

# **2022-23 Autism Spectrum Disorder Fellowship Annual Report**

## **Department of Disability Services (DDS) and Department of Mental Health (DMH)**

The Department of Mental Health (DMH) has an established Residency and Fellowship training grant program for over 30 years that provides money to most of the psychiatric residencies in Massachusetts with the goal to influence clinical and didactic curricula to support training in public sector and community psychiatry. To operationalize training for nurse practitioners and psychiatrists who will specialize in providing treatment for individuals with developmental disabilities, particularly autism spectrum disorders, these training programs could easily increase their scope to develop an Autism Fellowship being fully embedded in general and/or child psychiatric training programs and within academic medical centers. The intention of the fellowships supported by Department of Disability Services (DDS) was both to increase psychiatric practitioners trained to treat individuals with Autism across the life span as well as to provide ongoing training throughout the academic medical centers and region about autism spectrum disorders for all levels of healthcare providers. Originally, in 2015-16, DMH invited all their training programs whose medical center had autism spectrum disorder treatment and training programs to provide these fellowships. Three programs volunteered: University of Massachusetts Medical Center in Worcester, Massachusetts General Hospital's Lurie and Bressler Centers, and Boston Medical Center. These training grants were procured in 2022 and included the request for fellowship training in autism spectrum disorders. The UMass Autism Training site reports 10 evaluations for DDS and DMH. The MGH Autism Training sites report 7 evaluations requested by DDS and DMH.

### **I. Massachusetts General Hospital DDS/DMH ASD Site**

We are pleased to provide an update regarding the activities of the Massachusetts General Hospital Autism Spectrum Disorder Fellowship funded by the Departments of Mental Health and Developmental Disabilities between the academic year of 2022 to 2023. Faculty include the fellowship director, Dr. Chris McDougale and associate directors Drs. Gagan Joshi and Chris Keary.

Our program was pleased to welcome a new fellow in the summer of 2023, Dr. Dana Tran. She joins us after completing her child and adolescent psychiatry training program at McGill University. She is busy growing her outpatient clinic at the Lurie Center and Bressler Clinic sites and has already staffed multiple consultation requests from the Departments of Mental Health and Developmental Services. We are also continuing to develop a pipeline for recruiting competitive candidates for the 2024-2025 academic year with multiple applicants having shown interest in the fellowship.

Our efforts to ensure we have a trainee for each academic year going forward include opening the training program to both adult psychiatry trainees and nurse practitioners while keeping our priority to

recruit competitive candidates passionate for working with this population and comfortable with the complexity inherent in working with adults with both chronic and persistent mental health conditions and developmental disabilities.

Over the 2022-2023 academic year the Massachusetts General Hospital Autism Spectrum Disorder Fellowship provided consultations to 7 patients. Individuals were seen on referral from clinicians both from DMH and DDS with a prompt turn-around time from referral to time of appointment. Trainees continue to be provided with ample experience in working with adults with autism. Our Autism clinics continue to provide specialty autism care to large groups of adult patients 18 years or older with autism spectrum disorder. These numbers highlight our commitment to the care of adult Massachusetts residents with developmental disorders.

Clinical work and teaching responsibilities of faculty are here described. Clinical responsibilities of the fellow include seeing outpatients at both the Bressler Program and Lurie Center. Fellows are anticipated to see two to four new evaluations a week and provide ongoing care for these patients as needed. In addition, fellows have a reserved slot to see DMH/DDS referrals twice a month to ensure prompt staffing. New patients are staffed promptly with preceptors (Dr. Joshi at the Bressler Program and Dr. Keary at the Lurie Center) and have additional time on a weekly scheduled basis to discuss follow up care for their existing patients. One day a week is reserved for lectures and academic work, with the fellowship director, Dr. McDougale, providing overall supervision for academic work and mentorship. In addition to their clinical work, the fellow attends a 17-lecture series on topics important to the care of adults with a neurodevelopmental disorder.

In addition, faculty from the MGH ASD Fellowship continue to direct Autism teaching block for the child psychiatry fellows at MGH, adult psychiatry residents at MGH/McLean and participate in precepting MGH pediatrics residents in their Child Development rotation. Faculty from the MGH ASD Fellowship run the 1-month long Harvard Medical School elective PS530M.3: Multidisciplinary Clinic for Children, Adolescents & Adults with Autism Spectrum Disorder for fourth year medical students interested in developing expertise in care for patients with autism. Staff from our faculty have won teaching awards for their work with medical students.

Future goals for the fellowship include ensuring opportunities for future trainees to increase their experience educating others on the care of patients with autism. Our clinic leadership receives routine speaking requests on the local, regional and national level and has extensive experience mentoring trainees on lecture and curriculum development on topics pertaining to the care of patients with autism and psychiatric comorbidities.

Thank you for your ongoing support for this training program and efforts to foster clinical expertise in the care of patients with developmental disability in the state of Massachusetts.

**Academic activities undertaken by the faculty over the 2021-2022 academic year are here described.**

**Publications:**

**Original Articles**

1. Bradshaw, J., Gillespie, S., McCracken, C., King, B.H., McCracken, J.T., Johnson, C.R., Lecavalier, L., Smith, T., Swiezy, N., Bearss, K., Sikich, L., Donnelly, C., Hollander, E., **McDougale, C.J.**, Scahill, L.:

Predictors of caregiver strain for parents of children with autism spectrum disorder. J Autism Dev Disord 51:3039-3049, 2021.

