

ILLINOIS PANDAS/PANS ADVISORY COUNCIL

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2017 Report

December 1, 2017

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ILLINOIS PANDAS/PANS ADVISORY COUNCIL

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- Dr. Anette Mnabhi, DO, Synergy Health Care, Chairwoman
- Nick Florian, Legislative Liaison, Illinois Department of Public Health
- Illinois State Representative Peter Breen
- Diana Brown, District 45, Psychologist, Lombard, IL
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The Illinois PANDAS/PANS Advisory Council was created in 2015 in accordance with *Public Act 99-0320* to:

- Make recommendations concerning standard practice guidelines for PANDAS/PANS
- Develop mechanisms to increase clinical awareness of PANDAS/PANS
- Provide outreach to educators and parents
- Develop of a network of volunteer experts on PANDAS/PANS to serve as resources within the State.

The Illinois Department of Public Health (IDPH) has managed oversight and support of the commission since 2015. The priorities of the council in 2017 have been to continue to review the standards of care that medical providers in the state can access, and to educate citizens, health providers, mental health providers, medical students, and education professionals on PANDAS/PANS.

The council consists of physicians, who are board certified in immunology, pediatrics, psychiatry, osteopathy, and family medicine and have expertise and experience in the diagnostics and treatments of Pediatric Autoimmune Neuropsychiatric Disorders and/or Autism Spectrum Disorders; other health and mental health care professionals with expertise and experience in the diagnostics and treatments of Pediatric Autoimmune Neuropsychiatric Disorders; certified members of the School Health and Special Education Divisions of the State Board of Education; representatives of organizations or groups that advocate on behalf of children and families suffering from PANDAS/PANS and/or Autism Spectrum Disorders; a principal investigator from the National Institute of Mental Health; legislators; and parents of children who have been diagnosed with PANDAS/PANS.

UNDERSTANDING PANDAS/PANS

For nearly thirty years, Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections (PANDAS) has been studied extensively at the National Institute of Mental Health (NIMH) and elsewhere across the U.S. and internationally.³ More recently, a consortium of clinicians, researchers, and scientists has dedicated considerable time and effort to clinical care and study of children with PANDAS and the larger cohort of patients with Pediatric Acute-onset Neuropsychiatric Syndrome (PANS).² A medically treatable cause can be found for most cases of PANDAS and PANS. Preliminary data suggest that with appropriate treatment early in the course of illness, and effective use of antibiotics prophylaxis, we may be able to prevent up to 25-30% of childhood mental illnesses.⁴

PANDAS

Pediatric
Autoimmune
Neuropsychiatric
Disorders
Associated with
Streptococcal infections¹

PANS

Pediatric
Acute-onset
Neuropsychiatric
Syndrome²

Evidence consists demonstrating that Group A streptococcal infections (GAS) are the causal factor in PANDAS. Antibody studies demonstrate that children with PANDAS have antibodies that invoke bioactivity to produce the acute symptomatology.⁵⁻⁸ Animal studies show the transference of antibodies from an originally infected mouse to a naïve, healthy mouse to produce the same behavioral abnormalities and OCD symptoms.⁹⁻¹⁰ This demonstrates that PANDAS/PANS is an immune mediated antibody process. Placebo-controlled trials of antibiotic therapies demonstrate significant benefits for both PANDAS and PANS, and trials of prophylactic antibiotics have shown that preventing strep infections leads to reduction or cessation of the neuropsychiatric exacerbations.¹¹ In mild cases with positive strep cultures, a single course of antibiotics given to eradicate the strep infection can be effective in eliminating the psychiatric and behavioral symptoms. Additionally, a growing body of evidence indicates that PANDAS/PANS are autoimmune encephalitic disorders.¹²⁻¹³ There are two different types of autoimmune encephalopathies produced response to infection with Group A Strep bacteria. One is Sydenham Chorea, which is the neurologic manifestation of acute rheumatic fever, while the other is PANDAS.²² Because intravenous immunoglobulin (IVIG) is widely accepted as a standard treatment for post-infectious autoimmune encephalopathy,³⁹ when faced with the more moderate to severe presentations of PANDAS/PANS, physicians must rely on immunomodulatory measures, including steroids, intravenous immunoglobulin, and therapeutic plasmapheresis (TPA) to halt this neuroinflammatory process.

