# NEUROPSYCHIATRIC RESEARCH INSTITUTE







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State of Incorporation: North Dakota Date of Incorporation: May 27, 1955 Duration of Charter: Perpetual

# NEUROPSYCHIATRIC RESEARCH INSTITUTE

Dear Friends of NRI,

It has been a productive and busy year for scientists and staff at NRI! We completed one NIH grant that focuses on eating disorder treatment, and continue to work on another major NIH project examining substance use and bariatric surgery. In addition, we have successfully completed the first year of the two new bariatric surgery grants, which we were excited to receive one year ago. Additionally, two new projects are about to start with NIH funds; both focus on eating disorders and one is a collaboration with the University of Colorado School of Medicine, while the other is a collaborative venture with the University of North Carolina-Chapel Hill. In other words, in terms of federally funded projects, we remain very active! I recently asked our scientists to list out projects that they anticipate would be grant applications to NIH in the next year or so. Thirteen different projects were identified by the staff as grant applications in progress or about to be initiated. Importantly, this includes applications from NRI scientists whose primary appointment is at the UND School of Medicine, NDSU, or the NRI scientific staff. This type of integrated collaboration with our local universities is a central objective for NRI and is currently being met.

As much as we value the support and resources of NIH, the staff at NRI is also committed to collaborative ventures which do not rely on federal funding. Consistent with this value, we currently are collaborating on 19 different research projects with investigators from other universities or medical centers around the world. This sort of collaborative research is essential for trying to address significant medical and social problems through the scientific method. We are proud to have such a broad range of scientific collaborators and it is a testimony to our scientists and our staff that so many research groups are interested in collaborating with us.

In addition to our excellent collaborations with faculty from NDSU and the UND School of Medicine and Health Sciences, I also wish to acknowledge our collaborative work with the North Dakota Department of Human Services. We continue to work with state officials to find strategies to reduce the incidence and consequences of child maltreatment in North Dakota, and are particularly focusing on the relationship of child maltreatment and substance use and opioid abuse problems in our state.

Finally, NRI continues to examine new ways to continue to conduct clinical research in North Dakota as we move into the future. We have had excellent meetings with leadership groups from Sanford Research, North Dakota State University, and UND School of Medicine and Health Sciences regarding the continued development of clinical and translational research in North Dakota. These are truly exciting times for NRI and our many colleagues and collaborators in the state and region. I look forward to updating you on our continued developments along these lines and want to express my appreciation for the continued support that you offer to the institute and the work we do.

Best regards,

Steve Wonderlich



### **Officers & Directors**

#### Officers

President	Stephen Wonderlich, Ph.D.
Vice President for Administration	Brian Peterson, CPA
Vice President for Research	Ross Crosby, Ph.D.
Chairman	Harriette McCaul, Ph.D.
Vice-Chairman	Dale Shook, Esq.
Secretary	Sandra Holbrook, Ph.D.
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#### **Directors**

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#### **Director Ex Officio**

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#### **Directors Emeritus**

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### **NRI Staff**

#### **Clinical Research**

Kathryn Bentley, R.N. Kayla Bjorlie Jennifer Boub, M.B.A. Li Cao, M.S. Ross Crosby, Ph.D. Scott Engel, Ph.D. Ann Erickson Connie Erickson, R.N. Daniel Green Stephanie Hendricks, R.N. Marinda Kurpius-Brock, M.Ed. Kathy Lancaster Erika Lovaas James Mitchell, M.D. Sheila Muus, M.Ed. Tricia Myers, Ph.D. Carrie Nelson, R.N. Kristine Steffen, Pharm. D., Ph.D. Lorraine Swan-Kremeier, Psy.D. Stephen Wonderlich, Ph.D.