2. Thom, R.P., Poher, B.R., **McDougle, C.J.**: Psychopharmacology of Williams syndrome: Safety, tolerability and effectiveness. Expert Opinion on Drug Safety  
Doi:10.1080/14740338.2021.1867535
3. Cariveau, T., McCracken, C.E., Bradshaw, J., Postorino, V., Shillingsburg, M.A., **McDougle, C.J.**, Aman, M.G., McCracken, J.T., Tierney, E., Johnson, C., Lecavalier, L., Smith, T., Swiezy, N.B., King, B.H., Hollander, E., Sikich, L., Vitiello, B., Scahill, L.: Sex differences in treatment seeking youth with autism spectrum disorder. J Child Fam Stud (2021). <https://doi.org/10.1007/s10826-021-01905-7>
4. **Keary, C.J.**, Mullett, J.E., Nowinski, L., Wagner, K., Walsh, B., Saro, H., Erhabor, G., Thibert, R.L., **McDougle, C.J.**, Ravichandran, C.T.: Parent description of anxiety in Angelman syndrome. J Autism Dev Disord (2021). doi:10.1007/s10803-021-05238-8
5. Huston, J., Thom, R.P., Ravichandran, C.T., Mullett, J.E., Moran, C., Waxler, J., Poher, B.R., **McDougle, C.J.**: Repetitive thoughts and repetitive behaviors in Williams syndrome. J Autism dev Disord (2021). <https://doi/10.1007/s10803-021-04979-w>
6. Macenski, C.L., Kimball, A., Gansner, M., Levy, M., Megargal, E., **McDougle, C.J.**, Thom, R.P.: Evaluation and treatment of new-onset psychotic symptoms in a patient with autism spectrum disorder and multiple autoimmune disorders. Harv Rev Psychiatry 29(5):378-387, 2021.  
doi:10.1097/HRP.0000000000000314
7. Macenski, C.L., Hamel, M.P., **McDougle, C.J.**, Thom, R.P.: Challenges and strategies to mitigate problematic social media use in psychiatric disorders. Harv Rev Psychiatry (2021).  
doi:10.1097/HRP.0000000000000308
8. Thom, R.P., Palumbo, M.L., Thompson, C., **McDougle, C.J.**, Ravichandran, C.T.: Selective serotonin reuptake inhibitors for the treatment of depression in adults with Down syndrome: A preliminary study. Brain Sci 11(9),1216, 2021. <https://doi.org/10.3390/brainsci11091216>
9. Majd, Balaj, K., Thom, R.P., **McDougle, C.J.**, Keary, C.J.: Suspected cannabis-induced mania and psychosis in young adult males with autism spectrum disorder. J Autism Dev Disord, in press.
10. Howe, Y.J., Thom, R.P., Notson, E.E., **McDougle, C.J.**, Palumbo, M.L.: Buspirone for generalized anxiety disorder in Down syndrome: Three cases. J Dev Behav Pediatr, in press.
11. Sikich, L., Kolevzon, A., King, B.H., **McDougle, C.J.**, Sanders, K.B., Kim, S.-J., Gregory, S.G., Spanos, M., Chandrasekhar, T., Trelles, M. D.P., Rockhill, C.M., Palumbo, M.L., Witters Cundiff, A., Montgomery, A., Siper, P., Minjarez, M., Nowinski, L.A., Marler, S., Shuffrey, L.C., Alderman, C., Weissman, J., Zappone, B., Mullett, J.E., Crosson, H., Hong, N., Sieckinski, S.K., Giamberardino, S.N., Luo, S., She, L., Bhapkar, M., Dean, R., Scheer, A., Johnson, J., Gregory, S.G., Veenstra-VanderWeele, J.: Intranasal oxytocin in children and adolescents with autism spectrum disorder. N Engl J Med, 385; 1462-1473, 2021

