Who's Minding the Meds? Prescribing Patterns by Provider Type

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Introduction

- "Black box warning" - Public and scientific concern over safety and efficacy of psychotropic medications in children and adolescents even prior to the recent controversy
- National studies show the overall rate of all psychotropic medications use by children has increased, bringing concerns about clinical appropriateness
- Reports of the increasing prevalence of polypharmacy in children are also disturbing and deserve further study
- Youth with SED are particularly at risk for disparities in medication access and appropriateness

Background and Literature Overview

Mental Health Needs in Children

- About 5% to 9% of children have a serious emotional disturbance
- Only 1 in 5 get treatment
- Millions of children are disabled by mental illnesses every year

Barriers to Care: Access

"Financial, logistical, and geographical barriers prevent many children and adolescents from accessing specialty psychiatric services, and places a burden on pediatricians, family physicians, and other gatekeepers to identify children for referral and treatment decisions." –Surgeon General's Report, 1999

- Timely screening; accurate diagnosis
- Insurance coverage for mental health; financial burden for families
- Availability of care; shortage of child mental health professionals, including child psychiatrists

Barriers to Care: Quality

- According to NIMH, 75% of psychotropic medication use in children is off-label
- Unexplained variation in total rates of medication use by gender, race and ethnicity, and insurance type
- Training needs of primary care physicians in mental health

J Am Acad. Child Adolesc. Psychiatry, 2002: 41:5, 514.

Literature Summary

- Rate of use of psychotropic medications by children increased from 1.4 per 100 in 1987 to 3.9 per 100 in 1996 (Olfson, 2002).
- Use of antidepressants increased 3-5 fold from 1988-94 (Zito, 2001).
- Rate of coprescription in children increased 7.7-fold (from .03 to .23) from 1987-1996 (Olfson, 2002).
- 84.8% of prescriptions for psychotropic medications are written by non-specialists (Zito, 2003).
- The profiles of antidepressant medications used by primary care physicians and psychiatrists to treat common psychiatric conditions in children varies significantly; primary care physicians likely to use older medications (Zito, 2001)(Tinsley,1998).

Possible Contributions to Increased Medication Use

- Larger population, so larger potential
- **patient pool**
- Increased **awareness** of mental illness
- Earlier recognition and **diagnosis**
- Increased **numbers** and **marketing** of medications

- Health care delivery system changes; such as **managed care** and more prescribing by **non-specialists**

Need for Research

- Few studies have been done in this area; Medline yields only 42 entries on prescribing patterns for children in the past ten years (specific conditions, efficacy concerns, safety in preschool children)
- Need research to understand whether current treatment practices match the evidence base
- Additionally, this investigation was undertaken to explore how provider training and specialty affects treatment decisions for children and youth with the greatest mental health needs

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- In particular, previous investigators have noted variation in psychotropic medication prescription by insurance type of the child, as well as demographic factors such as race and ethnicity. Among children on Medicaid, 8-10% receive at least one prescription medication (Zito, 2005; dosReis, 2005), and 25-30% of these receive multiple medications (dosReis, 2005; Lekhwani, 2004). Studies have also shown that individuals who are white are more likely to receive psychotropic medications than individuals who are black (dosReis, 2005; Raghavan, 2005), and that males are more likely to receive multiple medications (dosReis, 2005).

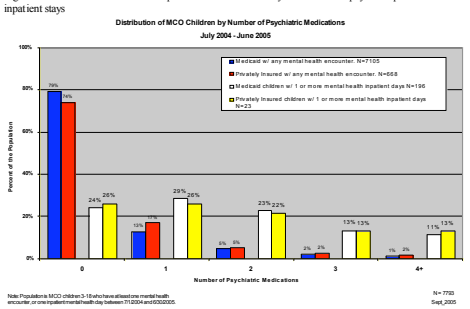
Methods

- For this study, Medicaid and commercial insurance mental health claims from the same large MCO were reviewed
- In order to capture differences based on morbidity, the resulting sample was divided into two groups: those with any mental health encounter and those with any inpatient psychiatric admission
- De-identified data set encompasses 70,000 Medicaid patients 3-18 years old and 10,000 commercially insured patients

Variation by Insurance Type

- Prescribing patterns for both Medicaid and privately insured children with any mental health encounter were compared for presence of zero, one, two, three, four or more simultaneous psychotropic medications
- Children and adolescents insured by Medicaid were over six percent (6.6%) more likely to be on no psychotropic medications, than the privately insured children with any mental health encounter
- The privately insured population of youth with a mental health claim is thirty-two percent (32%) more likely to be receiving one medication than the equivalent population of Medicaid children

Figure 1: Children with Medicaid or private MCO insurance by number of psychotropic medications and inpatient stays



Variation by Insurance Type (cont.)