#### Administration

Teresa Klein Susan Larson Brian Peterson, CPA Diane Pochardt Glenda Schmit

#### Maintenance

Tracy Engebretson Barry Rahman

#### **Adjunct**

Luis Garcia, M.D., M.B.A. Kathryn Gordon, Ph.D. Leah Irish, Ph.D. Jason Lavender, Ph.D. Molly Orcutt, D.O. Susan Raatz, Ph.D., M.P.H, R.D. James Roerig, Pharm.D., BCPP

#### **Postdoctoral Fellows**

Tyler Mason, Ph.D. Lauren Schaefer, Ph.D. Kathryn Smith, Ph.D.



Dr. Ross Crosby

#### Ross D. Crosby, Ph.D. Vice President for Research/Director of Biomedical Statistics

Ross D. Crosby, Ph.D., is the Vice President for Research and Director of Biomedical Statistics at the Neuropsychiatric Research Institute and a Professor in the Department of Psychiatry and Behavioral Science at the University of North Dakota School of Medicine and Health Sciences. Dr. Crosby's major research interests include the use of ecological momentary assessment to study eating disorders and obesity. Dr. Crosby is the Associate Editor for the Journal of Eating Disorders and serves on the editorial board for the *International Journal of Eating Disorders*. Dr. Crosby has coauthored more than 480 peer-reviewed publications.



Dr. Scott Engel

# Scott Engel, Ph.D. Director of Behavioral Research

Scott Engel, Ph.D., is a Research Scientist at the Neuropsychiatric Research Institute, and he is an Assistant Professor at the University of North Dakota School of Medicine and Health Sciences. Dr. Engel received his doctoral degree from North Dakota State University in 2003 and worked at the Neuropsychiatric Research Institute as a post-doctoral fellow from 2003-2004. Dr. Engel's primary research areas are in eating disorders, obesity, and bariatric surgery. He is particularly interested in the roles of cognitive and emotional variables in disordered eating and obesity. Much of Dr. Engel's research involves the application of novel, technology-based methodologies to assess and intervene with these groups of patients. Dr. Engel also uses these assessment methodologies to study post-bariatric surgery patients.



Dr. Luis Garcia

#### Luis Garcia, M.D., M.B.A. Adjunct Research Scientist

Dr. Garcia is a General, Advanced Laparoscopic, and Bariatric Surgeon for Sanford Health. He is the Chair of Bariatric Surgery and Medical Director of the Weight Loss Surgery Center of Excellence. He is a Clinical Associate Professor of Surgery for the University of North Dakota School of Medicine and Health Sciences. Dr. Garcia completed medical school at LaSalle University in Mexico City, his residency in general surgery at the University of North Dakota, and a mini-fellowship in bariatric surgery at the University of Pittsburgh Medical Center. He has a Healthcare M.B.A. from the University of St. Thomas Opus College of Business. Dr. Garcia is an Adjunct Research Scientist for NRI with special interest in bariatric surgery research and surgical outcomes.



Dr. Kathryn Gordon

#### Kathryn Gordon, Ph.D. Adjunct Research Scientist

Kathryn Gordon, Ph.D., is an Adjunct Research Scientist at the Neuropsychiatric Research Institute and an Associate Professor at the North Dakota State University Department of Psychology. Dr. Gordon received her doctoral degree in Clinical Psychology from Florida State University in 2008. Her research focuses on eating disorders among traditionally understudied groups (e.g., ethnic minority women), interpersonal and emotional processes related to suicidal behavior, and the occurrence of suicidal behavior in individuals with eating disorders.



Dr. Leah A. Irish

#### Leah A. Irish, Ph.D. Adjunct Research Scientist

Dr. Irish is an Adjunct Research Scientist at the Neuropsychiatric Research Institute and Assistant Professor of Psychology at North Dakota State University. She received her Ph.D. in Health Psychology from Kent State University in 2011 and completed a postdoctoral fellowship at the University of Pittsburgh School of Medicine. Her research considers the complex interplay between waking health behaviors (e.g., dietary intake, physical activity, substance use) and sleep and the implications for health and illness. Dr. Irish also studies sleep health disparities among American Indian communities.