12. Thom, R.P., Balaj, K., Poher, B., **Keary, C.J.**, Poher, B.R., **McDoughle, C.J.**: Functional neurological symptom disorder in Williams syndrome.: J Acad Consult Liaison Psychiatry. doi.org/10.1016/j.jaclp.2021.09.007
13. Thom, R.P., **McDoughle, C.J.**: Assessment and differential diagnosis of repetitive thoughts and repetitive behaviors. Rev J Autism dev Disord, submitted.
14. **Keary, C.J.**, Ravichandran, C.T., Mullett, J., Thibert, R., **McDoughle, C.J.**: Parent description of anxiety in Angelman syndrome. Am J Med Genetics, in press.
15. **McDoughle, C.J.**, Thom, R.P., Ravichandran, C.T., Palumbo, M.L., Politte, L.A., Mullett, J., Keary, C.J., Erickson, C.A., Stigler, K.A., Matthieu-Frazier, L., Posey, D.J.: A randomized double-blind, placebo-controlled pilot trial of mirtazapine for anxiety in children and adolescents with autism spectrum disorder. Neuropsychopharmacology, submitted.
16. **Keary, C.J.**, Thom, R.P., **McDoughle, C.J.**: Stimulant intolerance in children with Angelman syndrome with hyperactivity: A case series, in press. Psychiatr Genet, submitted.
17. Tseng, C.-E., **McDoughle, C.J.**, Hooker, J.M., Zurcher, N.R.: Epigenetics of autism spectrum disorder: Histone deacetylases. Biol Psychiatry, submitted.
18. Thom, R.P., Balaj, K., **Keary, C.J.**, Poher, B.R., **McDoughle, C.J.**: Functional neurological symptom disorder is Williams syndrome. Journal of the Academy of Consultation-Liaison Psychiatry, submitted.
19. Straub, L., Bateman, B.T., Hernandez-Diaz, S., York, C., Lester B., Wisner, K.L., **McDoughle, C.J.**, Pennell, P.B., Gray, K.J., Zhu, Y., Suarez, E.A., Mogun, H., Huybrechts, K.: Neurodevelopmental disorders in publicly and privately insured children in the US. JAMA Psychiatry, in press.
20. Straub, L., Hernandez-Diaz, S., Bateman, B.T., Wisner, K.L., Gray, K.J., Pennell, P.B., Lester, B., **McDoughle, C.J.**, Suarez, E.A., Zhu, Y., Zakoul, H., Mogun, H., Huybrechts, K.: Antipsychotic drug exposure in pregnancy and risk of neurodevelopmental disorders. Lancet Psychiatry, submitted.
21. Wozniak J, DiSalvo M, Farrell A, Yule A, **Joshi G**, Cook E, Faraone SV, Biederman J. Can pediatric bipolar disorder be successfully treated when comorbid with conduct disorder? A secondary analysis of clinical trials of risperidone, olanzapine, quetiapine, ziprasidone, and aripiprazole. *J Psychopharmacol*. 2022 May 5:2698811221087673. doi: 10.1177/02698811221087673.
22. Wozniak J, DiSalvo M, Farrell A, Vaudreuil C, Uchida M, Ceranoglu TA, **Joshi G**, Cook E, Faraone SV, Biederman J. Findings from a pilot open-label trial of N-acetylcysteine for the treatment of pediatric mania and hypomania. *BMC Psychiatry*. 2022 May 3;22(1):314. doi: 10.1186/s12888-022-03943-x. PMID: 35505312; PMCID: PMC9066881.
23. McKowen J, Woodward D, Yule AM, DiSalvo M, Rao V, Greenbaum J, **Joshi G**, Wilens TE. Characterizing autistic traits in treatment-seeking young adults with substance use disorders. *Am J Addict*. 2022 Mar;31(2):108-114. doi: 10.1111/ajad.13247. PMID: 34957636.
24. Ceranoglu TA, Cassano P, Hoskova B, Green A, Dallenbach N, DiSalvo M, Biederman J, **Joshi G**. Transcranial Photobiomodulation in Adults with High- Functioning Autism Spectrum Disorder:

Positive Findings from a Proof-of-Concept Study. Photobiomodul Photomed Laser Surg. 2022 Jan;40(1):4-12. doi: 10.1089/photob.2020.4986. PMID: 34941429.

25. Yule AM, DiSalvo M, Biederman J, Wilens TE, Dallenbach NT, Taubin D, **Joshi G**. Decreased risk for substance use disorders in individuals with high-functioning autism spectrum disorder. Eur Child Adolesc Psychiatry. 2021 Aug 7;10.1007/s00787-021-01852-0. doi: 10.1007/s00787-021-01852-0. Epub ahead of print. PMID: 34363537; PMCID: PMC8936975.
26. Duis J, Bindels-de Heus GCB, Valstar MJ, Navis C, Hooven-Radstaake M, Ernst S, Katz T, Diaz-Medina G, Katayan A, Nespeca M, Nangia S, Thibert R, Glaze D, **Keary CJ**, Pelc K, Simon N, Sadhwani A, Heussler H, Wheeler A, Summers J, Woeber C, DeRamus M, Thomas A, Gelfand L, Kertcher E, DeValk L, Kalemeris K, Baym C, Haris N, Gorham JP, Bohnsack BL, Chambers RC, Harris S, Chambers HG, Okoniewski K, Jalazo E, Berent A, Bacino C, Beaudet A, Anderson A. A Multidisciplinary Approach and Consensus Statement to Establish Standards of Care for Angelman Syndrome. Molecular Genetics & Genomic Medicine. 2021. Doi: 10.1002/mgg3.1843

### **Reviews/Chapters:**

Child and Adolescent Psychiatry, In Series "What Do I Do Now?", Thom, R.P., **McDougle, C.J.** (eds.), Oxford University Press, New York, NY, in press.

### **Developmental Disability Related Presentations:**

#### **Academic Presentations: Chris McDougle**

"Toward an Immune-Mediated Subtype of Autism Spectrum Disorder," Grand Rounds, Department of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, NY, April 27, 2021.

"Crossroads in Psychiatry: Translational Studies of Inflammatory Factors in Autism," Grand Rounds (with William Carlezon, PhD), Department of Psychiatry, McLean Hospital, Harvard Medical School, Belmont, MA, May 20, 2021.

#### **Academic Presentations: Chris Keary**

"Behavior and Anxiety Concerns in Angelman Syndrome" Angelman Syndrome Foundation 2021 Online Education Conference, August 10th 2021.

"Psychopharmacology of Autism Spectrum Disorder," Neuropsychiatry: A Comprehensive Update, Harvard Medical School and Center for Brain/Mind Medicine and Department of Psychiatry at Brigham and Women's Hospital, October 5<sup>th</sup> 2021.

"Community Resources for Individuals with Neurodevelopmental Disorders," 2020 Annual Psychotherapy Conference: Psychosocial Treatment of Neurodevelopmental Disorders. Massachusetts Psychiatric Society, Webinar, November 14<sup>th</sup> 2020

### **Academic Presentations: Gagan Joshi**

**Joshi G.** The Assessment and Management of Autism Spectrum Disorder. In: East Boston Neighborhood Health Center Project (Program Title). MGH Psychiatry Academy, Boston (Virtual), July 2021.

**Joshi G.** Autism Spectrum Disorder. In: Massachusetts General Hospital-Alfaisal University Child Mental Health Program (Program title). MGH Psychiatry Academy & Alfaisal University, Boston (Virtual), October 2021.

