Opportunities and Future Directions
## Table of Contents

1. Introduction
2. Message from Director
3. Major Projects
4. Future Studies and Pilots
5. Results from BEST-U
6. Results from DoD Research
7. Fast Facts
8. Lawrence Highlights
9. Collaborations
Introduction

The Center for the Advancement of Eating Behaviors (CARE), is a diverse and dedicated team of knowledgeable individuals committed to advancing the knowledge in the field of eating disorders.

Eating disorders (EDs) are serious mental health conditions that have the highest mortality rate of any psychiatric illness. EDs occur in 13-18% of women and 3-5% of men in the general population and affect people across all age, socioeconomic, and racial groups. Treatment efficacy for EDs is 40-60%, suggesting that under ideal conditions, treatments fail to work for a substantial proportion of patients. A significant barrier in ED treatment is the lack of well-validated assessment and classification tools to accurately identify ED cases, predict ED prognosis, and monitor treatment progress. Thus, there is a pressing need to develop user-friendly classification and assessment tools for use in routine clinical practice to improve clinical decision making. Until new approaches are developed, informed decisions regarding treatment referral and treatment planning for ED will be limited.

To address these concerns, our primary long-term objective is to develop user-friendly ED assessment and classification tools for use in routine clinical practice to improve early identification, prognosis, and clinical decision-making. Our secondary long-term objective is to improve the field’s ability to disseminate efficacious treatments for EDs through mobile-health (m-health) technology. To achieve our long-term objectives, our recent work has aimed to: 1) carry out a large-scale Department of Defense (DoD)-funded study that is designed to improve clinicians’ ability to screen for EDs in vulnerable populations (i.e., military veterans); 2) develop digital tools to provide therapists with evidence-based clinical-decision support; and 3) develop m-health interventions to treat EDs in college students and other vulnerable populations to provide more easy-to-disseminate interventions to meet the demand for high-quality mental-health treatment.
Thank you for your interest in joining CARE! Our mission is to be and develop leaders in research and treatment of eating disorders with a focus on integrating best practices in research and treatment and disseminating these innovations to people in need of services. Given our mission, we deeply value community partnerships and work closely with local and national treatment centers including Children’s Mercy - Kansas City, Eating Recovery Center, EDCare, and McCallum Place and international industry partners through our long-standing collaborations with Recovery Record, Inc. Our long-term vision and commitment to the integration of research and practice is bolstered through our lab-wide values of: 1) Integrity, 2) Working with Others, 3) Giving and Receiving Feedback, 4) Resetting after Setbacks, Disappointments, and Failures, 5) Asking for Help, 6) Showing Up, 7) Maintaining Focus, Clarity, and Drive, 8) Willingness to have Tough Conversations, Risk Taking, and Decision Making.

We are a highly diverse and cohesive team with a values-driven mission that drives our ability to both innovate and sustain a work culture that provides a high expectation and high support environment.
## Major Projects

We have a large number of ongoing research projects. These are our major projects, but we have several smaller independent projects that are led by graduate students or post-doctoral fellows, many of which are also grant-funded projects. In addition to these projects, we have an ongoing three-year longitudinal study of eating disorder course and outcome that is winding down (~300 participants) and a large-scale partnership with Recovery Record, Inc. to create a week-to-week outcomes tracker.

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<tr>
<th>DoD</th>
<th>NIH</th>
<th>KUEA</th>
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<tbody>
<tr>
<td>Improving Screening</td>
<td>Preventing relapse</td>
<td>Accessible treatment</td>
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<td>This is a two-phase study of veterans who were recently separated from service. The first project is a five-wave longitudinal study of a nationally representative cohort of &gt; 900 veterans. Primary aims were to develop a novel screening for eating disorders and related conditions. The second phase is underway and seeks to test the ability of the screen to accurately classify veterans with and without eating disorders.</td>
<td>We are conducting an R34 efficacy mHealth study designed to prevent relapse in adolescents (13-21 years of age) who recently discharged from acute treatment (IOP, inpatient, day hospital, etc.). Teens complete weekly computerized-adaptive assessment and treatment modules in an app. Their therapist then gets weekly risk-score prediction using machine learning and treatment is personalized based on their scores.</td>
<td>We have a mHealth app that uses CBT and DBT principles to treat college students with binge-spectrum disorders. It is highly efficacious and we plan to submit an R01 to expand this treatment in February, 2023.</td>
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**Future Studies and Pilots**

Several exciting follow-up projects are planned or are underway that continue to promote our overall mission of innovating in the integration of clinical and research work for eating disorders.