Dr. Jeff Johnson

### Jeff Johnson, Ph.D. Adjunct Research Scientist

Dr. Johnson is an Adjunct Research Associate at Neuropsychiatric Research Institute and an Assistant Professor of Psychology at North Dakota State University, where he directs the Cognitive Neuroscience Laboratory. He received his Ph.D. in Cognitive Psychology from the University of Iowa in 2008, and completed a post-doctoral fellowship in the Department of Psychiatry at the University of Wisconsin-Madison. Dr. Johnson's research focuses on studying the cognitive and neural bases of attention and working memory, and the pathophysiological basis of attention and memory disruptions in psychiatric illness.



Dr. Jason M. Lavender

# Jason M. Lavender, Ph.D. Adjunct Research Scientist

Jason Lavender, Ph.D., is an Adjunct Research Scientist at the Neuropsychiatric Research Institute and an Assistant Research Scientist in the Department of Psychiatry at the University of California, San Diego (UCSD) School of Medicine. He is also a member of the research team at the UCSD Eating Disorders Center for Treatment and Research. He received his Ph.D. in clinical psychology from the University at Albany, State University of New York in 2011. He was a T32 postdoctoral research fellow at NRI from 2011-2014, and then served as a Research Scientist from 2014-2016 before accepting his current position at UCSD. His main research interests include the role of affective and neurocognitive processes in eating disorders, dimensional and multimethod approaches to studying psychopathology, and functional neuroimaging approaches to examining the underlying neurobiology of eating disorders.



Dr. Tyler Mason

#### Tyler Mason, Ph.D. Postdoctoral Fellow

Tyler Mason, Ph.D., is a T32 Postdoctoral Research Fellow at the Neuropsychiatric Research Institute. He received his Ph.D. in Applied Psychological Science in 2015 and B.S. in Psychology in 2010 from Old Dominion University. He is interested in advanced statistical modeling of longitudinal and ecological momentary assessment data. His primary research interests include etiology and treatment of binge eating and obesity.



Dr. James E. Mitchell

#### James E. Mitchell, M.D. Research Scientist

Chester Fritz Distinguished University Professor at the University of North Dakota School of Medicine and Health Sciences. Dr. Mitchell completed his undergraduate education at Indiana University and medical school at Northwestern University. Following an internship in Internal Medicine, he completed his Residency in Psychiatry and a Fellowship in Consultation/Liaison Psychiatry at the University of Minnesota. Dr. Mitchell has focused his research on the areas of eating disorders, obesity, and bariatric surgery. He is a Past-President of the Academy for Eating Disorders and a Past-President of the Eating Disorders Research Society. Dr. Mitchell is on the editorial boards of the *International Journal of Eating Disorders* and Surgery for Obesity and Related Diseases, where he is also an Associate Editor. Dr. Mitchell has been an author on more than 600 articles in the scientific literature and has authored or edited 18 books.



Dr. Susan Raatz

#### Susan Raatz, Ph.D., M.P.H., R.D. Adjunct Research Scientist

Susan Raatz, Ph.D., MPH, RD is an Adjunct Research Scientist at the Neuropsychiatric Research Institute and a Research Nutritionist at the USDA Human Nutrition Center, Grand Forks, ND. Dr. Raatz received her doctoral degree in Human and Clinical Nutrition from the University of Minnesota in 1996. Her research focuses on dietary modification of obesity and related chronic diseases, energy balance regulation, and the impact of foods and meals on satiety.



Dr. James L. Roerig

#### James L. Roerig, Pharm.D., BCPP Adjunct Research Scientist

Dr. Roerig currently holds the position of Professor in the Department of Psychiatry and Behavioral Sciences at the University of North Dakota School of Medicine and Health Sciences. In addition he is the Director Undergraduate Medical Education in Psychiatry & Psychiatry Clerkship and the Assistant Director Psychiatry Residency Program. He holds the position of Adjunct Research Scientist at the Neuropsychiatric Research Institute located in Fargo, ND. Dr. Roerig is a Clinical Professor in the College of Pharmacy at North Dakota State University. Dr. Roerig is Board Certified in Psychiatric Pharmacy (BCPP) by the Board of Pharmaceutical Specialties. He currently teaches psychopharmacology for the psychiatry residents and also participates in neuroscience, research design, and evidence based learning courses. His research focus is psychopharmacology, drug interactions, and eating disorders as well as psychotropic pharmacokinetic changes associated with bariatric surgery. His clinical practice involves the clozapine clinic at Southeast Human Service Center in Fargo.