- Overall, privately insured children with at least one psychiatric admission are nine percent (8.8%) more likely to be on psychiatric medication than are their Medicaid counterparts
- Privately insured individuals who have had inpatient treatment are nine percent (8.7%) less likely to be receiving one medication, five percent less likely to be receiving two medications (5.3%), and two percent (1.6%) less likely to be receiving three medications
- However, privately insured children with histories of hospitalization are sixteen percent (16.2%) more likely to be receiving four or more psychotropic medications

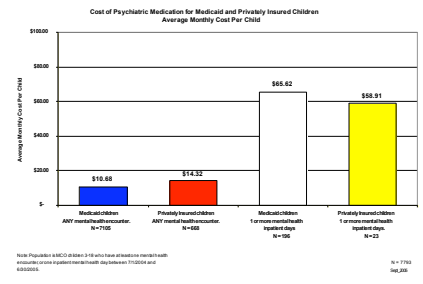
Variations by Insurance Type (cont. 2)

- For children on two medications, there is virtually no difference between the two groups
- However, there is a twenty-five percent (25%) difference between those in the next group, with 2.4% of youth with private insurance and 1.9% of Medicaid youth getting three medications
- Finally, there is a fifty (50%) difference between the groups on four or more medications: private insurance (1.6%) and Medicaid (1.1%)
- Overall, privately insured children with a mental health encounter (N=668), are more likely to be medicated, than their Medicaid counterparts (N=7105) with p<.0001

Variation by Expense

- Pharmacy expense trends paralleling utilization for each group were also examined
- Privately insured children with any mental health encounter have an average monthly psychiatric medication expense that is thirty-four percent (34%) greater than that for Medicaid children
- However, for Medicaid children with an inpatient psychiatric admission, psychiatric medication expense is ten percent (10.2%) higher per child on average than for the privately insured youth.

