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Examining Mental Health: Treatment Options and Trends
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Chairman Harkin, Ranking Member Alexander, and members of the committee, my name is William Cooper. I provide general pediatric care for underserved children in the primary care clinic at the Monroe Carell Jr. Children's Hospital at Vanderbilt and direct a research program in epidemiology, conducting population-based studies of medication use in children and assessing adverse effects of certain medications, including many of the medications used to treat mental health disorders. I consider it a tremendous privilege to speak with you today about mental health disorders in children and ways in which we might ensure that all children are treated in the most appropriate manner.

A 9 year old boy on antipsychotics

In late 2002, a 9 year old boy was referred to our clinic from a rural town several miles from Nashville for evaluation of rapid weight gain. I noted that he had been placed on a powerful antipsychotic medication, one that is known to cause weight gain. The child had no history of serious mental illness, so I spoke with the family to gain a greater understanding of why he was taking this medication and found that he had been placed on the medication by the primary care provider in his rural community. The child had had a long history of disruptive behavior and was at risk for being expelled from school. The family was unable to find transportation to the nearest mental health facility and were told that this medication was his last chance. This story and several like it led our team to pursue a series of studies to further understand how commonly these medications were being prescribed to children and whether or not there were risks to their widespread use in children.

Epidemiology of mental health disorders in children

To place our conversation in context, I'd like to share some information with the committee about mental health disorders in children. Nearly 1 in 10 children are affected by a mental health disorder, including attention deficit hyperactivity disorder (ADHD), depression, anxiety, and other mental health disorders.[1] Symptoms of mental health disorders usually begin in childhood, but some do not begin to develop until the teenage years. In my pediatric practice, I have seen firsthand the devastating effects of mental illness on children and their families, particularly for our most vulnerable children, including those who live in poverty and those in the child welfare system.

In recent years, we have seen a tremendous increase in the numbers of children diagnosed with mental health disorders.[1,2] Whether this is a result of increased awareness, improved diagnosis, or other factors is not clearly understood. While we must acknowledge that a part of the increase could be due to overdiagnosis, there is no disputing the fact that a large number of children and their families suffer significantly because of mental illness. Furthermore, given the fact that suicide is the second leading cause of death in 12-17 year old children,[1] tragic consequences of childhood mental health disorders highlight our sense of urgency in addressing this important problem.

Treatment of mental health disorders in children

In recent years, there has been a lot of progress in identifying treatment options for children with mental health disorders. Early diagnosis and treatment of children is critical to reduce suffering and the likelihood that the disorder will persist into adulthood.[1] Important advances in the

diagnosis and treatment of these children include evidence based guidelines for appropriate diagnosis and greater understanding of treatments for certain disorders.

Treating mental health disorders can be challenging and requires a careful approach to diagnosis and management. Each child is unique and will respond to treatments in his or her own way. We have come to recognize that 50-75% of the care for children with mental health disorders occurs in primary care settings,[2] making it critical that consultation and communication between primary care professionals and experts in mental health be enhanced. In our practice, we routinely engage our mental health colleagues in diagnosis and management of patients in a collaborative model.

Despite guidelines, much of the health care in children occurs in a manner inconsistent with optimal practice, including use of medications for diagnoses for which there is little evidence of benefit, use of multiple medications at the same time (a problem illustrated in particularly vulnerable children such as children in foster care, where a recent study demonstrated multiple psychiatric medications in up to 75% of children being treated),[3] and use of medications alone without proven psychotherapies.

These deficiencies likely result from several factors on the system, provider, and family levels. Many clinicians may be unaware of current guidelines and may practice in a way inconsistent with best practice.[4] In some settings, there may be inadequate mental health resources to provide best treatments and few, if any professionals with training in providing mental health care to children. For some families, access to mental health care may be hampered by cost or physical barriers such as long travel distances. Furthermore, stigma associated with mental illness may reduce families' willingness to acknowledge a mental health disorder and seek treatment in the first place.[1]

Research into medication use and safety

Guided by our clinical observations and review of existing surveillance data, our research group has performed several studies assessing trends in antipsychotic medication use in children and the potential risk for adverse outcomes from medications used to treat ADHD.

Antipsychotic medications in children

Antipsychotics are a class of medications that have been shown to reduce symptoms of serious mental disorders such as schizophrenia, severe bipolar disorder, and autism. Their efficacy in treating other conditions in children is not known. In addition, we know very little about whether or not they actually may be harmful to children.

In one study in Tennessee Medicaid[5] and another studying children from a national data set,[6] we identified a 5 fold increase in the use of antipsychotics in children. Furthermore, more than half of these children were placed on the antipsychotic for ADHD and behavioral disorders for which these drugs have not been studied.[6] Several studies followed ours and found a similar increased trend in use in children as young as 3 years of age[7] as well as many children receiving multiple antipsychotics at the same time.[8] In high risk populations, such as children in foster care, use of antipsychotics and multiple medications at the same time has been reported to occur in up to 75% of children receiving treatments.[3] We know that children are more sensitive to adverse effects of some medications than adults,[9] so it is not possible to extend safety findings from

adults to children. Thus, more research was needed to provide sufficient information to guide our considerations of the risks as well as the benefits of therapeutic options.