Dr. Lauren M. Schaefer

# Lauren M. Schaefer, Ph.D. Postdoctoral Fellow

Lauren Schaefer, Ph.D., is a T32 Postdoctoral Research Fellow at the Neuropsychiatric Research Institute. She received her B.A. in Psychology in 2006 from the University of Missouri, and her Ph.D. in Clinical Psychology in 2017 from the University of South Florida. She completed her predoctoral internship in the eating disorders track at the University of North Carolina at Chapel Hill. Her research interests involve the etiology, maintenance, and treatment of weight-related problems (e.g., disordered eating and obesity), with a particular emphasis on the role of environmental influences in shaping eating attitudes and behaviors. Lauren is also interested in the assessment of weight-related problems and their risk factors, including the use of ecological momentary assessment.



Dr. Kathryn Smith

#### Kathryn Smith, Ph.D. Postdoctoral Fellow

Kathryn Smith, Ph.D., is a NIMH T32 Postdoctoral Research Fellow at the Neuropsychiatric Research Institute. She received her B.A. in Psychology in 2008 from Macalester College, and her Ph.D. in Clinical Psychology in 2014 from Kent State University. She completed her predoctoral internship in the eating disorders and self-injury track at Alexian Brothers Behavioral Health Hospital, after which she completed postdoctoral fellowships in the eating disorders program at Rogers Memorial Hospital (2014-2015) and at the Center for the Treatment for Eating Disorders at Children's Hospitals and Clinics of Minnesota (2015-2016). She is interested in the assessment and treatment of eating disorders, including the use of ecological momentary assessment methods. Her primary interests include emotion regulation and co-occurring psychopathology in eating disorders and obesity.



Dr. Kristine Steffen

#### Kristine Steffen, Pharm.D., Ph.D. Director of Biomedical Research

Kristine Steffen, Pharm.D., Ph.D., is an Associate Professor in the Department of Pharmaceutical Sciences in the College of Pharmacy, Nursing, and Allied Sciences at North Dakota State University (NDSU). She is also the Director of Biomedical Research and a Research Scientist at the Neuropsychiatric Research Institute (NRI) where she is involved in research on bariatric surgery and obesity. The majority of her research is focused on characterization of the pharmacokinetic changes of medications and alcohol following bariatric surgery. She is also interested in obesity pharmacotherapy and problematic alcohol use following bariatric surgery. Dr. Steffen received her Doctor of Pharmacy and Doctor of Philosophy degrees from NDSU and completed a postdoctoral fellowship at NRI.



Dr. Stephen Wonderlich

# Stephen A. Wonderlich, Ph.D. President

Stephen Wonderlich, Ph.D., is the Chester Fritz Distinguished University Professor and Associate Chairperson in the Department of Clinical Neuroscience at the University of North Dakota School of Medicine & Health Sciences. He graduated from Concordia College (Moorhead, MN) in 1978 and received his Ph.D. in Clinical Psychology from the University of Missouri in 1985. Dr. Wonderlich completed his Internship and Fellowship at the University of Wisconsin. He is Co-director of the Sanford Eating Disorder and Weight Management Center and Chair of the Eating Disorders Department at Sanford Health. Dr. Wonderlich publishes widely in clinical and scientific journals and currently sits on the editorial board for the *International Journal of Eating Disorders*, the *Journal of Abnormal Psychology*, and *Behavior Research and Therapy*. Dr. Wonderlich is a Past-President of the Academy for Eating Disorders and has served on the Eating Disorder Workgroup for the DSM-5 Task Force.