Children with PANDAS/PANS who do not receive appropriate treatment remain chronically ill and the progression of the disease may exacerbate symptomatology to the extent that they are unable to attend school, participate in the community and in some cases may require residential care. In the most severe cases, lack of appropriate medical interventions can result in the progression of clinically associated symptoms, which may result in death due to suicide or complications due to anorexia.

Epidemiology/Demographics

- Peak age at onset = 6.5 years²
- Boys outnumber girls approximately 2:1²
- 1 in 250 children have impairing symptoms (estimates from clinic populations^{2,14})
- 5 - 10% of grade-school aged children have observable GAS-related neurologic and behavioral symptoms¹⁴

Clinical Presentation

PANDAS and PANS are defined by an unusually abrupt onset of obsessive-compulsive disorder (OCD) or eating restrictions/anorexia.¹⁻²

Comorbidity is present in all children, with most having symptoms in at least four categories^{1-2,15}

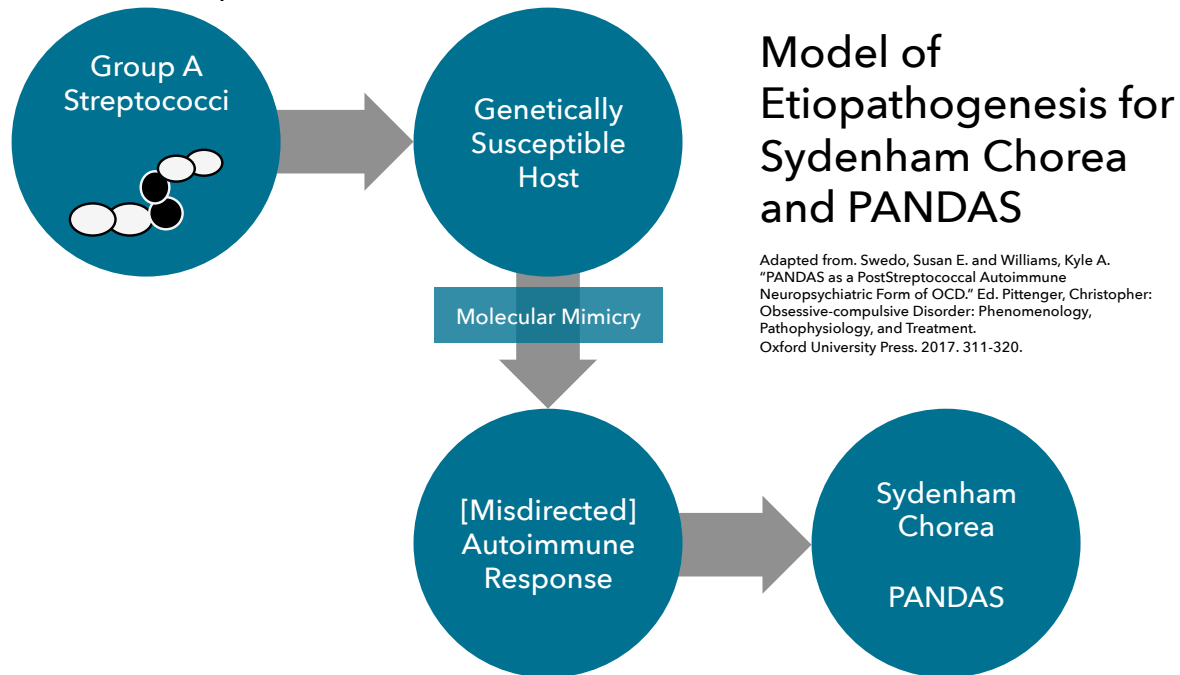
- Anxiety (particularly separation anxiety)
- Emotional lability and/or depression
- Irritability, aggression, and/or severely oppositional behaviors
- Behavioral (developmental) regression
- Deterioration of school performance
- Sensory or motor abnormalities
- Somatic signs and symptoms, including sleep disturbances, enuresis & urinary frequency

The course is relapsing/remitting, with exacerbations preceded by infections (particularly Group A strep) and psychosocial stressors.

