With start-up funding from the Regenstrief Foundation, Purdue University created the Regenstrief Center for Healthcare Engineering (RCHE) in 2005 to design, implement, and sustain interdisciplinary solutions to achieve a transformed healthcare delivery system that optimizes quality, cost-effectiveness and access for all persons.

While the diagnosis and treatment of patients must remain in the hands of healthcare professionals, the application of engineering, management and scientific principles has the potential to reshape the healthcare delivery landscape. Core research areas include:

- **Operational efficiency and effectiveness of healthcare delivery**
- **Enhancement of safety and quality of healthcare delivery**
- **Security and interoperability of health information technology**

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**REGENSTRIEF CENTER FOR HEALTHCARE ENGINEERING**

- **Mission**
  The Regenstrief Center for Healthcare Engineering (RCHE) will catalyze the transformation of healthcare-delivery systems by applying the principles of engineering, management and science.

- **Interdisciplinary Collaboration**
  The center’s position within Purdue’s Discovery Park facilitates interdisciplinary research, leadership and education across all 13 colleges on Purdue’s campus. Partnerships with healthcare organizations such as Indiana University School of Medicine, Ascension Health, St. Vincent Health, Indiana Hospital&Health Association, WellPoint, Community Health Network, and Regenstrief Institute promote collaboration on cutting-edge projects.

- **Distinguishing Characteristics**
  - **Catalyst for improvement.** Catalyzes researchers, policy makers and providers to improve the efficiency, quality and accessibility of healthcare through creative and adaptable research.
  - **Systems-analysis approach.** Uses systems analysis to structure and study complex issues in healthcare, providing a basis to engineer new solutions in the delivery system.
  - **Interdisciplinary research.** Adopts an interdisciplinary approach which includes all professions and disciplines involved in healthcare research.
  - **Value-chain orientation.** Adopts the value-chain model to describe interdependent relationships at four levels: patient, care team, organization and environment.
  - **Recognition of diverse expectations.** Recognizes that individuals, families, groups, communities, populations and systems are beneficiaries of the healthcare system and represent different expectations and needs.
  - **Healthcare partnerships.** Partners with major components of the healthcare value chain as research collaborators and “living laboratories,” providing sites for research, implementation of research findings, and assessment of relevance.
  - **Commitment to results.** Evaluates whether research recommendations achieve sustainable and desirable operational results.
  - **Knowledge dissemination.** Contributes to the body of knowledge pertaining to healthcare delivery and engineering by citing relevant reported research and publicly disseminating research findings through industry partners.
  - **Discipline development.** Assumes an active role in developing the practice of healthcare engineering.