### **NRI** Divisions

#### Division of Behavioral Research:

The Behavioral Division of NRI is devoted to the study of behavior and behavioral processes in clinical samples. Although our focus at NRI in this regard is primarily to study eating disorder and bariatric surgery patients, we collaborate nationally and internationally with many colleagues who study a broad array of behaviors in a wide range of clinical populations. Working closely with our biomedical and statistical division, we are able to examine a wide variety of clinical disorders and samples in an effort to better understand disorders and disease processes and importantly, how to treat them. Researchers in the Behavioral Division gather data in both laboratory and natural settings and are particularly interested in cognitive, affective, and behavioral variables that relate to a variety of clinical phenomenon.

#### Division of Biomedical Research:

The goal of the Biomedical Division of NRI is to work toward a better understanding of biological factors that contribute to disease, and to investigate potential pharmacological treatment strategies. Current areas of research interest include eating disorders, obesity, and bariatric surgery. Researchers in the Biomedical Division of NRI conduct clinical studies involving healthy human volunteers, human volunteers with various disease states or conditions, and human volunteers who will undergo, or have undergone, bariatric (weight loss) surgery. Researchers within this Division also conduct basic science experiments in a traditional laboratory setting.

#### **Division of Biomedical Statistics:**

The Biomedical Statistics Division of NRI provides support to NRI division and external entities with whom NRI collaborates in each of five areas.

- (1) Grant writing support: Assisting with research design; Generating power analysis and sample size; developing statistical analysis plans; Conducting data management and storage.
- (2) Research support: Development of data collection systems; Research training; Preparing and updating manuals of operation; Data tracking and monitoring; Data management, verification and cleaning; Data report generation; Data exporting; Syntax creation and setup; Data analysis and interpretation.
- (3) Presentation/Publication support: Abstracts, Presentations, Papers, Graphs and Tables.
- (4) Consulting services: Serving as grant consultants; Assisting with research design; Completing associated statistical analyses.
- (5) Teaching/Mentoring: Research courses; Training grants; T32 Post doctoral students; Workshops or Seminars.

### **Bariatric Surgery**

#### Alcohol-Related Impairment and Reinforcement After Gastric Bypass Surgery:

This study is being run at NRI and NDSU. Data from this project will help us to understand the changes in impairment, specifically related to cognitive and driving performance, experienced by bariatric surgery patients who consume alcohol. This study will also help us to understand how the reinforcing value of alcohol changes from before to after surgery. Studying these topics will help future bariatric surgery patients anticipate how the effects of alcohol will change from pre- to post-surgery and the proposed study will help researchers and clinicians better explain possible mechanisms for an increased risk for alcohol use disorders in this group.

#### Post-Surgical Predictors of Depression and Weight Regain after Bariatric Surgery:

This study is being run at NRI and Stanford University. Although most people do quite well after bariatric surgery, a significant minority of patients have a variety of problems. This study will take a longitudinal approach to examining mechanisms of weight regain and depression following bariatric surgery. The study will recruit 150 participants across both sites over the next five years.

# Mechanisms that Predict Weight Trajectory after Bariatric Surgery: The Interactive Roles of Behavior and Biology:

This study is being run at NDSU, NRI, and Cleveland Clinic. This project will help us to understand the role that the gut microbiome and various behavioral factors play in determining weight trajectory following bariatric surgery. This study will be a prospective, longitudinal examination of factors that may predict weight outcomes and 144 participants will be recruited over five years across both recruitment sites.

# Mechanisms Responsible for Weight Loss and Regain Following Roux-en-Y Gastric Bypass: A Translational Study Focused on the Gut Microbiome

This study is being run at NRI and NDSU. This study involves a clinical human component and a related animal (mouse) study. Data from this study will help to elucidate the mechanistic role that the gut microbiome plays in weight regain following bariatric surgery.