**Joshi G.** Clinical and Neural Correlates of Autism and Associated Psychopathology. In: CCS-IASP and UCCS-Honors Program's School of Complexity Event: Gray Matters and Complex Systems Seminar (Program Title). University of Colorado at Colorado Springs, Colorado Springs, CO (Virtual), October 2021.

**Joshi G.** Advanced Psychopharmacologic Treatment for the Child & Adolescents with Autism Spectrum Disorder. In: Advances in Neuro-psychopharmacology: Spotlights on Progress and Beacons to the Future (Session title). 7th Congress of the Asian College of Neuro-psychopharmacology (AsCNP), Singapore (Virtual), October 2021.

**Joshi G.** Clinical Profile of Psychiatrically Referred Youth with ASD (Co-Chair). In: Autism in Psychiatrically Referred Youth: An Update on Assessment and Management (Institute). The American Academy of Child and Adolescent Psychiatry Virtual Annual Meeting, October 2021.

**Joshi G.** Defining Autistic Traits in Youth (Co-Chair) In: Traits in Young People with ASD (Clinical Perspective). The American Academy of Child and Adolescent Psychiatry Virtual Annual Meeting, October 2021.

**Joshi G.** Autism Spectrum Disorder and Associated Psychopathology. In: Experiences of healthcare providers of autism (Session title; Virtual). Roosevelt Institute, Bogota, Colombia (Virtual), December 2021.

**Joshi G.** A Neuro-Imaging Informed Controlled Trial of Memantine in Youth with High-Functioning Autism Spectrum Disorder. In: Autism Spectrum Disorder: Updates on Clinical Presentation and Treatments (Chair), American Professional Society for ADHD and Related Disorders Virtual Annual Meeting, January 2022.

**Joshi G.** Characterizing Autism in Psychiatrically Referred Youth. Kennedy Krieger Institute Grand Rounds, Baltimore, MD (Virtual), March 2022.

**Joshi G.** Autism and Associated Psychopathology in Intellectually Capable Adults. In: Cognitive Neurology Continuing Education - CNU Series (Seminar title; Virtual). Beth Israel Deaconess Medical Center, Boston (Virtual), April 2022.

### **Future goals**

Future goals for the fellowship include ensuring opportunities for future trainees to increase their experience educating others on the care of patients with autism. Our clinic leadership receives routine speaking requests on the local, regional and national level and has extensive experience mentoring

trainees on lecture and curriculum development on topics pertaining to the care of patients with autism and psychiatric comorbidities.

Thank you for your ongoing support for this training program and efforts to foster clinical expertise in the care of patients with developmental disability in the state of Massachusetts.

## **II. UMass Chan Medical School/UMass Memorial Health Care Site**

1. How many persons were assessed during the year: 10 evaluations for DDS/DMH clients

a. Total number of assessments or consultations provided by the Service –

Total Number of Evaluations/Consultations seen in CANDO by MD/APRN: 188

b. How many were completed by the Fellow (both total and DDS/DMH)

34 Evaluations were completed by the fellows (Total), 10 of which were DDS/DMH referrals

2. Clinical work, teaching, training

a. Specify the accomplishment of the Fellow in these areas

**David Cochran, MD**, fellow, has been medical director of the Center for Autism and Neurodevelopmental Disorders at UMass Chan Medical School/UMass Memorial Health Care and has oversight over all psychiatric providers within the clinic. He has been appointed Fellow of the American Psychiatric Association and Distinguished Fellow of the American Academy of Child and Adolescent Psychiatry in 2023. He has trained Kate Andersson, NP, DMH/DDS Neuropsychiatry Fellow (June 2023-August 2023), in the assessment and treatment of individuals with autism and neurodevelopmental disorders. He has also taught emergency service providers through the UMass Chan Medical School ECHO Autism program, providing consultation and training in crisis evaluations for individuals with autism spectrum disorder and intellectual disability across the state. He also provides contracted clinical consultations for adults with developmental disabilities referred by the MA Department of Developmental Services. He provides consultations to families in crisis as well as the mobile crisis teams overseeing their evaluations through the statewide MCPAP-ASDID program. He also teaches medical students in his role as an Early Clinical Learning facilitator and Core Small Group Facilitator in the UMass Chan Medical School vista curriculum.

**Kate Andersson, NP**, fellow, provided evaluations and treatment of individuals with autism and neurodevelopmental disorders at the CANDO clinic beginning in June 2023.

- b. Highlight any Service wide teaching or training provided

**Dr. Cochran** has provided teaching and training to emergency service providers across the state through the ECHO autism program. He has provided lectures to the Behavioral Health Clinicians at the Community Behavioral Health Centers across the state as a part of UMass ForHealth Consulting's Behavioral Health Clearinghouse program.

**Dr. Frazier** has overseen and taught in the ECHO Autism Crisis Care Educational Program that is being rolled out to all 26 Mobile Crisis Teams across the state. In addition, she has organized a lecture series and provided lectures to the Behavioral Health Clinicians at the Community Behavioral Health Centers across the state as a part of UMass ForHealth Consulting's Behavioral Health Clearinghouse program.