Figure 2: Cost of treating children on Medicaid and privately insured children

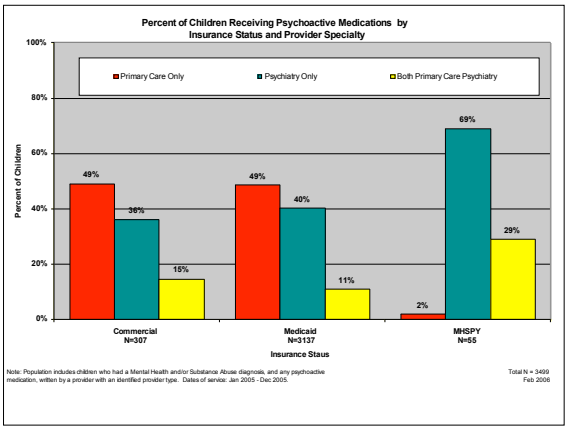


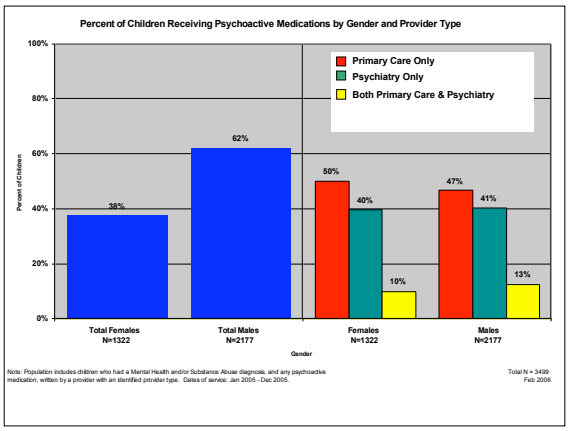
Study Population

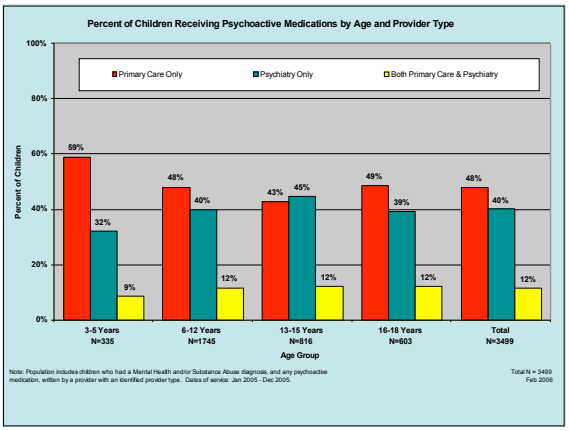
- 3,499 children: MH/SA diagnosis + psychiatric medication by provider with known specialty
- Total MCO population for 2005 included 80,050 children aged 3-18
- 14% of those, or 11,274 children, had a MH/SA diagnosis
- 4,458 of the children with a MH/SA diagnosis, 40%, filled a psychoactive medication prescription

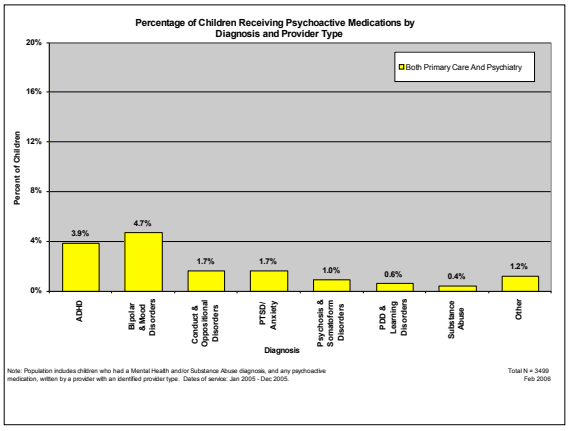
Challenges

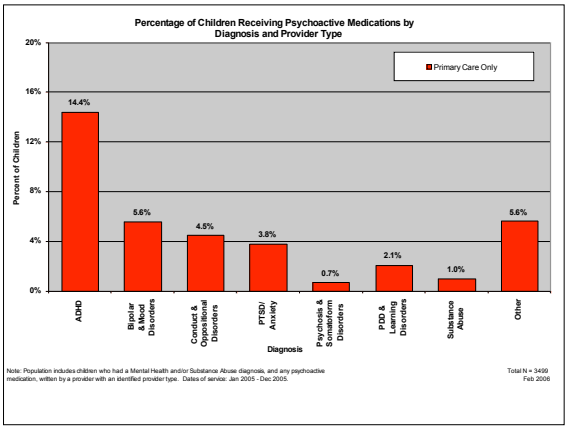
- Identifying specialty of the prescribing clinician is not a simple matter
- Combined data yields specialty information for prescribing clinician on only 78% of the children
- Diagnoses cannot be directly linked to prescriptions
- Diagnosis found on Medical and MH/SA Claims, not on Pharmacy Claims
- An additional challenge is that the "provider" on a claim may frequently be a facility, not a person

