ANTIPSYCHOTIC TREATMENT IN VERMONT YOUTH

David C. Rettew, M.D.

Associate Professor of Psychiatry and Pediatrics
Director, Pediatric Psychiatry Clinic
Program Director, Child Psychiatry Fellowship
University of Vermont, College of Medicine

Blogs

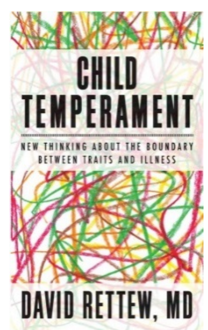
http://blog.uvm.edu/drettew

http://www.psychologytoday.com/blog/abcs-child-psychiatry

Disclosures of Potential Conflicts

Source	Research Funding	Advisor/ Consultant	Employee	Speakers' Bureau	Books, Intellectual Property	In-kind Services (example: travel)	Stock or Equity	Honorarium or expenses for this presentation or meeting
Norton & Norton					X			
NIMH	X							
Psychology Today					X			

Book on temperament by WW Norton



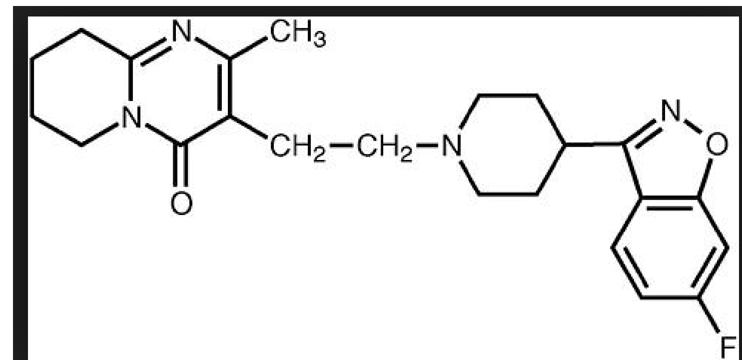
Outline

- Review trends in antipsychotic prescribing to youth both nationally and locally
- Present new data from survey of Vermont prescribers of antipsychotic medications
- Discuss relevance to Community Mental Health Centers

What Are Antipsychotics?

- Also called in the past neuroleptics or major tranquilizers
- Class of medications developed to treat schizophrenia and other psychotic disorders
- First appeared in 1950s
- Second generation or “atypical” medications began to be used in 1990s
  - Thought to be less likely to cause certain side effects related to movement problems

Risperidone



Antipsychotics

Older Antipsychotics	
Drug Name	***Brand Name***
Chlorpromazine	Thorazine®
Haloperidol	Haldol®
Pimozide	Orap®
Newer Antipsychotics	
Drug Name	***Brand Name***
Aripiprazole	Abilify®
Asenapine*	Saphris®*
Clozapine	Clozaril®; FazaClo®
Iloperidone*	Fanapt®*
Lurasidone*	Latuda®*
Olanzapine	Zyprexa®
Paliperidone	Invega®
Quetiapine	Seroquel®
Risperidone	Risperdal®
Ziprasidone	Geodon®
*These medicines were not studied in this report.	

National disaster: Millions of children prescribed antipsychotic drugs they don't need