### 3. Talks

- a. Related to ASD

**Dr Cochran** – see below: “Autism Overview”, “Assessing Agitation”, “Elements of Family, Staff, and Patient Safety”, “Prescribing”, “Autism – Psychiatric Comorbidities and Treatments”, “Autism – Evolution of a Diagnosis”

- b. Provided by Faculty:

#### **Dr. Sheldon Benjamin**

11/17/23	Brain Injury in Adolescence (with Simon Harrison)	Neurology Case Conference Kings Health Partners The Maudsley Hospital London, UK (Hybrid)
11/14/23	The Six Neuropsychiatry Cases All Psychiatrists Should Know	Psychiatry Grand Rounds Lincoln Medical Center Bronx, New York (virtual)
11/9/23	Growing Up without Frontal Lobes: The Story of JP	Psychiatry Grand Rounds Tufts Medical Center Boston, MA



10/19/23	The Neuropsychiatric Examination and Ancillary Tests	Neuropsychiatry: A Comprehensive Update Harvard CME Symposium Boston MA (virtual)
10/17/23	Live! On Zoom! Teaching!	Faculty Development Workshop Department of Psychiatry Baystate Medical Center Springfield, MA
10/17/23	The Six Neuropsychiatry Cases All Psychiatrists Should Know	Psychiatry Grand Rounds Baystate Medical Center Springfield, MA
8/29/23	Forgetting to Remember, Remembering to Forget: A Neuropsychiatrist Thinks About Memory	Public Neuropsychiatry Lecture Institute of Psychiatry, Psychology and Neuroscience Kings College, London
6/21/23	Growing up without Frontal Lobes: The Story of JP	Neuropsychiatry Grand Rounds The National Hospital for Neurology and Neurosurgery at Queens Square University College London The Art Workers Guild Auditorium London UK
6/9/23	BRAIN BEHAVIOR EMOTION The Legacy of Phineas Gage (symposium) Moderator: Fernanda Tovar Moll  Growing up without Frontal Lobes: The Story of JP	Brain Congress 2023 Florianopolis, Brazil (virtual)
3/28/23	What we learned from the Brain of JP	Research Colloquium Neuropsychiatry MSc Program Kings College Institute of Psychiatry, Psychology and Neuroscience/Maudsley

Hospital  
London, UK

- |          |  |   |
|----------|--|---|
| 3/22/23  | The Six Neuropsychiatry Cases All Psychiatrists Should Know  | Psychiatry Grand Rounds<br>Kings College Institute of Psychiatry,<br>Psychology and Neuroscience/Maudsley<br>Hospital<br>London, UK (virtual) |
| 10/20/22 | The Neuropsychiatric Examination and Ancillary Tests   | Neuropsychiatry: A Comprehensive Update<br>Harvard CME Symposium<br>Boston MA (virtual)   |
| 6/21/22  | The Future of Graduate Medical Education Training in Neuropsychiatry (with special reference to functional neurological symptom disorders) | 4 <sup>th</sup> International Conference on Functional Neurological Disorders<br>Boston, MA   |

### Podcasts

**Benjamin S,** The Cases that Changed Neuropsychiatry, Episode 12 of *Mind Dive* (podcast), hosted by Kerry Horrell, PhD, and Robert Boland, MD, Menninger Clinic, Houston TX, 2022, available at <https://www.menningerclinic.org/for-clinicians/mind-dive-podcast>

**Benjamin S,** Inspiring Neuropsychiatry: The Nature of Asocial Behavior, The Brain Can Vodcast (Freiberg, Germany), with host Vasilisa Zhukova, November 2023, available at <https://youtu.be/ZYoSvZ71wcc?si=8sMzagxgpbC006zF>

### Dr. Jean Frazier

2023 “Psychopharmacologic Approaches in Autism”  
Presentation as part of the AACAP January Psychopharmacology Institute  
Brooklyn, NY

2023 “Psychiatric Outcomes in Extremely Preterm Born Youth. ELGAN meeting Chapel Hill, NC

2022 “The Center for Autism and Neurodevelopmental Disorders (CANDO): An Interdisciplinary Model of Care.” Presentation as part of the Harvard Conference entitled “Autism and Development: Optimizing and Integrating Service Delivery Models for the Neurodiverse” Cambridge, Massachusetts

2022 “Psychiatric Outcomes in Extremely Preterm Born Youth. ELGAN meeting at PAS, Denver, CO

### **Provided by Fellow**

**David Cochran**, MD, fellow, has given a series of talks to mobile crisis providers across Massachusetts as part of the ECHO Autism training program. Topics included: “Autism Overview”, “Assessing Agitation”, “Elements of Family, Staff, and Patient Safety”, and “Prescribing Practices during Crisis Treatment”.

Provided a lecture to the Community Behavioral Health Center clinicians on “Autism – Psychiatric Comorbidities and Treatments”

Gave a talk to the Pathways for Inclusive HealthCare scholars at UMass Chan Medical School on “Autism – Evolution of a Diagnosis

Gave lectures to medical students, residents, and fellows on “Brain Development”.

#### **4. Papers**

##### **a. Publications by the Faculty**

#### **Dr. Sheldon Benjamin**

Camp ME, Gagliardi JP, Jacobson SL, **Benjamin S**, Combined Residency Programs in Psychiatry, Academic Psychiatry 2022 46(3) 369-374.

**Benjamin S**, Schildkrout B, Smith TW, MacGillivray L, Adams CBL, Lauterbach MD, Rice JF, Smock WS, Tucker DM, Life-long deficits in social adaptation and the frontal lobes: New evidence, seventy-five years after Ackerly and Benton’s landmark case report of JP, Cortex 2023 158: 4-23.

Beresin EV, **Benjamin S**, Balon R, Brenner AM, Paul Mohl, M.D., 1944-2023, Past Editor in Chief of Academic Psychiatry, Academic Psychiatry 2023 47(2) 120-121.

**Benjamin S**, Dual residency training in neurology and psychiatry: History and current practice, Journal of Neuropsychiatry and Clinical Neuroscience, 2023 Sep 20: Epub ahead of print. PMID: 37727060.

