Spotlight on campus allergies: designing interventions for College Anaphylaxis Response Preparedness and Epinephrine Access (CARPE)

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**Aims:** Food allergies threaten the lives of adults and children across the United States, and the world. Our aim is to use patient-centered design thinking and innovation processes to 1) develop an understanding of awareness, education, accessibility, prevention, and the availability of safe foods, as they pertain to anaphylactic allergies on college and university campuses and 2) design interventions to improve the well-being and experience of students with anaphylactic allergies and the people and organizations with whom they interact on campus.

**Methods:** Our lab, in collaboration with Northwestern University’s MS Engineering Design Innovation (EDI) program, has been researching current practices and understandings on Northwestern University’s campus with the goal of designing interventions to be implemented on campuses across the country. EDI students conducted in context interviews, prototyped interventions, and ran simulations with a diverse set of stakeholders including: food service staff, athletic staff, legal professionals, student health, first responders, physical plant staff, the office of student life, student organizations, advocacy groups, and those with food allergies and their peers/coworkers/professors/relatives.

**Results:** The Spotlight on Campus Food Allergies Toolkit is an integrated service and awareness effort that includes services for: onboarding food allergic students, increasing awareness among all stakeholder groups, integrating food allergic students and their needs into campus clubs, addressing anaphylactic emergencies, and leveraging procurement policies to increase use of best practices among external food vendors on campus. The toolkit is being tested, refined, and implemented at the Food Allergy Research and Education (FARE) College Program pilot campuses across the US.

**Discussion:** Food allergies are increasing in prevalence with the primary treatment being allergen avoidance. How might we design for safety and well-being as individuals with life-threatening allergies move from lower grades into university and independence?

**Conclusion:** In instances of chronic life-threatening conditions, patient centered care extends to every aspect of the patient’s daily life. By exploring patients and other key stakeholders in context - in this case anaphylaxis on college campuses - we are better able to understand and design for issues impacting health, safety, and quality of life.