Although early recognition and treatment can eradicate symptoms, children who fail to receive appropriate diagnosis and treatment have increasingly severe episodes, with resultant distress and loss of function (unable to participate in extracurricular activities; stop seeing friends; unable to attend school or even leave a "safe" room in their house). Severe cases often require prolonged psychiatric hospitalizations and may end in death (by suicide, starvation/dehydration, or accidents caused by impulsive behaviors).

Etiology and Disease Mechanisms for PANDAS (Post-streptococcal symptoms)

It is understood that 65-100% of patients with Sydenham Chorea have obsessive-compulsive symptoms, with that rate increasing with recurrences.²⁰ OCD symptoms are often more persistent and difficult to treat than the chorea.²¹



Group A streptococci are "molecular mimics" that cause the immune system to produce antibodies which misrecognize host antigens as foreign. This temporary loss of tolerance may become permanent if blood-brain barrier is breached (which GAS exotoxins can do) or if the immune system is repeatedly activated.²²

Evidence for an etiologic role of GAS (Group A Strep) infections in PANDAS comes from:

- Clinical observations showing 1:1 correlation between (occult) GAS infections and neuropsychiatric symptom exacerbations^{1,15}
- Epidemiologic studies demonstrating association between GAS infections and choreiform movements, tics and problem behaviors^{14,23}
- Treatment of GAS infections improves OCD/tic symptoms^{11,16}
- Prevention of GAS infections reduces number and severity of neuropsychiatric symptom exacerbations^{24,25}
- Cross-reactive antibodies present during acute illness, but not during convalescence^{26,27}
- Animal models show that repeated GAS infections in lymphoid tissues, such as tonsils and adenoids, stimulate T-cell production and immune activation in Central Nervous System¹⁰

Evidence for immune dysfunction in PANDAS comes from:

- Efficacy of immunomodulatory therapies, such as IVIG and plasmapheresis¹⁷⁻¹⁹
- Cross-reactive antibodies produce cell signaling, as evidenced by activation of CaM KII^{28,27}
- Animal models have demonstrated that PANDAS sera/antibodies produce neuropsychiatric symptoms, even by passive transfer^{10,28-30}

PANDAS/PANS BURDEN IN ILLINOIS

The true incidence of PANDAS/PANS is currently unknown. Members of PANDAS/PANS Collaborative Consortium estimate PANDAS/PANS to affect 1-2% of the pediatric population³¹, while PANDAS Network reports the incidence at 1 in 200 children³². This is not a small number of children who may be affected by PANDAS/PANS. We must do better in recognizing and treating this condition.

The CDC reports that 1 in 7 US children between the ages of 2 and 8 years have a mental, behavioral or developmental disorder. When these issues persist into adulthood especially as a result of misdiagnosis or inadequate care, the risk of poor school outcomes, decreased employment, additional health concerns, early mortality and the great cost of caring for people with the disorders is heightened.³³

In accordance with the Illinois Mental Health 2013-2018 Strategic Plan, children suffering from PANDAS/PANS meet the definition of having a serious emotional disturbance, which is defined as the "unique needs of children and adolescents under age 18 who have, in the past year, been diagnosed with a mental, emotional, or behavioral disorder resulting in functional impairment that substantially interferes with or limits the child's role or functioning in family, school, or community activities."³⁴

Hospitalizations due to PANDAS/PANS are significantly more expensive for the Illinois health care system than community-based services. Becker's Hospital Review lists Illinois hospitals' average daily rate for a nonprofit hospital at \$2,049.³⁵ Inpatient psychiatric care runs between \$1,200 and \$2,500 throughout the state.