# The Effect of Nutrient Intake and Probiotic Administration on Weight and Glucoregulation Following Bariatric Surgery: A Combined Human and Murine Approach:

This study is being run at NRI and NDSU. This study involves a clinical human component and a related animal (mouse) study. Data from this study will help to elucidate the mechanistic role that the gut microbiome plays in obesity and diabetes, and will help to clarify the interrelationships between specific peptide hormones (VIP) and the gut microbiome.

#### Pharmacokinetics of Lisdexamfetamine (Vyvanse®) in Post-bariatric Surgery Patients:

This study is designed to examine the pharmacokinetics of lisdexamfetamine in patients who have undergone gastric bypass surgery. This study will recruit 10 patients who have undergone gastric bypass in the past ~1 year as well as 10 nonsurgical controls.

#### 12 Year Follow Up of Quality of Life Changes after Bariatric Surgery:

In Collaboration with Investigators at the University of Utah and Duke University, this study examines changes in quality of life over a 12 year period among a group of 411 patients receiving bariatric surgery. These changes are compared to changes over a similar time period among obese control groups not receiving bariatric surgery.

#### Psychosocial Issues and Bariatric Surgery:

This is a multi-center study involving NRI, the University of Pittsburgh, Columbia University and Cornell University. This study examines psychosocial issues prior to surgery and periodically following surgery including rates of psychopathology, eating pathology, quality of life and role functioning. This study will continue until 2018.

#### Teen LABS:

This is a multicenter study that is examining the long-term outcomes of 240 adolescents who underwent bariatric surgery and will compare them to an adult bariatric surgery cohort, assessing long term safety, behavioral and cognitive outcomes, and medical comorbidities. The project is in its eighth year, and will continue until 2021.

#### Teen LABS Psychosocial:

This is a multicenter ancillary study to Teen LABS, examining in depth psychosocial issues including alcohol use/abuse and depression in a subset of 90 individuals in the Teen LABS sample. This study will continue until 2019.

## **Eating Disorders and Obesity Studies**

#### Integrative Cognitive-Affective Therapy for Binge Eating Disorder:

This is a multi-site treatment development grant (R34) awarded to NRI and the University of Minnesota to support the development a new treatment for binge eating disorder. This treatment is an outgrowth of the recently completed trial at NRI for bulimia nervosa, but focuses on binge eating disorder specifically. Binge eating disorder was recently added to the DSM-5 as a new eating disorder diagnosis and continues to be considered a significant risk factor for obesity and various forms of psychiatric disturbance.

#### Habit and Eating Disorders:

NRI has been collaborating with clinical researchers at Columbia University to test a new theory of anorexia nervosa. Presently a pilot study is being developed in Fargo to facilitate this collaboration, which has already produced a new approach to the treatment of anorexia nervosa that is being pilot tested in New York. Funds for this pilot phase were provided by the Davis Foundation.

#### Technology Based Enhancement of Integrative Cognitive-Affective Therapy:

Through a grant from the National Eating Disorder Association, Drexel University in Philadelphia has been working with scientists at NRI to develop a machine based learning, computer application to enhance eating disorder treatment. The app can be utilized on smart phones and interacts with participants on a regular basis to gain a clear understanding of their day-to-day circumstances. The app is also able to detect when individuals are at risk of engaging in problematic behaviors and can signal the participant. Importantly, the app is based on Integrative Cognitive-Affective Therapy, which is a new treatment developed at NRI and the University of Minnesota. This new technology may provide an interesting enhancement to traditional eating disorder treatments.

### **Eating Disorders and Obesity Studies**

#### Microbiome-Mediated Weight, Anxiety and Stress Dysregulation in Anorexia Nervosa:

NRI is a collaborative site for this University of North Carolina-Chapel Hill NIMH grant funded study looking at the microorganisms residing in the gut of patients with anorexia nervosa. The aim is to identify bacterial groups associated with body weight, body fat, anxiety, and stress in this patient group compared to a healthy control population.