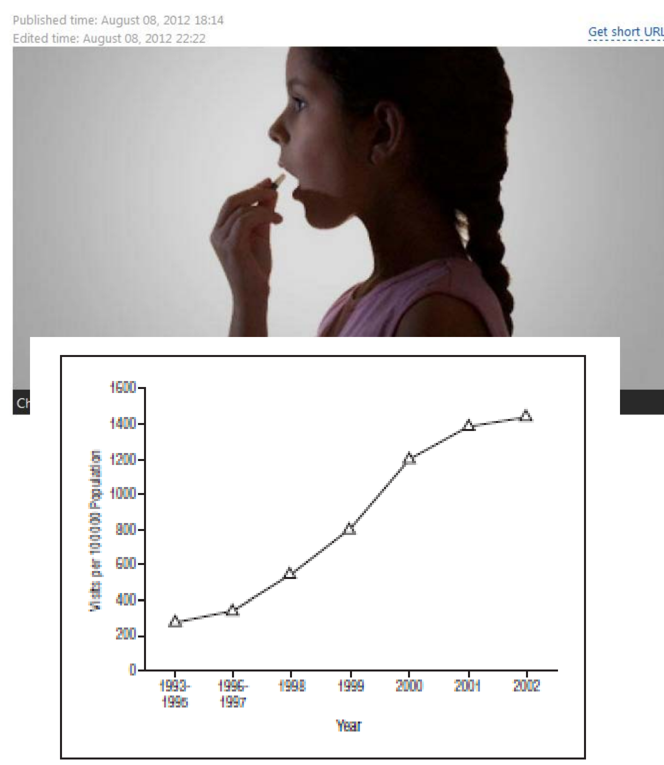
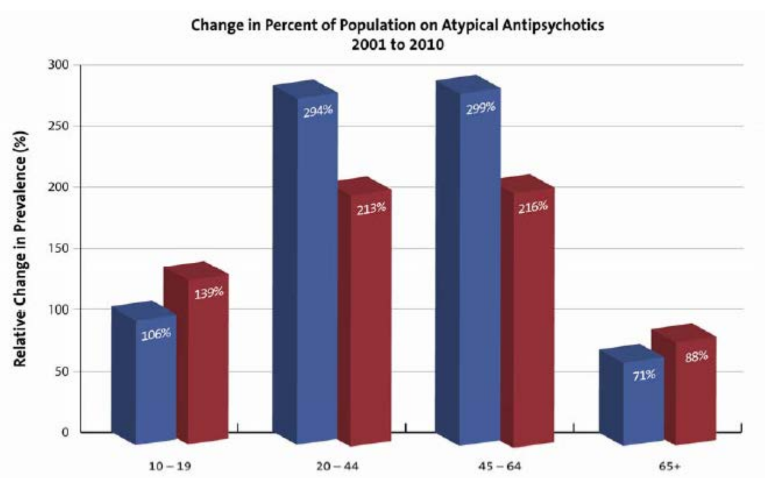


Figure. National trends in office-based visits by children and adolescents that included antipsychotic treatment, 1993-2002. Annualized visit rates per 100 000 population aged 0 to 20 years were calculated using National Ambulatory Medical Care Survey and US Census Bureau data.



Soaring Numbers of Children on Powerful Adult Psychiatric Drugs

DEAD WRONG: HOW PSYCHIATRIC DRUGS CAN KILL YOUR CHILD

From the makers of the award-winning documentaries *Making a Killing: The Untold Story of Psychotropic Drugging* and *The Marketing of Madness: Are We All Insane?* comes this

Antipsychotic Use Among Medicaid Eligible Youth 1997-2006

Percentage

6
5
4
3
2
1
0

Overall
1997: 1.2%
2006: 3.1%

Age 2-4
Age 5-9
Age 10-13
Age 13-17

1997
2006

Zito et al, Psych Services, 2013

Antipsychotic Use Among Medicaid Eligible Youth in Vermont - 2011

4.5
4
3.5
3
2.5
2
1.5
1
0.5
0

Overall 1.9%

2011

Age 0-2
Age 3-5
Age 6-12
Age 13-17

From DVHA

ORIGINAL ARTICLE

ONLINE FIRST

National Trends in the Office-Based Treatment of Children, Adolescents, and Adults With Antipsychotics

Mark Olfson, MD, MPH; Carlos Blanco, MD, PhD; Shang-Min Liu, MS; Shuai Wang, PhD; Christoph U. Correll, MD

- Survey and not claims based
- Dramatic increase in antipsychotic usage in children and adolescence from mid 1990s to mid 2000s
- Disruptive Behavioral Diagnosis most common diagnostic category
- Often no diagnosis given
- Risperidone most common antipsychotic medication

Olfson et al, Arch Gen Psych, 2012

Factors Related to Increase

- Rise in diagnosis of Bipolar Disorder and Autism Spectrum Disorders
- New FDA indications in youth
- Reduced stigma of mental health disorders
- Influence of pharmaceutical industry
- Insurance and access limitations to psychotherapy

Potential Side Effects

- Metabolic: Significant weight gain, diabetes, high cholesterol
- Behavioral: Sedation, cognitive dulling, listlessness
- Cariovascular: tachycardia, orthostatic hypotension, QTc prolongation (ziprasidone)
- Agranulocytosis and neutropenia: especially clozapine but case reports with others
- Hepatic Dysfuction: rare but may be related to rapid weight gain
- Prolactin Evalation and gynecomastia: related to D2 blockade (risperidone)
- Seizures: especially clozapine and olanzapine
- Movement problems and tardive dyskinesia: less with atypicals but still possible
- Neruoleptic Malignant Syndrome
- Cataracts: animal literature for quetiapine