**Benjamin S**, Bakeman D, Neuropsychiatric Symptoms, in Bajestan S, Barry D, Cummings JC, Trimble M (eds), Concise Guide to Neuropsychiatry and Behavioral Neurology, 3<sup>rd</sup> ed., American Psychiatric Publishing, 2022.

**Benjamin S**, “Billy,” in Beresin E, Arts for Health: Music, Emerald Publishing Ltd, Bingley, UK, 2022.

Keepers GA, Fochtman LJ, Anzia JM, **Benjamin S**, Choi-Kain L, Degenhardt A, Frankovich L, Lyness JM, Mojtabai R, Nelson K, Young AS, Hong SH, Oldham JM, Servis M, Sharp C, The American Psychiatric Association Practice Guideline for the Treatment of Patients with Borderline Personality Disorder, 2<sup>nd</sup> ed, *in press*, American Psychiatric Press, Washington DC, 2023.

#### **Dr. Jean Frazier**

**Frazier JA**, Cochran D, Kim S, Jalnapurkar I, Joseph RM, Hooper SR, Santos HP Jr, Ru H, Venuti L, Singh R, Washburn LK, Gogcu S, Msall ME, Kuban KCK, Rollins JV, Hanson SG, Jara H, Pastyrnak SL, Roell KR, Fry RC, O'Shea TM; ELGAN Study Investigators. Psychiatric Outcomes, Functioning, and Participation in Extremely Low Gestational Age Newborns at Age 15 Years. *J Am Acad Child Adolesc Psychiatry*. 2022 Jul;61(7):892-904.e2. doi 10.1016/j.jaac.2021.12.008. Epub 2021 Dec 29. PMID: 34973366; PMCID: PMC9240104.

**Bowling AB, Frazier JA**, Staiano AE, Broder-Fingert S, Curtin C. Presenting a New Framework to Improve Engagement in Physical Activity Programs for Children and Adolescents with Social, Emotional and Behavioral Disabilities. *Frontiers in Psychiatry*, section Public Mental Health. *Frontiers in Psychiatry*. 2022; 13:

<https://www.frontiersin.org/articles/10.3389/fpsy.2022.875181>

DOI=10.3389/fpsy.2022.87518

**Jalnapurkar I, Frazier JA**, Roth M, Cochran DM, Foley A, Merk T, Venuti L, Ronco L, Raines S, and Cadavid D. The Feasibility and Utility of Hair Follicle Sampling To Measure FMRP and FMR1 mRNA in Children With or Without Fragile X Syndrome. *Journal of Neurodevelopmental Disorders*. 2022; 14, 57: <https://doi.org/10.1186/s11689-022-09465-7>

**Charlot LR, Hodge SM, A. Holland A. & Frazier JA**. Psychiatric Diagnostic Dilemmas among People with Intellectual and Developmental Disabilities. *Journal of Intellectual and Developmental Disabilities Research*. 2022;66:805-816. doi: 10.1111/jir.12972. Epub 2022 Aug 16. PMID: 35974452.

**Cochran DM, Jensen ET, Frazier JA, Jalnapurkar I, Kim S, Roell KR, Joseph RM, Hooper SR, Santos HP, Kuban KCK, Fry RC, O'Shea TM**. Association of prenatal modifiable risk factors

with ADHD outcomes at age 10 and 15 in an extremely low gestational age cohort. *Frontiers in Human Neuroscience*, section Brain Health and Clinical Neuroscience. 2022; 16: <https://www.frontiersin.org/articles/10.3389/fnhum.2022.911098>.

DOI=10.3389/fnhum.2022.911098

Law R, Lewis D, Hain D, Daut R, DeBello MP, **Frazier JA**, Newcorn JH, Nurmi E, Cogan ES, Wagner S, Johnson H, & Lanchbury J. Characterization of seven medications approved for attention deficit/hyperactivity disorder using in vitro models of hepatic metabolism. *Xenobiotica*. 2022;52: 676-686.

Bastain TM, Knapp EA, Law A, Algermissen M, Avalos LA, Birnhak Z, Blackwell C; Breton CV, Cristiane Duarte C, **Frazier J**, Ganiban J, Greenwood P, Herbstman J, Hernandez-Castro I, Julie Hofheimer J, Karagas MR, Lewis J, Pagliaccio D, Ramphal B, Saxbe D, Schmidt R, Velez-Vega C; Tang X, Hamra GB, Margolis A. COVID-19 Pandemic Experiences and Symptoms of Pandemic-Associated Traumatic Stress Among Mothers in the US. *JAMA Network Open*. 2022;5(12):e2247330. doi:10.1001/jamanetworkopen.2022.47330

Lozano R, Thompson T, Dixon-Weber J, Erickson CA, Berry-Kravis E, Williams S, Smith E, **Frazier JA**, Rosselot H, Farmer C, Hessl D. Observable Symptoms of Anxiety in Individuals with Fragile X Syndrome: Parent and Caregiver Perspectives. *Genes (Basel)*. 2022;13:1660. doi: 10.3390/genes13091660. PMID: 36140827; PMCID: PMC9498703.

Joseph RM, Hooper SR, Heeren T, Santos HP Jr, **Frazier JA**, Venuti L, Foley A, Rollins CK, Kuban KCK, Fry RC, O'Shea TM; ELGAN Study Investigators. Maternal Social Risk, Gestational Age at Delivery, and Cognitive Outcomes among Adolescents Born Extremely Preterm. *Paediatr Perinat Epidemiol*. 2022;36(5):654-664. doi: 10.1111/ppe.12893. Epub 2022 May 18. PMID: 36530363; PMCID: PMC9754639.