A 2016 collaborative study from the PANDAS Network, the University of Buffalo, and the University of South Florida revealed that prompt diagnosis and expeditious treatment of this condition can alleviate symptoms in the short term, but can also alter the course of the disease in the long term. "While it is appreciated by a small percentage of clinicians that timely antibiotic intervention and eradication of the inciting infection are integral in the treatment of PANS, this study, for the first time, highlights the importance of such treatment in the long-term clinical picture of PANS. Although PANS is typically recurrent with some chronic features, the data reported herein suggest that early and aggressive treatment of infection may decrease both the likelihood of residual symptoms and the likelihood of recurrence, potentially preventing the high levels of functional impairment seen particularly in the postpubertal years. Having increased vigilance for new infections and exposure to GAS is likely also helpful to minimize the impact of recurrence of PANS symptoms."⁴⁰

Without appropriate diagnosis and treatment the illness has the potential to become a chronic life-long condition, requiring extensive care. There can be no doubt that mental, behavioral and developmental disorders, such as PANDAS/PANS, and the associated conditions of Attention Deficit Hyperactivity Disorder, Obsessive Compulsive Disorder, Autism Spectrum Disorders, and Tourette Syndrome have a substantial impact on the health care, families and communities of Illinois.

As already mentioned, NIMH has estimated 25-30% of childhood mental illness may be preventable through appropriate treatment of PANDAS/PANS.⁴ If we compute this estimation with the data suggested by the Illinois Mental Health Strategic Plan, in 2012 approximately 43,750-52,500 children and adolescents may have decreased quality of life due to a missed diagnosis of PANDAS/PANS and/or misdiagnosis of serious emotional disturbance. If appropriately diagnosed and treated immediately, we could reduce this estimated number, and substantially limit the burden on the State of Illinois.

STANDARD DIAGNOSTIC AND TREATMENT GUIDELINES

The development of the PANS/PANDAS standard diagnostic and treatment guidelines began in 2013 when a group of noted physicians met at the National Institutes of Health to discuss the significant needs of this population of sick children. A diagnostic consensus was developed and subsequently published in the Journal of Child and Adolescent Psychopharmacology in 2015.⁴¹

The PANDAS/PANS diagnosis is based on subjective criteria and is considered a clinical diagnosis. However, as research has improved, absolute, major, and minor criteria have been developed and can be met in various combinations.³⁶

Absolute Criteria

- Sudden Onset. Sudden and precipitous development of symptoms over the course of hours or even a few days.
- Characteristic dynamic evolution of nature of symptoms and intensity of symptoms over a period of 2-6 weeks.

Major Criteria

- Presence of OCD symptoms
- Separation anxiety (one or both)
 1. Daytime and nighttime dependency on parent’s physical presence
 2. Psychological dependence on familiar physical environment with or without need for parents’ presence
- Anorexia (one or more)
 1. Acute onset of food and/or liquid refusal
 2. Fear of choking
 3. Fear of vomiting
 4. Inability to swallow because of intolerable smell or texture
 5. Distorted body image (usually in children over 12, and can result from the other types of anorexia).

Minor Criteria Group 1

<ul style="list-style-type: none"> <input type="checkbox"/> Sleeping disorders (insomnia, night terrors, refusal to sleep alone) <input type="checkbox"/> Behavior regression (baby talk, temper tantrums, behaviors unbecoming of actual chronological age) <input type="checkbox"/> Emotional Lability/Depression 	<ul style="list-style-type: none"> <input type="checkbox"/> Hyperactivity, inattentiveness, inability to concentrate (ADHD/ADD diagnosis compatible) <input type="checkbox"/> Learning disability (particularly mathematics) that was not there prior to symptom onset <input type="checkbox"/> Hallucinations
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Minor Criteria Group 2

<ul style="list-style-type: none"> <input type="checkbox"/> "Hyperalert" appearance and/or "puppet-like" facial mannerisms <input type="checkbox"/> Hypotonia <input type="checkbox"/> Mydriasis (especially during acute phase of symptoms) <input type="checkbox"/> Urinary frequency and/or enuresis and/or daytime incontinence <input type="checkbox"/> Short-term memory loss 	<ul style="list-style-type: none"> <input type="checkbox"/> Increased sensory responses (smells, sounds, light, touch) <input type="checkbox"/> Fine motor skills deterioration <input type="checkbox"/> Dysgraphia <input type="checkbox"/> Tics and/or adventitious movements
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Diagnostic Formulas

