The HERQuLES team of Abt Associates Inc. has extensive experience conducting various strategic and tactical, prospective and retrospective research and consulting services to assess and demonstrate the value of medical devices and diagnostics. Examples of this work are presented here.

### Examples of Indications and Therapeutic Areas
- Anesthesia
- Artificial heart
- Blood safety
- Cardiac diagnosis, surgery, angioplasty, pacing
- Diabetes
- General abdominal and colorectal surgery
- In vitro fertilization
- Lipid management
- Minimally-invasive surgery
- Nuclear imaging
- Oncology screening and therapy
- Orthopedic surgery
- Overactive bladder
- Pain
- Urology
- Wound healing

### Strategic Consulting and Research
- Strategic outcomes research and reimbursement plan for a new technology for in vitro fertilization
- Strategic outcomes research and reimbursement plan for new cardiology diagnostic test
- Strategic outcomes and economic research plan in minimally-invasive heart surgical procedures
- Systematic literature review of the economic and quality of life burden of needlestick injuries
- Technical support for design of reimbursement demonstration project for anesthesia monitoring technology
- Global market research on consumer applications of cardiovascular and physiologic monitoring technologies
- Market assessment of health care applications of a new decision support technology
- Market and technology assessments for clinical applications of an information systems technology

### Selected Prospective Studies
- Global registry in coronary revascularization
- Global cartilage repair patient registry
- Cardiac imaging and longitudinal outcomes patient registry
- Global longitudinal outcomes survey of a cardiovascular device
- Phase IV clinical trial of longitudinal outcomes in colorectal surgical procedures
- Diabetes pen patient satisfaction study
- Clinical trial of an artificial heart
- Clinical and economic assessment of a medical device used for preventing perioperative hypothermia
- Patient registry for cardiovascular imaging agent
- Clinical trial of a breast imaging system
- Clinical trial of diagnostic test kits for various diseases
- Study of a thrombosis imaging agent using monoclonal antibodies
- Study of an endoscope for gastrointestinal and urology use
- Study of an MRI imaging system for the breast

### Selected Retrospective Database Studies
- Medicare data analysis of use of devices in sleep disorders
- Longitudinal Medicare data analysis of outcomes following open colorectal and general surgical procedures
- Analysis of use of cardiology procedures and outcomes in acute myocardial infarction in the US and Canada
- Analysis of use of analgesic paste and pain outcomes, using medical chart data
- Claims data analysis of use and outcomes of implantable direct current stimulation for lumbar spinal fusion
- Analysis of use of imaging procedures among men with prostate cancer
- Sensitivity and specificity analysis of a drug used during cardiovascular diagnostic procedures
- Sensitivity and specificity analysis of diagnostic assays in newborns
- Study of use of diagnostic imaging

### Selected Modeling Studies and Syntheses
- Economic models of blood transfusion in multiple countries
- Medicare reimbursement and urology practice profitability models
- Cost-effectiveness of measuring lipoprotein particle concentration in managing congestive heart disease
- Systematic review and economic model of the economic value of double reading in mammography screening
- Markov decision model and analysis of use of support surfaces in multiple health care settings
- Economic analysis of transmyocardial revascularization
- Economic model demonstrating value of diagnostic modality in colorectal cancer
- Clinical effectiveness modeling of eight colorectal cancer screening strategies
- Decision analysis economic model of diagnostic modalities for colorectal cancer
- Cost-effectiveness model of screening for hepatitis B among pregnant women
• Cost-effectiveness model of computer-assisted breast cancer screening device using Monte-Carlo simulations
• Economic model of various contrast media in CT scans

Public Policy Research and Analysis
• Institutional and technological "genealogy" of the emergence of tissue engineering
• Analysis of factors affecting the diffusion of MRI technologies
• Evaluation of rural applications of telemedicine
• Assessment of the impact of an electronic medical record-based clinical reminder system

Selected Publications
• Cobden D, Pashos CL, Nicklasson L. Needlestick injuries in the care of patients with diabetes. Life Sciences Business & Technology Review 2005 (Fall); 5:74-76.

Selected Presentations
• Kahanovitz N, Pashos CL. The role of implantable direct current stimulation in the critical pathway for lumbar spinal fusion. 11th Annual Conference of the North American Spine Society, Vancouver, B.C., Canada, October 25, 1996.
• Lamas GA, Pashos CL, Normand ST, McNeil BJ. Natural history of sick sinus syndrome (SSS) following pacemaker implantation. European Journal of Cardiac Pacing and Electrophysiology 1994; 4:145A.

Abt Associates Inc.
Chris L. Pashos, Ph.D.
Abt Associates/HERQuLES
181 Spring Street
Lexington, MA 02421, USA
Voice: 1.781.372.6633
FAX: 1.781.372.6685
chris_pashos@abtassoc.com
www.abtassociates.com