#### Naturalistic Investigation of Affect, Cognition and Eating Behaviors:

This is an ecological momentary assessment (EMA) study that will examine relationships between neurocognitive functioning, emotion regulation, and disordered eating behaviors among women who engage in binge eating. Participants will be recruited from the community (i.e., North Dakota State University (NDSU)) and clinical settings (i.e., Sanford Eating and Weight Management Center (EDWMC)). This research is being conducted by NRI Investigators in collaboration with faculty from NDSU and the University of Central Florida. The study will continue through 2018.

#### Affective and Neurocognitive Dimensions across Eating Disorder Psychopathology:

This study is being run at NRI in collaboration with the University of California, San Diego. It will recruit 80 women with clinically significant eating disorder psychopathology to examine the role of conceptually important affective and neurocognitive variables in relation to various forms of eating disorder symptoms. The findings would provide preliminary data relevant to developing new dimensional classification models of eating disorder psychopathology.

#### **Ecological Momentary Assessment of Eating Disorder Risk Factors:**

This study is being conducted at NRI in collaboration with the University of Southern California. There will be 30 females recruited whom are experiencing eating disorder symptoms. The purpose of this study is to provide important information on how different aspects of emotion, thoughts, and behaviors are associated with the symptoms of eating disorders.

### **Child/Adolescent Traumatic Stress**

#### Treatment Collaborative for Traumatized Youth:

The Treatment Collaborative for Traumatized Youth (TCTY) is a network of mental health clinicians whose mission is to raise the standard of care and increase access to mental health services for traumatized children. The TCTY consists of more than 300 mental health clinicians from over 40 agencies across the state of North Dakota. These clinicians received advanced training through the TCTY in evidence-based treatments for traumatized children. Importantly, the TCTY Team is conducting studies on the delivery of these services to children which allows a unique state-wide research opportunity.

#### Child Abuse Prevention Project-Dakota Medical Foundation:

NRI is working in collaboration with several local agencies on a project to prevent child abuse in Cass and Clay County. Several child serving agencies, along with Dakota Medical Foundation, are collaborating with NRI staff to contribute to this project.

#### Clarifying the Relationship of Child Abuse and Chemical Dependency:

NRI has received a contract from the North Dakota Department of Human Services to train chemical dependency counselors across the state of North Dakota regarding the impact of child maltreatment on substance abuse across the state. NRI staff will provide eight regional presentations over the next two years to help clinicians identify helpful strategies to interrupt severe substance use problems in childhood trauma victims.

### **Other Studies**

In addition to our larger projects supported federal grants or contracts, NRI is involved in a variety of other research projects both nationally and internationally. These collaborations are essential to the work that NRI conducts and often lead to collaborative grant applications and large-scale studies. For example, NRI scientists are currently working with clinicians and scientists at the University of Toronto to better understand how post-traumatic stress disorder affects eating disordered individuals and their treatments. We are also helping researchers at Mayo Clinic to adapt a new eating disorder treatment developed at NRI and the University of Minnesota so that it can be better applied to adolescents. Additionally, our Biomedical Statistics and Research Design Department continues to collaborate with a multitude of international sites to facilitate sound research designs and statistical analysis of data on a variety of topics. Finally, NRI scientists have developed a scientific assessment strategy which allows various behavioral problems to be assessed in real time in the natural environment. This methodology is referred to as real time assessment in the natural environment (ReTAINE). ReTAINE is currently being utilized in a significant number of studies across the United States, which focus on childhood anxiety, obesity, suicide, and binge eating.

### **Training Programs**

#### Midwest Regional Training Program in Eating Disorders Research:

With a grant from the National Institute of Mental Health, NRI continues to be one of three sites (along with the University of Minnesota and the University of Chicago) to fund post-doctoral research fellows who study eating disorders, obesity, and bariatric surgery. Currently, there are two post-doctoral fellows at NRI and two additional fellows at each of the other two sites. Fellows not only conduct their own research at NRI, but also assist NRI scientists in scientific studies.

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