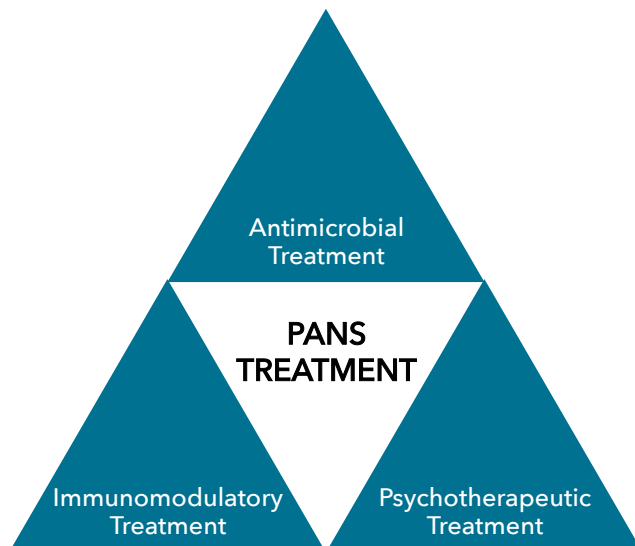
In patients with the acute onset of symptoms, patients must meet the Absolute Criteria and TWO Major Criteria .	If the acute onset is difficult to elucidate, patients must meet TWO Major Criteria and THREE Minor Criteria .
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Additional Supporting Evidence

- Positive GAS titers
- Positive EBV IgM (VCA) (EBNA)
- Positive ANA titer (speckled)
- Elevated IgE levels
- Leukopenia
- Increased Circulating Immune Complexes (c1q, c3d, Raji cells)
- Sleep study abnormalities
- MRI abnormalities
- EEG abnormalities
- PET scan abnormalities
- Positive response to antibiotic trial
- Positive response to steroid “burst”
- Other positive specific autoimmune encephalopathic antibodies such as HSV, VZV, EV, HHV-6, AntiNMDAR, ALE, GAD-65
- Cunningham Panel (Moleculera Labs)
- “The best test is still taking a thorough history and listening to the parents.” Dr. Sue Swedo, Chief of Developmental Pediatrics, Neuroscience Branch, NIMH⁴²

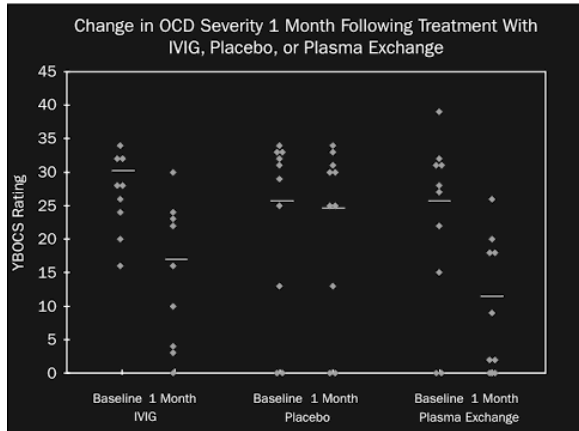
Clinical Management

In 2014, over forty physicians and researchers representing the fields of immunology, infectious disease, microbiology, neuroimmunology, neurology, pediatrics, psychiatry, and rheumatology from twenty three academic institutions across the US, Canada, and Australia convened to craft a standard of care “best practice” guidelines. These evidence based, peer-reviewed guidelines, published in the Journal of Child and Adolescent Psychopharmacology July/Aug 2017³⁷, show that there are three recommended complementary treatment modalities when treating cases of PANDAS/PANS:

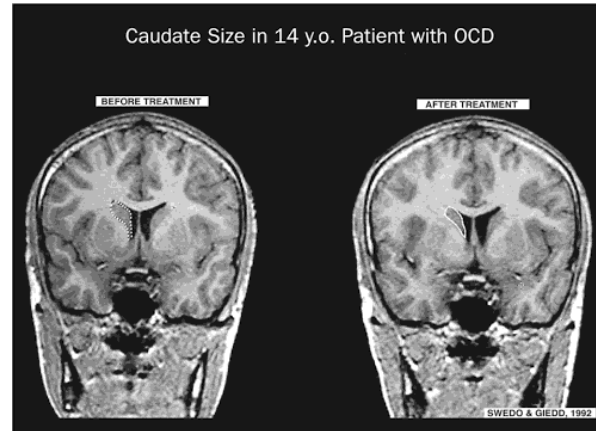


- Removing the **SOURCE** of the inflammation with antimicrobial interventions.
- Treating disturbances of the immune **SYSTEM** with immunomodulatory and/or anti-inflammatory therapies.
- Treating the **SYMPTOMS** with psychoactive medications, psychotherapies (particularly cognitive behavioral therapy), and supportive interventions.³⁷

Early recognition and prompt treatment of occult GAS infections can produce complete symptom remission.¹⁶ Antibiotics may help PANS patients, even in the absence of documented GAS infection.⁶ Immunomodulatory therapies, such as steroids, IVIG or therapeutic plasmapheresis, are helpful for severe, debilitating symptoms.¹⁷⁻¹⁹



A. IVIG vs. Placebo vs. Plasmapheresis
Improvements: 45%, 0% and 58% respectively



B. 20% reduction in caudate size following immunomodulatory treatment

Effects of therapeutic plasmapheresis and intravenous immunoglobulin (IVIG) in PANDAS. A. IVIG and plasmapheresis produced a significant improvement in OCD severity in children with PANDAS, relative to sham IVIG infusion (from Perlmutter et al., 1999). B. Caudate size was reduced by 20% in a child with PANDAS after immunomodulatory treatment (from Giedd et al., 1996).

Additionally, the PANDAS Physicians Network has developed a diagnostic flowchart for physicians to aid in recognition and treatment (<https://www.pandasppn.org/flowchart>). This chart is updated frequently to reflect most up today knowledge on the condition. Physicians and mental health providers are encouraged to check the site regularly.³⁸

Quite often, children with PANDAS/PANS are also identified as having co-occurring conditions including, but not limited to, Autism Spectrum Disorders, Immune Deficiencies, or other autoimmune illnesses or encephalopathies. In these cases, as in all cases of potential neuroimmune illness, it is very important that treatment decisions are made to ensure best possible clinical outcome. For example, if a child has both a moderate to severe PANDAS and a documented immune deficiency warranting immunomodulatory treatment, a “loading dose” of immunoglobulin may be required to halt the autoimmune attack before proceeding with the more typical monthly doses prescribed for the immune deficiency.

It is the recommendation of this Advisory Council that the diagnostic criteria, practice parameters and treatment protocols identified here shall continue to be practiced as the standard of care for PANDAS/PANS in Illinois. **However, it is imperative that more physicians, educators and mental health providers become aware of the condition and how to treat it.**

INCREASING CLINICAL AWARENESS

- The Illinois Department of Public Health has created a PANDAS/PANS tab on their website to enable users of their site to learn more about PANDAS/PANS. The tab also provides direct links to the PANDAS Physicians Network flowchart to aid in ease of recognizing the disorder, and includes resources for physicians and families.
- A PANDAS/PANS Summit occurred on February 8, 2017. The goals of the Summit were to encourage necessary collaboration between the Advisory Council/Illinois Department of Public Health, the Department of Human Services, and the community to gather information on issues pertaining to educating medical providers, medical students, and the general public on the prompt diagnosis and treatment of PANDAS/PANS, to ensure health and maximum outreach, and to promote education related to the nature and extent, underlying causes, and prevention of PANDAS/PANS.
- The development of presentations that would yield the participants credit for professional education has been investigated. Presentations are in development currently. These presentations would be available to members of the council to give upon request.
- Charlie's Law, *PA100-0024*, was signed into effect on July 18, 2017. This law enables children in IL to access insurance covered care for treatments of PANDAS/PANS.
- In collaboration with the Department of Insurance, a document to answer frequently asked questions pertaining to Charlie's Law was developed and is available on the Department of Insurance website.
- Collaborated with a leading insurance provider to ensure education for medical policy directors on PANDAS/PANS. Encouraged appropriate and consistent access to care for families in need of treatment. Suggested the use of state and national experts when conducting peer-to-peer reviews as other specialists may not yet have sufficient knowledge or experience to offer an informed opinion on physician recommended care.
- Members of the PANDAS/PANS Advisory Council and the PANDAS/PANS Advocacy and Support organization exhibited at both the Illinois Chapter of the American Academy of Pediatrics and the National American Academy of Pediatrics (AAP) conferences.