Vaidya R, Yi JX, O'Shea TM, Jensen ET, Joseph RM, Shenberger J, Gogcu S, Wagner K, Msall ME, Thompson AL, **Frazier JA**, Fry R, Singh R; ELGAN-ECHO Study Investigators. Long-Term Outcome of Necrotizing Enterocolitis and Spontaneous Intestinal Perforation. *Pediatrics*. 2022 Nov 1;150(5):e2022056445. doi: 10.1542/peds.2022-056445. PMID: 36200375

Novins DK, Althoff RR, Brotman MA, Cortese S, DelBello M, Doyle A, Drury SS, Fortuna L, **Frazier JA**, Fristad M, Henderson SW, McCauley E, Middeldorp C, Njoroge WFM, Rogers CE, White T. Editor's Best of 2022. *J Am Acad Child Adolesc Psychiatry*. 2023 Jan;62(1):1-7. doi: 10.1016/j.jaac.2022.10.002. PMID: 36581385\*

Joseph RM, Lai ER, Bishop S, Yi J, Bauman ML, **Frazier JA**, Santos HP, Douglas LM, Kuban KCK, Fry RC, O'Shea MT. Comparing Autism Phenotypes in Children Born Extremely Preterm and

Children Born at Term. Autism Research.2023; 16:653-666. doi: 10.1002/aur.2885. Epub 2023 Jan 3.PMID: 3659564

Findling RL, Youngstrom EA, McClellan J, **Frazier JA**, Sikich L, Daniel D, & Busner J. An Optimized Version of the Positive and Negative Symptoms Scale (PANSS) for Pediatric Trials. J Am Acad Child Adolesc Psychiatry. 2023 Apr;62(4):427-434. doi: 10.1016/j.jaac.2022.07.864. Epub 2022 Dec 13. PMID: 36526163.

*Karpman HE, **Frazier JA**, Broder-Fingert S.* State of Emergency: A Crisis in Children's Mental Health Care (Editorial). Pediatrics. 2023 Mar 1;151(3):e2022058832.doi: 10.1542/peds.2022-058832. PMID: **36775800** \*

*Palmer SJ, Fanucci-Kiss A, Kipervassar E, Jalnapurkar I, Hodge SM, **Frazier JA**, Cochran D.* Effect of Emotional Valence on Emotion Recognition in Adolescents with Autism Spectrum Disorder. J Autism Dev Disord. 2023 Jan 13. doi: 10.1007/s10803-022-05831-5. Epub ahead of print. PMID: 36637588.

O'Shea TM, Register HM, Yi JX, Jensen ET, Joseph RM, Kuban KCK, **Frazier JA**, Washburn L, Belfort M, South AM, Santos HP Jr, Shenberger J, Perrin EM, Thompson AL, Singh R, Rollins J, Gogcu S, Sanderson K, Wood C, Fry RC; ELGAN-ECHO Pulmonary/Obesity Group. Growth During Infancy After Extremely Preterm Birth: Associations with Later Neurodevelopmental and Health Outcomes. J Pediatr. 2023;252:40-47.e5. doi: 10.1016/j.jpeds.2022.08.015. Epub 2022 Aug 18. PMID: 35987367.

Freedman AN, Clark J, Eaves LA, Roell K, Oran A, Rager J, Santos HP, Kuban K, Joseph RM, **Frazier J**, Marsit CJ, Burt AA, O'Shea TM, Fry RC. A multi-omic approach identifies an autism spectrum disorder(ASD) regulatory complex of functional epimutations in placentas. Autism Research. 2023;16:918–934. PMID: **36938998**. PMCID: **PMC10192070**.

**Frazier JA**, Li X, Kong X, Hooper SR, Joseph RM, Cochran DM, Kim S, Fry RC, Brennan PA, Msall ME, Fichorova RN, Hertz-Picciotto I, Daniels JL, Lai JS, Boles RE, Zvara BJ, Jalnapurkar I, Schweitzer JB, Singh R, Posner J, Bennett DH, Kuban KCK, O'Shea TM; program collaborators for Environmental influences on Child Health Outcomes. Perinatal Factors and Emotional, Cognitive, and Behavioral Dysregulation in Childhood and Adolescence. J Am Acad Child Adolesc Psychiatry. 2023 May 15:S0890-8567(23)00248-4. doi: 10.1016/j.jaac.2023.05.010. Online ahead of print.PMID: 37207889

b. Publications by the Fellow

**Dr. David Cochran**

Frazier JA, Li X, Kong X, Hooper SR, Joseph RM, **Cochran DM**, Kim S, Fry RC, Brennan PA, Msall ME, Fichorova RN, Hertz-Picciotto I, Daniels JL, Lai JS, Boles RE, Zvara BJ, Jalnapurkar I, Schweitzer JB, Singh R, Posner J, Bennett DH, Kuban KCK, O'Shea TM; program collaborators for Environmental influences on Child Health Outcomes. Perinatal Factors and Emotional, Cognitive, and Behavioral Dysregulation in Childhood and Adolescence. *J Am Acad Child Adolesc Psychiatry*. 2023 May 17:S0890-8567(23)00248-4. doi: 10.1016/j.jaac.2023.05.010. Epub ahead of print. PMID: 37207889.

**Cochran DM**, O'Shea TM. "Mediators of attention-deficit/hyperactivity disorder risk in individuals born preterm." *Developmental Medicine and Child Neurology*. 2023 Mar;65(3):302-303. doi: 10.1111/dmcn.15422. Epub 2022 Sep 23. PMID: 36151720.