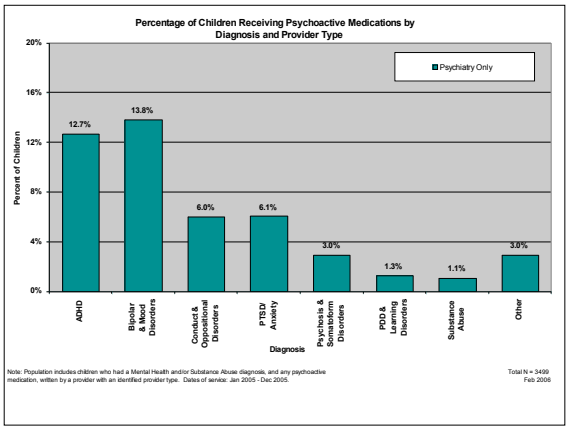


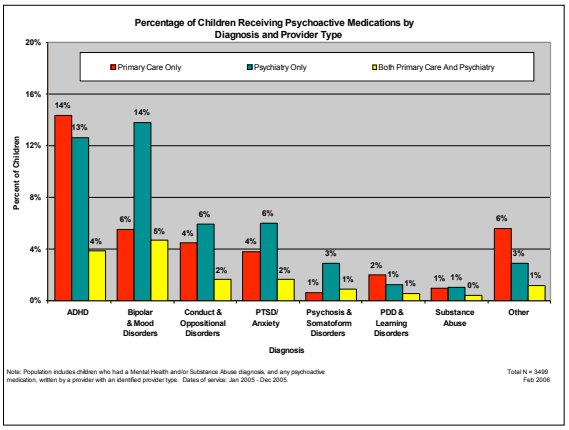









Percentage of Children Receiving Psychoactive Medications by Diagnosis and Provider Type
Psychiatry Only
Percent of Children
20%
16%
12%
8%
4%
0%
12.7%
13.8%
6.0%
6.1%
3.0%
1.3%
1.1%
3.0%
ADHD
Bipolar & Mood Disorders
Conduct & Oppositional Disorders
PTSD/ Anxiety
Psychosis & Somatoform Disorders
PDD & Learning Disorders
Substance Abuse
Other
Diagnosis
Note: Population includes children who had a Mental Health and/or Substance Abuse diagnosis, and any psychoactive medication, written by a provider with an identified provider type. Dates of service: Jan 2005 - Dec 2005.
Total N = 3499
Feb 2006