ADA Screening Guidelines for Patients on Second-Generation Antipsychotics

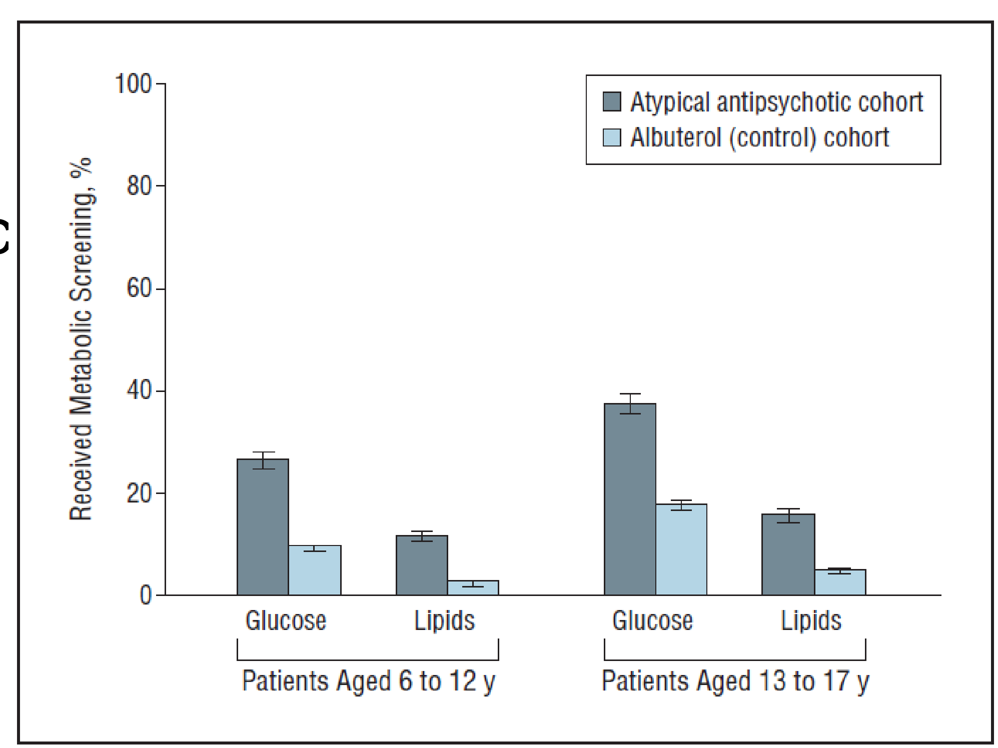
	Baseline	4 Weeks	8 Weeks	12 Weeks	Annually
Personal family history[1]	X				X
Weight (BMI)[1] Overweight (25.0-29.9)[1] Obese (≥30.0)[1]	X	X	X	X	
Waist circumference[1] (<40" in males, <35" in females)[3]	X				X
Blood pressure[1]	X			X	X
Fasting plasma glucose[2] IFG (100-125 mg/dL)[2] Diabetes (≥126 mg/dL)[2]	X			X	X
Fasting lipid profile[1] Total cholesterol (<200 mg/dL)[3] HDL (>40)[3] LDL (<100)[3] TG (<150)[3]	X			X	

Normal values (in parentheses) based on 2007 ADA Guidelines and National Cholesterol Education Program (NCEP) Guidelines. More frequent assessments may be warranted based on patient results and the monitoring recommendations in the package inserts for individual antipsychotic drugs used. LDL=low density lipoprotein.

1. ADA. *Diabetes Care*. 2004;27(2):596-601.
2. ADA. *Diabetes Care*. 2007;30(suppl 1):S4-S41.
3. Adult Treatment Panel. *JAMA*. 2001;285(19):2486-2497.

Lack of Metabolic Screening

- Recommendations for regular monitoring of weight, BMI, lipids, glucose with antipsychotic use
- Studies show lack of regular monitoring, especially laboratory measures



Morrato et al, 2010

American Academy of Child and Adolescent Psychiatry

AACAP is pleased to offer Practice Parameters as soon as they are approved by the AACAP Council, but prior to their publication in the *Journal of the American Academy of Child and Adolescent Psychiatry (JAACAP).* This article may be revised during the *JAACAP* copyediting, author query, and proof reading processes. Any final changes in the document will be made at the time of print publication and will be reflected in the final electronic version of the Practice Parameter. AACAP and *JAACAP*, and its respective employees, are not responsible or liable for the use of any such inaccurate or misleading data, opinion, or information contained in this iteration of this Practice Parameter.