NETWORK OF EXPERTS

Throughout the country there are many physicians practicing in the relevant clinical areas pertaining to the diagnostics and treatment of PANDAS/PANS. In addition, there are scientists continually researching the condition to improve upon the care of children. The PANDAS/PANS Collaborative Consortium members are listed here:

- **Harvard (MGH)** - Kyle Williams & Dan Geller (Child Psych), Mark Pasternack (Peds ID)
- **Yale** - James Leckman, Robert King (both Child Psych)
- **Columbia** - Dritan Agalliu (basic science of blood-brain barrier), Mady Hornig (Neuroimmunology)
- **Nemours/Delaware Children's Hospital** - Jo Elia (Child Psych), Harry Chugani (PET neuroimaging)
- **NIMH** - Susan Swedo (Pediatrics), Rebecca Hommer & Paul Grant (Child Psych)
- **Georgetown** - Beth Latimer (Pediatric Neuro), Earl Harley (ENT)
- **UNC** - Jim Crowley (Genetics)
- **Univ South Florida** - Tanya Murphy (Child Psych), Jolan Walter (Immunology)
- **Loyola University** (Hinsdale, IL) - Miro Kovacevic (Pediatrics)
- **University of Minnesota** - Pat Cleary (basic science, microbiology of Group A strep)
- **Baylor University** - Eyal Muscal (Peds Rheumatology)
- **Univ. Oklahoma** - Madeleine Cunningham (GAS microbiology; immune response to infection)
- **University of Arizona** - Sydney Rice (Dev/Behav Peds) & Michael Daines (Peds Immunology)
- **Stanford** - Jenny Frankovich (Peds Rheumatology), Margo Thienemann & Kiki Chang (Child Psych)
- **Moleculera Labs** - Craig Shimasaki (Antibody Testing)
- **PANDAS Physicians Network** - David Brick (Pediatric Cardiology)

Within the State of Illinois, the practicing members of this advisory council can be consulted for their expertise in the appropriate areas.

- Diana Brown, School Psychology
- Kathleen M. Casey, RN, PEL-CSN
- Dr. Pamela Campbell, MD, Child Psychiatry, Southern Illinois University
- Jessica Gerdes, MS, RN, NCSN, Principal Consultant/School Health, Illinois State Board of Education
- Dr. Anette Mnabhi, DO, Synergy Healthcare
- Wendy Nawara, MSW, Executive Director, PANDAS/PANS Advocacy and Support
- Dr. Greg Sharon, MD, Immunologist, Asthma and Allergy Center
- Tiffany Tumminaro, LCSW, CADC, Life Care Counseling
- Dr. Anjum Usman, MD, True Health Medical Center

OUTREACH

- The professional members of the Advisory Council are available as a Speakers' Bureau.
- The council has developed a list of Medical Associations, Education Associations, and medical schools throughout Illinois that can be targeted to receive general information on the diagnosis and treatments of PANDAS/PANS.

RECOMMENDATIONS FOR THE FUTURE

In keeping with the original goals of *Public Act 99-0320*, while also expanding upon our goals for 2018, the PANDAS/PANS Advisory Council makes the following recommendations:

ENACT STANDARD PRACTICE GUIDELINES

Because the National Institute of Mental Health division of the National Institute of Health, the PANDAS/PANS Collaborative Consortium, and the PANDAS Physicians Network have established diagnostic and treatment guidelines that have been published and are now being employed by numerous experts and relevant practicing physicians throughout the country, the PANDAS/PANS Advisory Council of Illinois is recommending the standardization of care as reported here. We recognize that medicine is an ever changing and evolving field, and as such, we also recommend the members of this council stay up to date on any new science, research, and protocols to advise as needed.