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<tr>
<th>Project Title</th>
<th>Activity / Project</th>
<th>Progress/Outcomes</th>
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| fMRI study of anorexia nervosa                     | Identifying biomarkers that can predict treatment response in teens who recently began treatment for anorexia nervosa | • Implementation meeting in October 2022  
• Recruitment starts in January 2023  
• Plan to submit R01 to NIH in 2023 |
| mHealth body image treatment in Latine female-identifying individuals | Led by Sarah Johnson and will use a body functionality framework | • IRB to be submitted in September 2022  
• Focus groups will start February 2023  
• Funded through a KU Frontiers TL1 grant |
| EPSI CHaT                                           | We developed a child and teen version of the EPSI!                                  | • IRB likely to be approved in September 2022  
• Will partner with Children’s Mercy - Kansas City and national partners for survey study |
| Veteran Studies                                     | We proposed an ED screening study in an active-duty military population and 2) a study that would adapt BEST-U content to integrate with Cognitive Processing Therapy for veterans with binge-spectrum disorders and PTSD symptoms | • Grants submitted to the DoD in August 2022  
• We will likely hear back on funding in January, 2023 (fingers crossed)! |
Results from BEST-U Treatment Pilot

Some of our unpublished results are worth sharing! We’re very excited about these findings because they illustrate our mission in action and highlight the ways in which we’re contributing to improved assessment and treatment for eating disorders. The pilot below is from our first N=83 participants in the trial.

We partnered with PiLR MEI Health which allows for fast and easy creation of mHealth apps and is similar to Qualtrics in terms of the ease of app development for non-programmers. Our lab has a site license to PiLR, which is a great opportunity for new researchers joining the lab!

- Significant reductions in clinical impairment at end-of-treatment that are maintained at three- and six-month follow-up
- Substantial reductions in eating-disorder behaviors with effect sizes ranging from (d=-1.33 for body dissatisfaction to d=-.65 for excessive exercise)
- Access to full KU student body for a once-per-semester campus-wide screening!

Average ratings to "I plan to use the information and activities to keep moving toward my goals after treatment" 5.9/7
Results from BASE Pilot Study

To select items for the BASE, we performed a series of analyses. We began by computing the composites for all subscales of the EPSI and IDAS-II, and we used them in a series of linear regression models in which the subscales were used to predict clinical impairment, psychosocial impairment, and self-reported ED diagnoses. Using a machine learning algorithm designed to detect the most important and reliable predictors of these outcomes—a process called stability selection—we determined the subscales from each measure that performed best in predicting negative outcomes (impairment and ED diagnoses). The results of this analysis, along with theoretical considerations, led us to choose 6 subscales from the EPSI and 4 subscales from the IDAS-II to sample items for constructing the BASE. Next, we performed Item Response Theory (IRT), which allowed us to obtain item information curves. As a result, our preliminary BASE screen is comprised of 16 items, with 9 items drawn from the EPSI, and 7 items from the IDAS-II and one new item that was written by our team to assess medications or substances to reduce hunger or lose weight. Finally, we tested items in an independent sample of non-veteran civilians (N=596; 68.2% cisgender women)

Improved Screening

The BASE significantly outperformed the SCOFF in men, which demonstrates high potential for improved screening in male-identifying populations
Our lab has outstanding resources for a variety of research interests that is virtually unparalleled in the field of eating disorders!

**Research Centers**
We have two separate large research centers, which provides ample research and clinical space! Our centers are a short 5-10 minute drive from each other.

**Percent Diverse Members**
Our 23-person laboratory includes a diverse workforce with 50% of postdoctoral fellows, 60% of undergrad RAs, and 50% of graduate students identifying as members of underrepresented ethnic and racial groups. Dr. Forbush also received an NIMH Diversity Supplement to further promote her ability to mentor diverse trainees!

**Minutes to Kansas City**
Depending on location, Lawrence is located 25-45 minutes from Kansas City, the 23rd largest city in the USA, depending on where you’re located in Lawrence, which provides amazing opportunities to collaborate with large treatment and research centers, such as Hoglund Brain Imaging Center!
### Lawerence Highlights

Although we are close to Kansas City, Lawrence itself is a wonderful and vibrant community with lots to offer! Lawrence was founded by a group of abolitionists and has the saying "Free State" everywhere, highlighting its early roots in antiracism.

#### Recreation
- Clinton lake
- Baker wetlands
- Lawrence sport pavilion
- Numerous full-package gyms with daycare
- Perry Lake
- Royals Games

#### Culture
- KC First Friday Art Walk
- Haskell Indian Nations Art Market
- Lawrence Arts Center (great classes)
- Kansas City Ballet
- Lied Center
- Natural History Museum and Spencer Art Museum on campus

#### Other Fun Things!
- Outdoor concerts at Starlight Theatre
- UpDown Arcade Bar
- Bark-in-the-Park Nights
- Bar K (Dog Park)
- Lawrence Farmer’s Market
- Busker Fest!
- Santa Rescue
- Mass Street
- TONS of great BBQ, restaurants and shopping!!
Collaboration-Rich Environment

We value the environment at University of Kansas because it is a highly collaborative environment with many resources and a spirit of wanting to help trainees do research and clinical work. Below are a list of some of our most common collaborators.

Kara Christensen, Former Postdoc, Assist. Prof., UNLV
Christopher Cushing, Assoc. Prof. at KU
Sara Gould, Director, Eating Disorders Center, Children's Mercy
Ann Davis, Director, Children’s Healthy Lifestyles and Nutrition
Tera Fazzino, Assist. Prof. and Assist. Director, KU Addictions Center
Laura Martin, Director fMRI at KU's Hoglund Brain Imaging Center
Lauren Ptomey, Co-Director, Center for Physical Activity and Weight Management

We thank you for your interest in our work and hope that you will join our team!

Contact

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