PRACTICE PARAMETER FOR THE USE OF ATYPICAL ANTIPSYCHOTIC MEDICATIONS IN CHILDREN AND ADOLESCENTS

Recommendations

- Careful diagnostic assessment and thorough discussion of risks and benefits
- Prescribing follow scientific evidence
- If not FDA approved indication, use other medication and non-medication treatments first
- Avoid in young children
- Use only one
- Monitor with weights and labs
- Attempt to discontinue if possible

Antipsychotic Survey

- Came from Vermont Department of Health Access (VDVA) in collaboration with the Drug Utilization Review (DUR) Board of the DVHA, the Department of Mental Health (DMH) and the Department for Children and Families (DCF) with guidance from the Child and Adolescent Psychiatric Medications Trend Monitoring Group
- Sent to all prescribers of antipsychotics to Vermont children using Medicaid (total 978)
- Completion in two months required as a prior authorization
- Survey per medication not per patient
- Occurred around Fall 2012

State of Vermont
Department of Vermont Health Access
312 Hurricane Lane, Suite 201
Williston, VT 05495-2807

Agency of Human Services

October 26, 2012

Department of Vermont Health Access/Department of Mental Health

Submit response via: Fax: 1-866-767-2649

Pediatric Antipsychotic Medication Survey

Prescriber: JOHNSON, DAVID Patient: SMITH, JOHN

DOB: 01/01/1900 Medicaid ID: 999999999 Sex: M or F

Drug, Form, Strength: XXXX XX XX MG

Quantity: XXX Most Recent Antipsychotic Fill Date: 03/01/2012

1. ☐ This patient will not continue this medication.
2. ☐ This patient is no longer being followed by me.
3. Is this medication new (first fill) to the patient?
   ☐ Yes ☐ No
4. This medication was started in the following setting:
   ☐ Outpatient ☐ Inpatient or residential (specify if known) ____________ ☐ Unknown
5. Your (prescriber) specialty:
   ☐ Pediatrician ☐ General psychiatrist ☐ Psychiatric NP
   ☐ Family medicine physician ☐ Pediatric NP ☐ Neurologist
   ☐ Child/adolescent psychiatrist ☐ Family medicine NP ☐ Other (please identify) ________
6. Are you the one who started this medication?
   ☐ Yes ☐ Yes, after communication with a child psychiatrist ☐ No
   If **NO**, what was the specialty of the person who started the medication?
   ☐ Pediatrician ☐ General Psychiatrist ☐ Psychiatric NP ☐ Unknown
   ☐ Family medicine physician ☐ Pediatric NP ☐ Neurologist
   ☐ Child/adolescent psychiatrist ☐ Family medicine NP ☐ Other (please identify) ________
7. What is the main target symptom(s) for which the medication is being used (check all that apply)?
   ☐ Aggression ☐ Mood instability
   ☐ Anxiety ☐ Obsessions/compulsions
   ☐ Depressed mood ☐ Psychotic symptoms
   ☐ Grandiosity/euphoria/mania ☐ Sleep problems/insomnia
   ☐ Impulsivity ☐ Tics (motor or vocal)
   ☐ Irritability without aggression ☐ Other (please elaborate) ________

