuers (35%).

## Study II: Ethnicity by Medication Status

There are proportionately fewer Hispanic Americans among the NGAM-discontinuers (12%) and among the "Typical" (15%) than in the sample (17%).

## Study II: Age by Medication Status (self-report)

The consumers on typical antipsychotics  
(average age = 48) were on the average  
5 years older than NGAM-continuers  
(average age = 43)  
9 years older than NGAM-discontinuers  
(average age=39)  
11 years older than persons with unknown  
medication status (average age=37).



**Study II: Frequency by NGAM Brand  
(self-report)**

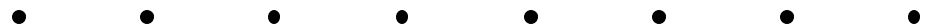
	<b>Study Sample</b>	<b>May 2001</b>
<b>Clozapine</b>	<b>20 ( 4%)</b>	<b>2.80%</b>
<b>Olanzapine</b>	<b>97 (21%)</b>	<b>31.74%</b>
<b>Quetiapine</b>	<b>23 ( 5%)</b>	<b>5.65%</b>
<b>Risperidone</b>	<b>323 (70%)</b>	<b>59.44%</b>
<b>Total NGAM- responders</b>	<b>463</b>	

**(both continuers & discontinuers)**



## Study II: Reasons for Discontinuing NGAM (Responses from 74 Discontinuers)

Sickness due to NGAM	50%
Increased side effects	37%
Belief that medication was unnecessary	33%
Believed less efficacious than typicals	31%
Lack of symptom/illness reduction	24%
Lack of net worth (i.e. too much side effects relative to efficacy)	21%
Interference with life schedule/life style	17%



## Study II: Reasons for Continuing NGAM

(Responses from 361 Continuers)

Efficacy of the NGAM	76%
Trust in the physician's advice	57%
Lack of side effects	55%
Conviction about the reasons/purpose for taking the NGAM	50%
Good relationship with the physician	43%
Awareness of one's illness and the role the medication has on it	35%
Accept the necessity for medication	36%



**Study II: What Would Help Increase  
Adherence to Medication Regime?**

**Answers grouped by type of respondents**

**All consumer respondents**

**Among NGAM-discontinuers**

**Among respondents on typical  
antipsychotics**

**Among NGAM-continuers**

**Psychiatrist (N=55)**

## Study II: What Would Help Continuing Medication (Consumer Viewpoint)

### All consumer respondents

Decrease waiting time at clinic and pharmacy	25%
Increase education about medications	20%
More customer friendly interaction	18%
More skills training on medication administration	17%
Support from family and peers	17%
Use of reminders	13%
Dispensing in the home	11%
Individual counseling and/or psychotherapy	10%
More time with the physician	7%



## Study II: What would help Continuing Medication (Consumer Viewpoint)

### Among NGAM-discontinuers (n=74)

More education about medication	20%
Customer friendly interaction	19%
Decrease waiting time at clinic and pharmacy	15%
Individual counseling and/or psychotherapy	11%

### Among respondents on typicals (n=53)

Decrease waiting time at clinic and pharmacy	15%
Customer friendly interaction	6%
Home dispensing	4%

**Study II: What would help Continuing  
Medication (Consumer Viewpoint)**

**Among NGAM-continuers (n=361)**

Decrease waiting time at clinic and pharmacy	30%
Educate about medication	24%
Skills training on medication administration	22%



# Study II: What would help Continuing Medication (Consumer Viewpoint)

## Among NGAM-continuers (continued)

Decrease waiting time	30%
Educate about medication	24%
Skills training on medication administration	22%
Customer friendly interaction	19%
Reminders	17%
Home dispensing	14%
Individual counseling and/or psychotherapy	12%
Family and peer support	11%



# Study II: What would help Continuing Medication

## Psychiatrist Viewpoint

**N=55**

Carefulness in administering medication	22%
Education of consumer & family	20%
Improvement of clinic management and customer friendliness	9%
Prescribing NGAM	4%
Home dispensing	4%
Use of reminders	4%
Reduction of waiting time	4%



## Study II: Recommendations

1. Congenial relationships with consumers in which trust and rapport are fostered
2. Advise re: the full range of possible side effects
3. Provide realistic expectations [Stop impression that newer medications are side-effect free or pose minimal risks]
4. Frequent contact to monitor patients' prognoses and harmful side effects at the start of NGAM

## Study II: Recommendations

5. A toll-free 24 hours assistance lines and Drs. on-call in case of emergencies, timely titration, or switching medication
6. Patient education about NGAMs at every clinical encounter, e.g. "rubber band" effects, the body's ability to adapt, what to do



## Study II: Recommendations

7. Include successful patients in patient education process to provide their “insider” insights and testimonials
8. Liaisons should be available to help patients access benefits and translate complicated paperwork and regulations to make obtaining medications less inconvenient

## Study II: Recommendations

9. Family, significant others, and members of social networks should be involved to help improve adherence to treatment plan and supervise medication compliance
10. The most advanced FDA approved medications should be included in formularies
11. Balance patient comfort with symptom reduction (e.g., sudden stopping of auditory hallucination)

## Study II: Recommendations

12. Incremental and sequential prescription in order to avoid overmedication, poly-pharmacy, and the ensuing risk of disagreeable and harmful side effects
13. Augment medication compliance with talk therapies and other “wrap-around” services

## Study II: Recommendations

14. Increase the number and regularity of clinical encounters to ritualistically reinforce medication regimes

15. Use home delivery of medications:

- \*convenience of receipt,
- \*helpful reminder to take medications,
- \*increase frequency of clinical encounters

## Study II: Recommendations

16. Third party payers should include CMHCs in their service provider networks
17. Third party payer eligibility criteria should be relaxed so that patients can receive the amounts and types of medications necessary to comfortably ameliorate their symptoms