Palmer SJ, Fanucci-Kiss A, Kipervassar E, Jalnapurkar I, Hodge SM, Frazier JA, **Cochran D**. "Effect of Emotional Valence on Emotion Recognition in Adolescents with Autism Spectrum Disorder." *Journal of Autism and Developmental Disorders*. 2023 Jan 13. doi: 10.1007/s10803-022-05831-5. Epub ahead of print. PMID: 36637588.

Jalnapurkar I, Frazier JA, Roth M, **Cochran DM**, Foley A, Merk T, Venuti L, Ronco L, Raines S, Cadavid D. "The feasibility and utility of hair follicle sampling to measure FMRP and FMR1 mRNA in children with or without fragile X syndrome: a pilot study." *Journal of Neurodevelopmental Disorders*. 2022 Dec 9;14(1):57. doi: 10.1186/s11689-022-09465-7. PMID: 36494616; PMCID: PMC9733195.

**Cochran DM**, Jensen ET, Frazier JA, Jalnapurkar I, Kim S, Roell KR, Joseph RM, Hooper SR, Santos HP Jr, Kuban KCK, Fry RC, O'Shea TM. "Association of prenatal modifiable risk factors with attention-deficit hyperactivity disorder outcomes at age 10 and 15 in an extremely low gestational age cohort." *Frontiers in Human Neuroscience*. 2022 Oct 20;16:911098. doi: 10.3389/fnhum.2022.911098. PMID: 36337853; PMCID: PMC9630552

## 5. Meetings Attended

- a. Include local, regional, national and international

**Dr Cochran** attended the American Academy of Child and Adolescent Psychiatry Annual Meeting, October 2022, Toronto, CA

**Dr. Frazier** attended the AACAP meeting as well as the American College of Neuropsychopharmacology meeting in Phoenix, Arizona

b. Note where presentations were provided

**Dr Cochran** presented a poster presentation at the International Society for Autism Research Annual Meeting, May 2023, Stockholm, Sweden.

6. Future goals or anticipated changes

**Dr. Sarah Palmer**, recent Child and Adolescent Psychiatry fellowship graduate, has joined the UMass Chan Medical School fellowship program to replace Kate Andersson, NP, who left at the end of August 2023 for personal reasons. We are excited to welcome Dr Palmer on board to conduct evaluations and assessments as part of the DMH/DDS Neuropsychiatry fellowship.

### **III. Boston Medical Center DDS/DMH ASD site**

This clinic is located within the Child Psychiatry clinic. It is staffed by 1 Child Psychiatrist, 1 Adult Psychiatrist and 1 – 4 th year Adult Psychiatry resident (TAYS fellow). For 3 months out the year a DBP fellow rotates through the clinic and a part time TAY Autism Resource Specialist.

Referrals come from BMC General Pediatrics, Complex Care Pediatric Clinic, Developmental and Behavioral Pediatrics and Pediatric Neurology as well as Community Health Centers affiliated BMC including but not limited to New Bedford, Brockton, Dorchester, South Boston, and East Boston.

Total number of assessments or consultations requested from DDS or DMH-none.

#### **Clinical work:**

Provides assessment for new patients with behavioral concerns in the context of a diagnosis of Autism and/or Intellectual Disability.

-Fellow works closely with Autism Resource specialist and Developmental Pediatrics to assure families are getting the most support possible.

-In the context of our consultation relationship with the Higashi school fellow took part in case consultations.

-The fellow participated in lectures for PGY3 and PGY4 about the fundamentals of autism and treating psychiatric comorbidities.

-Fellow is able to clearly identify the CORE symptoms and features of Autism and, with the training and supervision of faculty from the Department of Developmental Pediatrics (Dr. Augustyn) is proficient in the use CARS 2 to confirm Autism diagnosis. The fellow is able provide documentation to support referrals for Autism -specific services such as ABA.



-The fellow participates in weekly seminars held by the Department of Developmental and Behavioral Pediatrics

-The fellow participates in a multidisciplinary team meeting at a school for severely impaired children with Austin up to age 22. b. Highlight any Service wide teaching or training provided: see above.

**Talks:**

Related to ASD – PGY3 and PGY4 lectures.

-Provided by Faculty- Teaching in Development Pediatrics – focused on Psychopharmacology and comorbidities that interface with autism spectrum disorder.

-Provided by Fellow- see above. d. Misc: i. The Fellows and the faculty involved in the fellowship are recognized hospital-wide for experience with this population and are asked to be included in hospital wide conversations about creating an Autism friendly environment.

-Twice a year a fellow from the Developmental Pediatrics Program rotates with the clinic. The TAYS fellow works closely with the DBP fellow in the evaluation and assessment of new patients. The fellow also provides teaching in the area of psychopharmacology along with attending staff.

**Papers:**

none

**Meetings Attended:** Fellow's meeting with DMH/DDS as scheduled. b. Dr. Rubin attended AACAP with a focus on Psychopharmacology for Autism Spectrum disorder.

**Future goals and anticipated changes:**

-Continue to build connections with Autism Program Resource Specialist

-This year's fellow is participating for entire academic year, increasing our capacity by 50%

-Plan to continue to support Developmental Pediatrics Fellows for 3 months in the TAYS clinic. This has increased the ability for DBP providers to have more experience in working with the comorbidity of Autism and to continue to build expertise within the psychiatry program.

-Continue to work with fellow and staff during this year to update curriculum, create pre and posttests assessments, obtain consultation to make curriculum more interactive, consider publication of curriculum to MedEd Portal.

- About 80% of our patients have public insurance via Mass health. Our patients, reflecting the general population at BMC, represent diversity in language, culture and socioeconomic status.