⇨ **Please continue to Page 2**

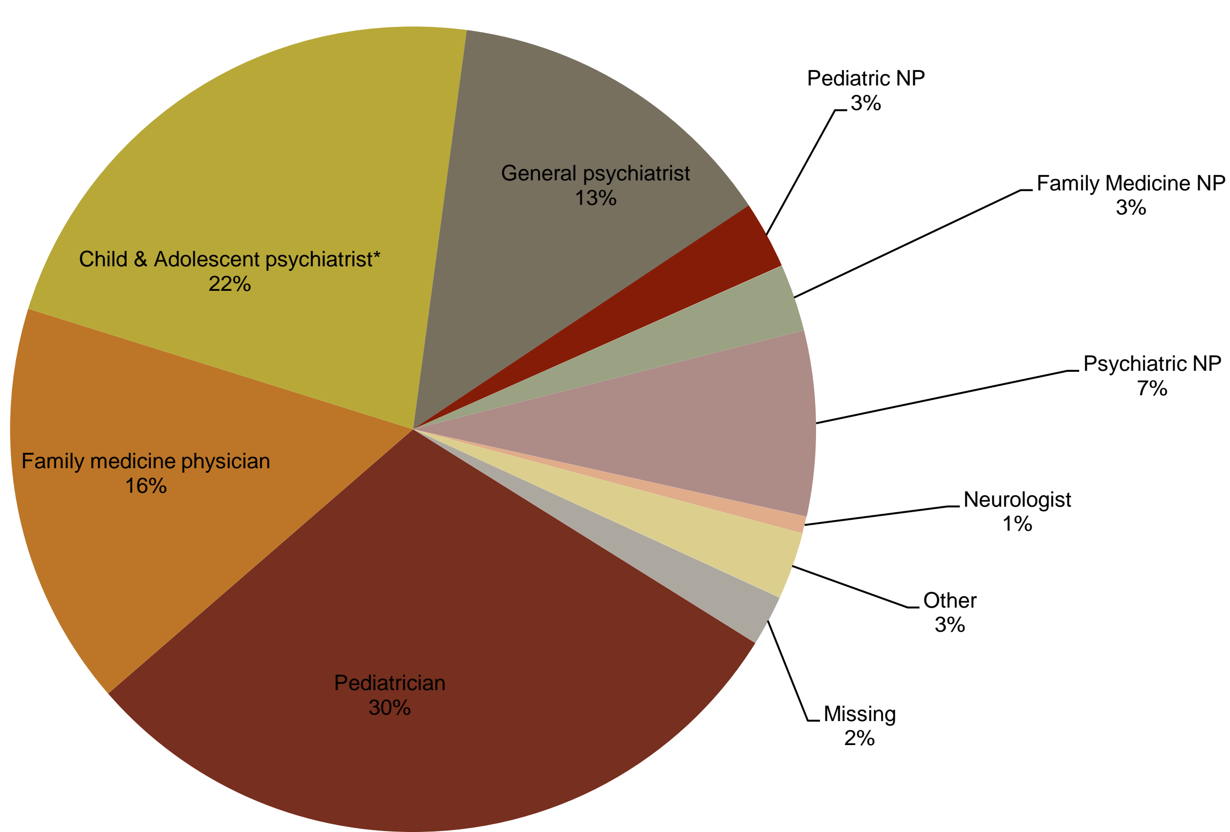
8. What is/are the primary diagnosis(es) for which the medication is being used (check all that apply)?
   ☐ Anxiety Disorder (other than OCD) ☐ Autistic Disorder
   ☐ Attention Deficit Hyperactivity Disorder ☐ Bipolar Disorder
   ☐ Developmental delays (not autism) ☐ Psychotic Disorder (any)
   ☐ Intermittent Explosive Disorder ☐ Sleep Disorder
   ☐ Mood Disorder NOS ☐ Tourette's/Tics
   ☐ Obsessive Compulsive Disorder ☐ Traumatic Brain Injury (TBI)
   ☐ Oppositional Defiant Disorder ☐ Other (please elaborate) ________
9. What medication classes have been tried previously for this target symptom(s) (check all that apply)
   ☐ Alpha agents (e.g. clonidine, guanfacine, Tenex, Intuniv, Kapvay) ☐ Mood stabilizers (e.g lithium, Depakote, lamotrigine)
   ☐ Anticholinergic agents (e.g. Benadryl, Atarax) ☐ Stimulants (e.g. Concerta, Adderall, Ritalin, Vyvanse)
   ☐ Antipsychotics (e.g. risperidone, Seroquel, Abilify) ☐ Non-stimulant ADHD agents (e.g. Strattera, Wellbutrin)
   ☐ Antidepressants (e.g. fluoxetine, sertraline, citalopram, Lexapro) ☐ No other psychiatric medication
   ☐ Benzodiazepines (e.g. Ativan, Valium, Klonopin) ☐ Unknown
10. What medications are being used in addition to the requested antipsychotic drug for any mental health symptom(s) (check all that apply)
    ☐ Alpha agents (e.g. clonidine, guanfacine, Tenex, Intuniv, Kapvay) ☐ Mood stabilizers (e.g lithium, Depakote, lamotrigine)
    ☐ Anticholinergic agents (e.g. Benadryl, Atarax) ☐ Stimulants (e.g. Concerta, Adderall, Ritalin, Vyvanse)
    ☐ Antipsychotics (e.g. risperidone, Seroquel, Abilify) ☐ Non-stimulant ADHD agents (e.g. Strattera, Wellbutrin)
    ☐ Antidepressants (e.g. fluoxetine, sertraline, citalopram, Lexapro) ☐ No other psychiatric medication
    ☐ Benzodiazepines (e.g. Ativan, Valium, Klonopin)
11. What other interventions have previously been attempted for this target symptoms(s) (check all that apply)
    ☐ Parent Guidance (with a specific counselor or therapist) ☐ Psychotherapy – eclectic
    ☐ Parent Guidance (with a primary care clinician) ☐ Psychotherapy – Cognitive Behavioral Therapy (CBT)
    ☐ Parental treatment of their own psychiatric condition(s) ☐ Psychotherapy – Psychodynamic or play/art based
    ☐ Psychotherapy – type unknown ☐ Modification of educational program (e.g. IEP, 504)
    ☐ Unknown
12. What other interventions are being used in addition to the requested antipsychotic drug for this target symptoms(s) (check all that apply)
    ☐ Parent Guidance (with a specific counselor or therapist) ☐ Psychotherapy – Cognitive Behavioral Therapy (CBT)
    ☐ Parent Guidance (with a primary care clinician) ☐ Psychotherapy – Psychodynamic or play/art based
    ☐ Parental treatment of their own psychiatric condition(s) ☐ Modification of educational program (e.g. IEP, 504)
    ☐ Psychotherapy – type unknown ☐ Waitlist for treatment (type: ________)
    ☐ Psychotherapy – eclectic ☐ Have not been able to access treatment (type: ________)
13. What types of metabolic monitoring have your done or plan to do (check all that apply)
    ☐ Regular weights ☐ Regular BMI calculations
    ☐ Regular measurement of waist circumference ☐ Series lab work (lipids, glucose)
    ☐ I am not performing metabolic follow-up but can confirm that at least most of these actions are being done by someone else (psychiatrist, endocrinologist, etc.)
    ☐ I am not performing metabolic follow-up and am not certain whether or not someone else is either

