

# Determining the physician and patient characteristics influencing the use of atypical antipsychotics in children

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## BACKGROUND

- There is limited evidence studying the effects of atypical antipsychotics in children, but most existing studies point towards a range of serious adverse events such as weight gain, diabetes, hypertension, metabolic and endocrine abnormalities, hyperprolactinemia, dyslipidemia in the short term and several other unknown long-term effects<sup>1</sup>.
- In 2011, a Government Accountability Office (GAO) study examined the rates of use of psychotropic medication among foster children in several states and recommended to the Department of Health and Human Services that they should provide guidance to states on best practices for overseeing psychiatric prescriptions<sup>2</sup>.
- In response to this, the Department of Health and Human Services sent a letter to the Medicaid state directors making them aware of the results of the GAO study and other studies that provide evidence towards the growing problem of safe, appropriate and effective use of psychiatric prescriptions among foster children<sup>3</sup>.
- They proposed an expansion of activities and collaboration between the Administration for Children and Families (ACF), The Center for Medicare and Medicaid Services (CMS) and the Substance Abuse and Mental Health Services Administration (SAMHSA). These changes hold the potential to significantly alter the SGA market<sup>3</sup>.

Atypical antipsychotics are prescribed outside their indication about 70% of the time<sup>1</sup>.

## OBJECTIVES

- To determine how patient level factors, such as age, race, sex or attitude about consent from parent/guardian influence the physician's decision to prescribe atypical antipsychotics in children.
- To determine how physician characteristics, such as specialization or mental health patient volume influence physician's decision to prescribe atypical antipsychotics in children.

## METHODS

A patient simulation survey study was selected as the best approach for addressing the research objectives in a manner that would be as unbiased as possible. Data will be collected from a stratified quota sample with a target of 150 primary care physicians and 150 psychiatrists through an on-line survey collected using a commercial vendor. No honorarium was provided. A sample patient profile is shown below.

102. Elizabeth:

Doctor, please assume that Elizabeth is a patient you have newly diagnosed with mild psychosis. Her history and your current evaluation notes are summarized below.

The patient's diagnosis is consistent with family history. You have informed the parent about the use of atypical antipsychotics. The patient can afford her drugs.

Demographics	Lab values	Symptoms
Age: 15 Gender: Female Height: 63.7 inches Weight: 119.5 pounds BMI: 20.7 (Normal)	WBC: 7300 (Normal) ANC: 1300 (Low) Fasting glucose: 85mg/dL	Patient has displayed symptoms of mild psychosis: • Occasional uncontrollable agitation • Minimally intrusive auditory hallucinations • Mild lack of age-appropriate grooming
Pubescent Caucasian		

During the visit you determine that:

- The parent is willing to sign an informed consent and hasn't expressed any concerns about the use of antipsychotics.
- The patient has no history of alcohol abuse.
- The parent mentions that the patient takes his medications on time.

Treatment options: (Please check all that apply)

<p><b>Atypical Antipsychotics</b></p> <p><input type="checkbox"/> Aripiprazole (Abilify®)</p> <p><input type="checkbox"/> Asenapine (Saphiris®)</p> <p><input type="checkbox"/> Clozapine (Clozaril®, generic)</p> <p><input type="checkbox"/> Iloperidone (Fanapt®)</p> <p><input type="checkbox"/> Lurasidone (Latuda®)</p> <p><input type="checkbox"/> Olanzapine (Zyprexa®, Zyprexa Relprevv®, generic)</p> <p><input type="checkbox"/> Olanzapine &amp; Fluoxetine (Symbyax®, generic)</p> <p><input type="checkbox"/> Paliperidone (Invega®, Invega Sustena®)</p> <p><input type="checkbox"/> Quetiapine (Seroquel®, Seroquel XR®, generic)</p> <p><input type="checkbox"/> Risperidone (Risperdal, Risperdal Consta®, generic)</p> <p><input type="checkbox"/> Ziprasidone (Geodon®, generic)</p> <p><b>Conventional Antipsychotics</b></p> <p><input type="checkbox"/> Perphenazine (Trilafon®, generic)</p> <p><input type="checkbox"/> Chlorpromazine (generic)</p> <p><input type="checkbox"/> Others</p>	<p><b>Anti-convulsants</b></p> <p><input type="checkbox"/> Lithium (Lithobid®, generic)</p> <p><input type="checkbox"/> Alpha agonists</p> <p><input type="checkbox"/> Other</p> <p><b>Anti-depressants</b></p> <p><input type="checkbox"/> Anxiolytics</p> <p><input type="checkbox"/> Mood stabilizers</p> <p><input type="checkbox"/> Stimulants</p> <p><input type="checkbox"/> Other (Please specify _____)</p> <p><input type="checkbox"/> Psychosocial Intervention</p> <p><input type="checkbox"/> Refer to another physician with experience in dealing with pediatric mental health</p> <p><input type="checkbox"/> Refer to non-medical practitioner</p> <p><input type="checkbox"/> Other non-pharmaceutical treatment</p>
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Figure1: Sample patient profile

## METHODS

**Survey design:** The survey contains a short set of screening questions, physician background information, a set of 10 patient profiles presented for treatment and follow-up questions including a set of product ratings. Physician's knowledge about the evidence supporting the use of each product for selected diagnoses was also be assessed.

**Data analysis:**

The data collected from the survey will be analyzed using IBM SPSS (Chicago, Illinois). Logistic regression will be used, as the dependent variable is dichotomous (i.e., use/no use of antipsychotic). Generalized Linear Mixed Models (GLMM) or Generalized Estimating Equations (GEE) will be used to account for the lack of independence in the data.

## IMPLICATIONS

- The study will provide a product driver analysis that looks at the top drivers of a product's use. This will help recognize potential market areas for atypical antipsychotics and tailor marketing messages to physicians.
- It will help policy makers decide on ways to increase safety and efficacy in the use of these drugs.
- It will also help understand the physician's decision making process in the area of mental health in children. With so many diverse diagnoses and so few FDA approved drugs available, this is a scenario which certainly needs better understanding.

## REFERENCES

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