In October 2013, our group published a study drawn from 43,000 children in Tennessee Medicaid in which we compared the risk for type 2 diabetes in children who were recently placed on antipsychotics to comparable children treated with other psychotropic medications.[10] We found that children who were using antipsychotics were three times more likely to develop type 2 diabetes than similar children on other medications. We also found that children on higher cumulative doses were at even higher risk and that the elevated risk remained for up to a year after the medications were discontinued.

It's important to note that for some children and teens with serious mental health disorders, antipsychotics may be a critical part of their treatment. For many, however, these medications are being used for conditions such as ADHD for which there are safer alternatives. These studies highlight the critical need to ensure that children receive an accurate diagnosis with careful attention to all possible conditions that might be present and that if an antipsychotic medication is needed, children should be monitored for potential safety concerns.

Medications used to treat ADHD

Our research group has also performed studies assessing potential risks of medications used to treat attention deficit hyperactivity disorder, ADHD. ADHD is an important mental health problem and affects up to 8-10% of children.[11] The diagnosis of ADHD has increased in recent years, perhaps resulting from greater awareness of the condition on the part of families, teachers, and health care professionals,[12,13] yet many children with ADHD still have serious disruptions in home, school, and social functioning and for many, these symptoms last into adulthood.

There are clear guidelines for the diagnosis and management of ADHD.[4] It is critical to obtain input from multiple sources, including parents, teachers, and others who observe the child's behavior and use validated tools to provide the correct diagnosis. Because up to 40% of children with ADHD have other problems including learning disabilities and additional mental health diagnoses,[4] it is also critical to assess children for other issues that may interfere with their ability to function.[13] Guidelines for the care of ADHD include recommendations for behavioral therapies and stimulant medication in selected children, reflecting the 70% rate of improvement seen in several studies.[4] I recall one of my patients with ADHD who told me he felt like his brain was like a "motor going too fast" and that the medications allowed him to slow down enough so that the other interventions we were using could work.

Stimulant medications have been used to treat ADHD for over 40 years and until recently have had a reputation for relative safety. Like antipsychotics and any medication, it is critical, however, to observe a child for potential side effects of the medications. In 2004, reports of adverse events from Canada and the United States that included cases of sudden cardiac death, heart attacks and strokes in children taking medications for ADHD raised serious concerns about their safety.[14] Several regulatory and policy decisions resulted from the review of adverse-event reports and led to concern and confusion among health care professionals, patients, and families about the risks of these drugs. In this context, we studied the cardiovascular safety of ADHD drugs in 1.2 million children and young adults from all regions of the country and found no

evidence of a significant increase in risk for serious cardiovascular outcomes in children.[11] A separate study that we conducted in adults also found no increase in risk.[15]

The data on ADHD drug safety highlight the need to educate patients, families, health care professionals, and teachers about the appropriate diagnosis and management of ADHD. While our results about the adverse effects of stimulant medication are reassuring, ongoing surveillance is needed for these and all other drugs.

What are our challenges?

- Mental health disorders are a common and serious public health problem. Mental health disorders affect 1 in 10 children and in addition to causing tremendous disruptions in their lives, these disorders tragically can end in suicide.
- Are we overdiagnosing children with mental health disorders? We must use the excellent tools currently available to diagnose the individual child. It is critical that health care professionals receive training in the diagnosis and management of mental health disorders. Partnerships between primary care clinicians and mental health professionals must be utilized to optimize the best diagnosis.
- Are we giving children the right medication? We need to ensure that children who really need antipsychotics get them, but there is little reason to believe that the incidence of these disorders justifies the 5-fold increase in prescriptions for these drugs that has occurred in recent years.
- We need to ensure that children with a need for mental health services have them available. This is particularly important in states with rural populations, where access can present a huge barrier to families.
- We must work to improve the diagnosis and management of these children with thoughtful research and surveillance to ensure that children who are treated go on to live healthy lives without adverse consequences.

Closing the loop: the 9 year old on antipsychotics

In reflecting back on the 9 year old boy on antipsychotics and many like him I have encountered in my 23 years as a pediatrician, several thoughts come to mind. First, medications used to treat mental health disorders are not magic pills. Children with serious mental health disorders may benefit greatly from medications, but it is important to weigh their risks and benefits in the context of a comprehensive and individualized treatment plan, which typically includes other personalized interventions. Taking time to consider the right diagnosis and the right treatment for each child takes time, but is essential to ensure that children with mental health disorders have the best possible outcomes. In the future, it is possible that other ways to identify individual children who might respond to different treatments might allow us to individualize treatments even further. In the meantime, however, we must address these issues one child and family at a time. Finally, we need to continue to expand our understanding of the best ways to diagnose and treat these children so that that 9 year old boy and other children just like him can function and reduce the distress and suffering of mental health conditions.

Thank you for the opportunity to testify. I look forward to the testimony of my fellow panelists and I welcome any questions the committee may pose.

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