Purdue Clinical Research Center Facilities and Equipment

The IN CTSI has supported a Clinical Research Center at Purdue University since 2009. The facility is managed by the Department of Nutrition Science and includes Bionutrition, Clinical, and Dietary Assessment facilities of +7,000 square feet (ft2). These facilities are housed in Stone Hall and Lyles-Porter Hall and contain spaces for consultation, interview, and storage of human subject files; a metabolic kitchen; large rooms which can serve as dining rooms or meeting rooms; phlebotomy and diet assessment space and restrooms. Specific relevant spaces include the following:

A fully equipped **metabolic kitchen** (2,883 ft^2) has preparation space, supplies, and storage capacity to prepare in-house and packed-out meals for multiple protocols daily and typically prepares over 15,000 meals/year (about 40% of capacity). The kitchen includes several industrial-grade ranges; microwave ovens; upright refrigerators; upright freezers; dishwashers; ice machines; metabolic food scales weighing to 0.1 gram; food homogenization mixers and blenders; several sinks dedicated to food preparation; hand sanitation/dish room cleaning; misc. small equipment for food preparation, storage, and distribution; a walk-in pantry; and walk-in cold and freezer rooms.

There are two **eat-in dining facilities** adjacent to the kitchen, which provide the capacity to serve meals for up to 20 people at a time. The facility can support complete dietary control (i.e., in-house breakfast, lunch, and dinner) each day. The research dietitians and meal preparation technicians assist with all individualized and/or group diet development and meal planning, as well as nutrition counseling and education. In addition, there are dietetic and nutrition science undergraduate students who also assist in diet development, meal preparation, meal pack-out, and diet compliance assessment.

The **Purdue Diet Assessment Center** PDAC; (350 ft^2) provides comprehensive support to investigators who include dietary assessment in their research protocols. Multiple established methods are used to collect and process dietary intake data from participants enrolled in research studies, including dietary recalls and diet record analysis. The PDAC staff work with investigators providing guidance and support for research proposals by assisting with proposal writing, selecting the appropriate methodologies, choosing the most suitable diet outcomes and other variables for analysis, and interpretation of diet and related data. The PDAC is equipped with computers containing NDSR (Nutrition Data System for Research; Minneapolis, Minnesota), headsets, phones, and partitions for dietary assessments and analyses. These include, but are not limited to 24-hour recalls, frequency methods, food records, and food screeners.

The **Human Metabolic Laboratories** (2,968 ft^2) are available to collect and analyze a variety of biological measurements and samples, including blood, tissue biopsies, breath, energy expenditure, and anthropometric data. There are two separate laboratories within Stone Hall on Purdue's campus that are used for metabolic studies and analysis. There is one large subject room with up to 10 reclining phlebotomy chairs

with dividers for privacy and confidentiality; a room containing one hospital-style bed; one MedGraphics indirect calorimetry energy expenditure system; an electrocardiogram; blood pressure monitors; stadiometer; platform body weight scale; catheterization stations; breath hydrogen analyzer; and biological specimen processing and storage area with refrigerated centrifuge, refrigerator, freezer, -80° C freezer, refractometer, and computers. There are also five furnished interview/clinical/office rooms and a waiting room to check-in, schedule appointments, consent, etc. The center employs a clinical manager to perform all human clinical testing.

Equipment

The bone and body composition suite (823 ft^2) contains a whole body plethysmographer (BodPod); a dual-energy x-ray absorptiometry (GE/Lunar Prodigy DXA); and a micro-CT for various bone and body composition imaging.

The metabolic kitchen contains four six-top Vulcan Stove/Oven units; three American panel walk-in refrigerators; one Traulsen stacked reach-in, four-door cooler; one Traulsen stacked reach-in, two-door cooler; one Oliver packaging speedseal machine; one Hobart dishwasher; one Thermo-Scientific -80° C freezer; and two Eppendorf centrifuges. There are 2 eat-in dining facilities adjacent to the kitchen which provides the capacity to serve meals for up to 20 people at a time.

The Dietary Assessment Center is equipped with computers containing NDSR (Nutrition Data System for Research; Minneapolis, Minnesota), headsets, phones, and partitions for dietary assessments and analyses.

There are two separate laboratories within Stone Hall utilized for metabolic studies and analysis. There is one large subject room with up to 10 reclining phlebotomy chairs with dividers for privacy and confidentiality; a room containing 1 hospital-style bed; 1 MedGraphics indirect calorimetry energy expenditure systems; an electrocardiogram; blood pressure monitors; stadiometer; platform body weight scale; catheterization stations; breath hydrogen analyzer; and biological specimen processing and storage area with refrigerated centrifuge, refrigerator, freezer, -80 freezer, refractometer, and computers. The laboratory suite contains a whole body plethysmographer (BodPod); a dual-energy x-ray absorptiometry (GE/Lunar Prodigy DXA); a micro-CT for various bone and body composition imaging. There are also 5 furnished interview/clinical/office rooms and a waiting room to check-in, schedule appointments, consent, etc. All equipment is located at Stone Hall.

Support

The Purdue University-based CRC bionutrition and clinical facilities are partners within the Indiana CTSI, an NIH Clinical and Translational Science Award, which includes the Indiana Clinical Research Center (ICRC), and the CTSI infrastructure.