Prescriber's Signature: ________________ Date: ________

Survey Completion

- Return rate 80% (n=778)
- Extensions given to those who had trouble completing them
- Some anger and concern raised about survey and especially using a prior authorization process
- Child sample 71% male, 13.3 years of age (min 3.5)

Prescribers



- Primary care responsible for management of about half of children who take antipsychotic medications

Vermont Center for Children Youth & Families
Vermont Family Based Approach

Who started the medication?

- 43% of respondents reported that they were not the ones who started the antipsychotic medication
- Started in inpatient setting in 24% of cases when known

5% of Clinicians Wrote 36% of RXs

Number of Patients per Prescribing Physician

Number of Prescribers

90
80
70
60
50
40
30
20
10
0

.0 10.0 20.0 30.0 40.0 50.0 60.0

Number of Patients

Target Symptoms by Sex

Percent of Prescriptions Within Group

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Grandiosity/euphoria/mania
Obsession/compulsions
Irritability w/o aggression
Psychotic symptoms
Depressed Mood
Sleep problems/insomnia
Anxiety
Impulsivity
Mood Instability
Aggression

Disorder

Male Female

- **In 79% of cases, Aggression, Mania, Psychosis, Mood Instability, or Tics listed as one of target symptoms**

Target Diagnoses by Sex

Percent of Prescriptions Within Group

50%
40%
30%
20%
10%
0%

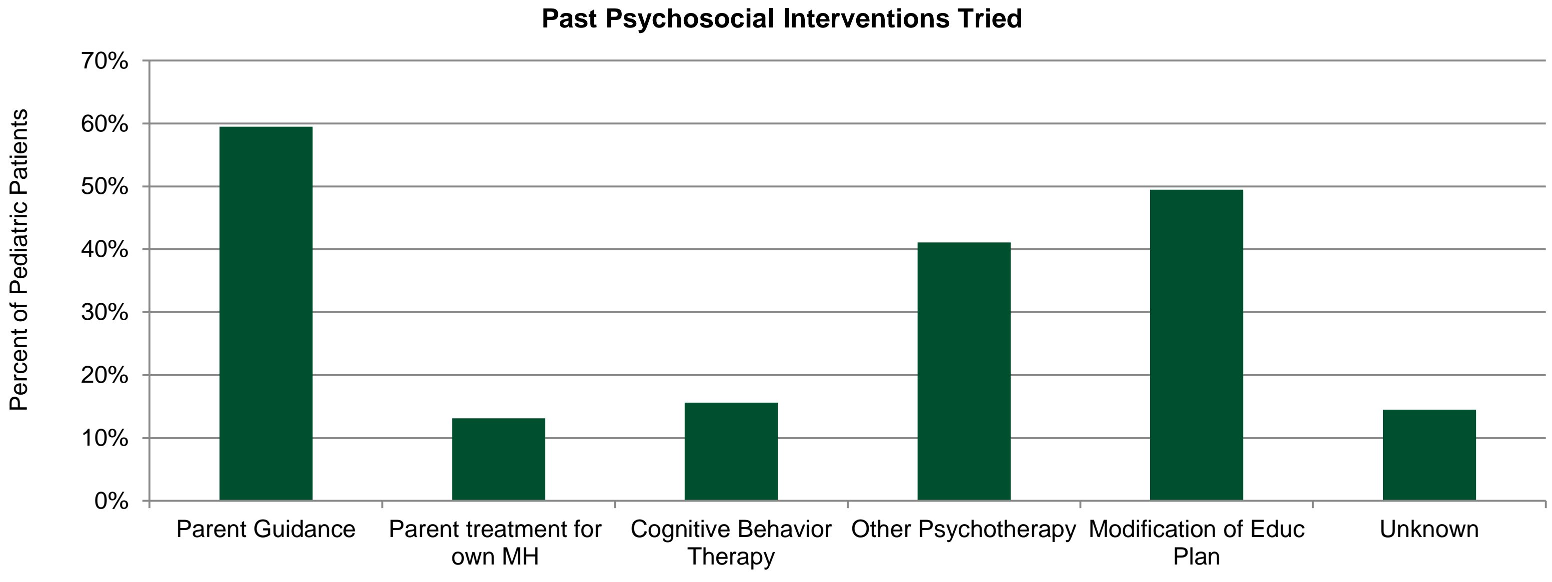
Sleep DO
Developmental Delay
Intermittent Explosive DO
Bipolar DO
ODD
PTSD
Autism
Anxiety DO
ADHD
Mood DO