Percentage of Children Receiving Psychoactive Medications by Diagnosis and Provider Type
Primary Care Only
Psychiatry Only
Both Primary Care And Psychiatry
Percent of Children
20%
16%
12%
8%
4%
0%
14%
13%
4%
6%
14%
5%
4%
6%
2%
4%
6%
2%
1%
3%
1%
2%
1%
1%
1%
1%
0%
6%
3%
1%
ADHD
Bipolar & Mood Disorders
Conduct & Oppositional Disorders
PTSD/ Anxiety
Psychosis & Somatoform Disorders
PDD & Learning Disorders
Substance Abuse
Other
Diagnosis
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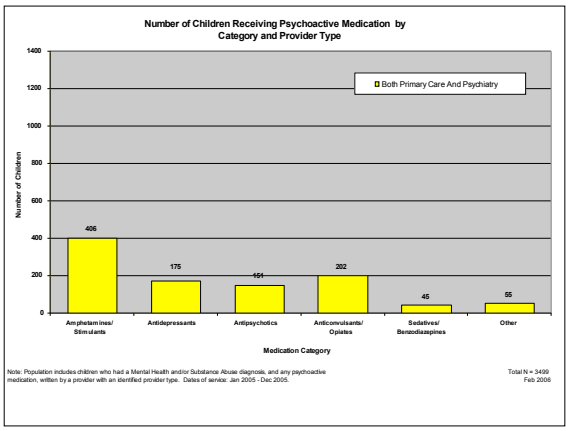
Number of Children Receiving Psychoactive Medication by Category and Provider Type
Both Primary Care And Psychiatry
Number of Children
1400
1200
1000
800
600
400
200
0
406
175
151
202
45
55
Amphetamines/ Stimulants
Antidepressants
Antipsychotics
Anticonvulsants/ Opiates
Sedatives/ Benzodiazepines
Other
Medication Category
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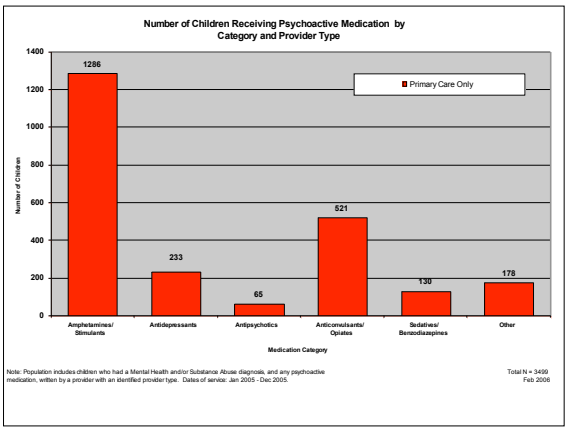
Number of Children Receiving Psychoactive Medication by Category and Provider Type
Primary Care Only
Number of Children
1400
1200
1000
800
600
400
200
0
1286
233
65
521
130
178
Amphetamines/ Stimulants
Antidepressants
Antipsychotics
Anticonvulsants/ Opiates
Sedatives/ Benzodiazepines
Other
Medication Category
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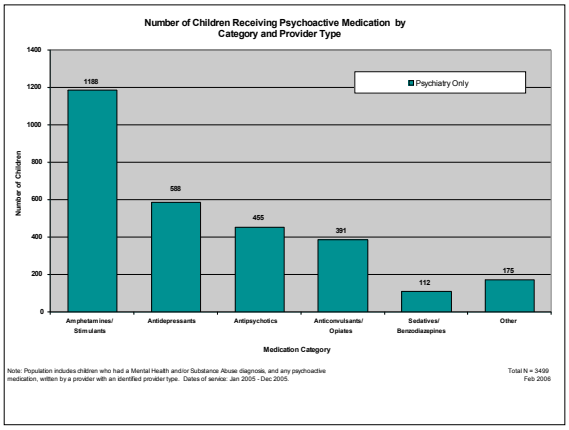
Number of Children Receiving Psychoactive Medication by Category and Provider Type
Psychiatry Only
Number of Children
1400
1200
1000
800
600
400
200
0
1188
588
455
391
112
175
Amphetamines/ Stimulants
Antidepressants
Antipsychotics
Anticonvulsants/ Opiates
Sedatives/ Benzodiazepines
Other
Medication Category
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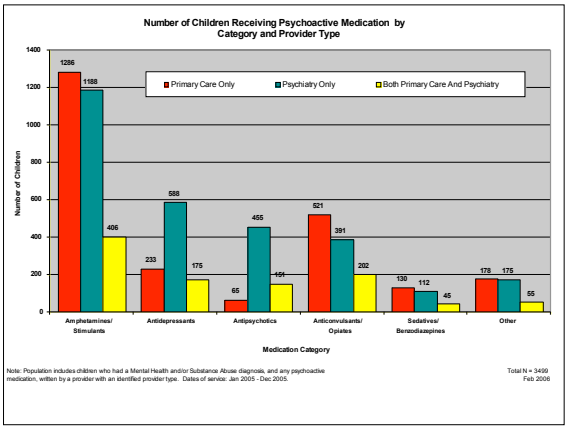
Number of Children Receiving Psychoactive Medication by Category and Provider Type
Primary Care Only
Psychiatry Only
Both Primary Care And Psychiatry
Number of Children
1400
1200
1000
800
600
400
200
0
1286
1188
406
233
588
175
65
455
151
521
391
202
130
112
45
178
175
55
Amphetamines/ Stimulants
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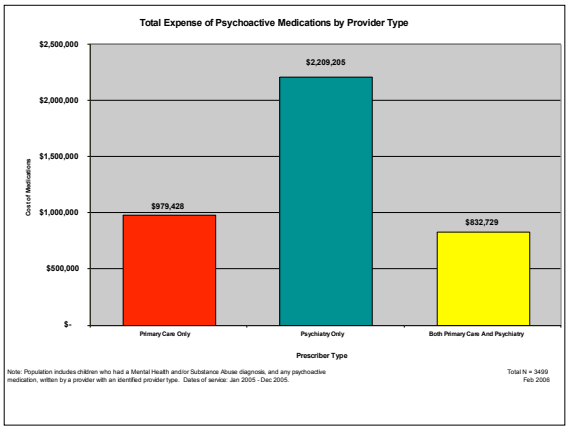

Conclusion

- Given the high stakes for children; balanced between the level of known medical risk and the possibility for help for disabling conditions, there is a critical need for more research into prescribing patterns of psychotropic medications
- Variations in presence or absence of medication use, as well as prescription of major classes of psychotropic medications by diagnosis and provider specialty, need further investigation with an eye to insurance status and other demographic factors which may influence care delivery

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