DEVELOP MECHANISMS TO INCREASE PUBLIC AWARENESS

- With Illinois Department of Public Health, Illinois Department of Health and Human Services and other pertinent government agencies, assist in the creation of awareness campaign materials appropriate for doctors' offices and public health clinics.
- Request assistance from Illinois State Medical Society, the Illinois American Academy of Pediatrics and other professional societies to disseminate educational materials.
- Encourage any appropriate state agencies to provide an educational tab about PANDAS/PANS on their respective websites, or link to the Illinois Department of Public Health tab, as well as local resources (treating physicians, support organizations).
- With PANDAS/PANS Advocacy and Support and assistance from the PANDAS/PANS Collaborative Consortium, participate in the development of CEU/CME online training for pediatricians, mental health providers, and first responders/Emergency Departments
- Investigate the possibility of bringing a PANDAS/PANS Center of Excellence to an Illinois teaching hospital to facilitate prompt recognition and treatment of PANDAS/PANS to ease the burden on the State.
- In the spring of 2018, another PANDAS/PANS Summit will be held. Location to be determined. The meeting will pull together individuals from the various specialty areas involved in dealing with children and families impacted by PANDAS/PANS, and will continue to develop solutions for them. Breakout sessions will take place to focus on the published treatment guidelines and workgroups will identify areas of action to meet the ongoing challenge of educating health care providers, educational professionals and families about PANDAS/PANS.
- Creation of templates and pocket cards to facilitate easier diagnostics and record keeping for physicians.
- Develop a flowchart, with the assistance of the Department of Insurance and the Department of Labor, for families and doctors to more easily navigate the insurance process.
- Invite a member of the Illinois Chapter of the American Academy of Pediatrics and a member of the Illinois State Medical Society to attend Advisory Council meetings.

PROVIDE OUTREACH TO EDUCATORS AND PARENTS

- With Illinois Department of Public Health, Illinois Department of Health and Human Services, Illinois State Board of Education and other pertinent government agencies, assist in the creation of awareness campaign materials appropriate for school nurses, school social workers and school psychologists, and school administrators.
- Continue to encourage the use of strep notices, and written explanations of school policies regarding the reporting of classroom illnesses and healthy practices to avoid the spreading of disease. Consider basic information on PANS/PANDAS to be added to Parent Handbooks.
- Increase understanding of available support organizations for families through participation in state agencies' special events, such as the Illinois Department of Public Health's School Health Days.
- Provide professional development for teachers and administrators.
- Collaborate with Illinois Virtual Schools to promote online learning opportunities for children with PANS/PANDAS.
- Promote the use of the Illinois Attorney General's Office Healthcare Bureau to handle issues pertaining to consumer issues on healthcare accessibility.

INCREASE UNDERSTANDING OF THE BURDEN ON ILLINOIS

- Illinois Department of Public Health to gather data and surveillance of incidence statistics on PANDAS/PANS, and its co-occurring conditions such as Autism Spectrum Disorder, Immune Deficiencies or other autoimmune conditions in children.

The PANDAS/PANS Advisory Council will continue to work on its commission to review recommendations concerning standard practice guidelines for PANDAS/PANS; develop mechanisms to increase clinical awareness of PANDAS/PANS; provide outreach to educators and parents; and develop a network of volunteer experts who can serve as resources within the State.

Advisory Council meetings in 2018 will be held at Illinois Department of Public Health Springfield and West Chicago offices on the second Tuesday of each month at 9am. Call-in numbers are also available. For more information, contact Nick Florian at Nick.Florian@Illinois.gov.

In closing, PANDAS/PANS has long been a misunderstood condition. However, when it is estimated to effect approximately 1 in 200 children, its potential detriment can not be ignored. The present available scientific evidence provides an excellent framework for the State of Illinois to impact the positive outcomes for these children and reduce the potential long-term physical and mental health consequences they may suffer.

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