Male
Female

Disorder

- **In 69% of cases, Psychotic, Bipolar, Tic, Mood NOS, Intermitt Explos, Devel, or Autistic Disorder listed as a target DX**

Nonpharmacologcial Treatment



Intervention Type

- Most children getting other types of treatment but not evidence-based therapy

Vermont Center for Children Youth & Families
Vermont Family Based Approach

Metabolic Monitoring

Percent of Patients Being Monitored

Percent of Pediatric Patients

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Weights
BMI calculation
Series lab work
Waist Measurement
Not doing, someone else is
Not doing, not sure its being done

Type of Monitoring

- Weights common but labs done in only about 55%

Broader Measures

- FDA Indication: 27.3%
- Overall Best Practice Guidelines: 51.9%
  - Psychiatrists: 58.9%
  - Non-psychiatrists: 37.9% (difference significant)

Action Plans

- What we now know
  - Metabolic monitoring is relatively low

- What we might do
  - Design efforts to improve monitoring (electronic alerts, letters) which may decrease amount of suboptimal use

Action Plans

- What we now know

➢ Many clinicians don't know the treatment history of their patients

- What we might do

➢ Improve information flow of medication information across settings

Action Plans

- What we now know
  - Few children taking antipsychotics are also receiving evidence-based therapy
- What we might do
  - Improve access and training to evidence-based therapy

Parent Management Training

- Shown to be highly effective across wide variety of child problems (oppositional behavior, aggression, anxiety)
- Treatment gains often maintained
- Therapists can be trained to learn new techniques

Effective Treatment for Defiant Youth

TABLE 1
Parent Management Training Packages

Program	Ages, yr	Parents	Teachers	Children	Mode of Administration	Level of Evidence	References	Contact Information
Incredible Years	Up to 8	X	X	X	Group	RCT	Webster-Stratton et al., 2004; Webster-Stratton and Reid, 2003	*http//:www.incredibleyears.com*
Triple P-Positive Parenting Program	Up to 13	X				RCT	Sanders et al., 2000; Hoath and Sanders, 2002	*http//:www19.triplep.net*
Parent-Child Interactional Therapy	Up to 8	X		X	Individual family	RCT	Brinkmeyer and Eyberg, 2003; Herschell et al., 2002	*http//:www.pcit.org*
Helping the Noncompliant Child: Parenting and Family Skills Program	Up to 8	X			Individual family	RCT	McMahon and Forehand, 2003; Hough and Daniel, 2003	*mcmahon@u.washington.edu*
COPE	Up to 12–14	X			Group	RCT	Cunningham, 1998; Cunningham et al., 1995	Charles Cunningham, Ph.D., McMaster University, Hamilton, ON, Canada
Defiant Children	Up to 12	X			Individual family		Barkley, 1997	The Guilford Press
The Adolescent Transitions Program (ATP)	11–13	X		X	Individual family and group	RCT	Dishion et al., 2003; Dishion and Kavanagh, 2002	*http://cfc.uoregon.edu/atp.htm*

RCT = Randomized clinical trial.

Trauma Focused Treatment

- Most evidence thus far is for an approach called Trauma-Focused CBT
- Neurosequential Model of Therapeutics (Perry approach) expensive and program has invested efforts in marketing rather than research
- Little evidence that unstructured and supportive sessions with child alone, especially in the context of a chaotic home environment, produce significant improvement

Vermont Family Based Approach

- Clinical model of VCCYF
- Assessments of children using standardized rating scale
- Mental health assessments of parents
- Assessment of domains of family wellness (exercise, sleep, structured activities, nutrition)
- Training of family coaches in evidence-based treatment

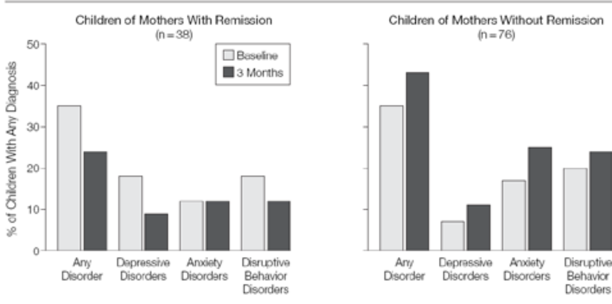
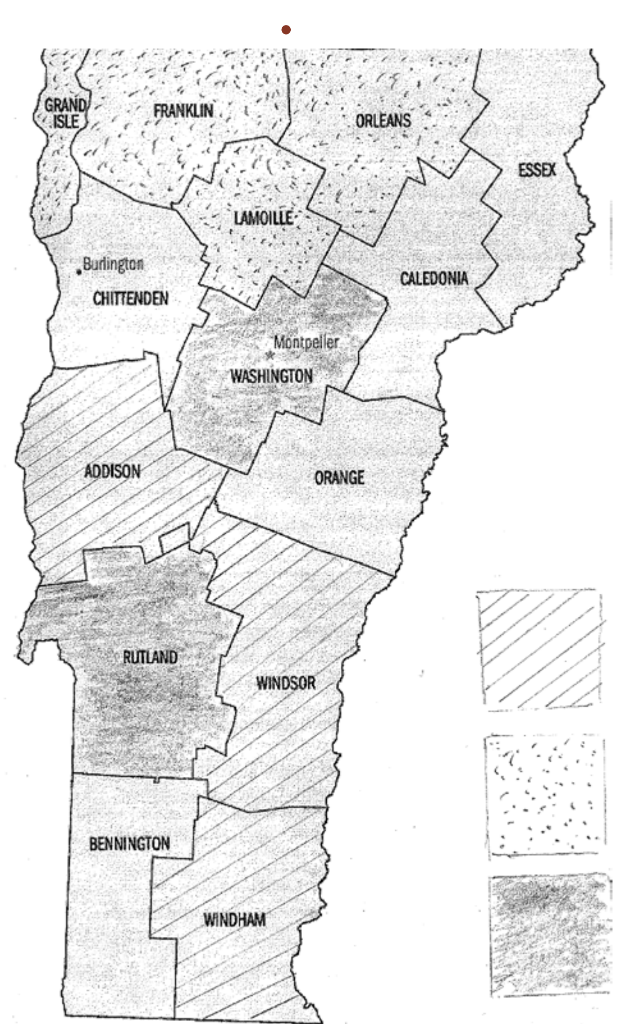


Figure 2. Relation Between Maternal Remission Status and Change in Child's Specific Diagnoses (Baseline to 3 Months)

Depressive disorders include major depressive disorder, dysthymia, depressive disorder not otherwise specified, adjustment disorder with depressed mood, and with mixed anxiety and depressed mood. Anxiety disorders include specific phobia, separation anxiety disorder, social phobia, generalized anxiety disorder; obsessive-compulsive disorder; and anxiety disorder not otherwise specified. Disruptive behavior disorders include attention deficit hyperactivity disorder, oppositional defiant disorder, and conduct disorder.

Vermont Program for Evidence in Practice



2011-2013

Three trainings with 76 attendees from 6 designated mental health agencies

Biweekly follow up consultation also available

2014

Planned trainings and consultation with Rutland County Mental Health and Washington County Mental Health with goal to study ways of increasing clinician participation in follow up consultation

Training and consultation

Training

Planned training and consultation

Overall Recommendations

- New survey indicates that at least half the Medicaid children who take antipsychotics did not get to that point optimally or are not being monitored according to recommended guidelines
- Improvements at community mental health centers could likely be achieved through
  - Increased metabolic screening and monitoring
  - Better treatment history information to prescribers
  - More training and supervision among therapists in evidence-based psychotherapies

THANK YOU

QUESTIONS?