

# HEALTHCARE, DRUG AND MEDICAL DEVICE: HUMAN FACTORS/ERGONOMICS SERVICES



## SERVICES

### User Experience Research & Ethnography

We conduct user (HCP, Patient) research to identify user experience needs, latent problems with existing products, unique use contexts and opportunities for product differentiation in the market. We develop a design brief, based on the user experience research, that provides the ideal human factors and ergonomics inputs to the design process.

### User Interface Design

Our experienced staff can help your product team develop a user experience that is safe, comfortable, easy to learn, simple to use and satisfying. We address both cognitive-usability and physical-ergonomic issues to help ensure that your device has beneficial usability and ergonomics properties from the start!

### Instructional Design

Good instructions and labeling help users learn how to successfully interact with your product. They can also be the easiest path for mitigating human factors issues (where appropriate). We provide turn-key services for IFU, Quick Guide and labeling development, including custom illustrations and layout.

### Human Factors/Ergonomics Evaluations

Identifying potential HF/E issues early in the design process is essential toward a later successful validation of the design. Such formative evaluations and subsequent design iterations are a required part of the FDA process. IAA offers expert heuristic evaluations that provide detailed information on HF/E problems and opportunities.

### Human Factors/Usability Testing

IAA is well versed in the FDA's Human Factors process, having conducted numerous studies for a range of medical products and drug delivery systems. IAA's medical usability testing process satisfies the FDA's requirements -- from study design to execution and reporting. We understand the differences between formative assessment studies and summative validation studies, and have developed a unique approach to medical device usability testing that couches the study findings in the context of known use-based risks and observed errors.

### Regulatory Consulting

Dr. Anthony Andre, IAA Principal, is a recognized leader in medical device regulatory issues consulting. He regularly advises clients on issues related to design controls, design process, usability testing and FDA submissions.

## USER POPULATIONS

IAA has performed research and testing for a variety of patient and health care provider populations, to include:

### Patients

- Multiple Sclerosis (MS)
- Nephrology
- Lupus
- Platelet Disorder (ITP)

- Diabetes
- Heart Disease
- Psoriasis
- Rheumatoid Arthritis (RA)
- Oncology

### Health Care Providers

- Nurses/Nurse Assistants
- Med Techs/Physician Assistant
- Pharmacists/Pharm Techs

- Cardiologists
- Diabetes Educators
- Vascular Surgeons

### Sub Populations

- Elderly / Juvenile
- Hand Tremors
- Low Vision
- Color Blind
- Neuropathy



## MEDICAL CLIENTS



## MEDICAL PRODUCT EXPERIENCE

IAA has designed, evaluated and usability tested numerous medical device and drug delivery products over the past 18 years:

- Needle Safety Syringes (manual/active & automatic/passive)
- Autopens (fixed dose & variable dose)
- Autoinjectors (single-use & reusable, pre-assembled & self-assembled)
- Microlfusers
- Insulin Pumps (standard & pod/patch)
- Continuous Glucose Monitors (sensor and remote control/monitor)
- Blood Glucose Meters

- Infusion Pumps (single, multi, ambulatory)
- Drug Reconstitution Kits
- Electronic Patient Record Applications
- Patient Imaging Applications
- Heart Pump Systems (LVAD)
- Cardiac Monitors / Medical Telemetry Systems
- Bar Code Medication Systems
- Vascular Closure Devices
- Laparoscopic Surgical Devices
- Automated External Defibrillators (AED)
- Ultrasound Machines
- Blood Cooling Systems
- Instructions, labeling and illustrations for a variety of products (IFU, Quick Guides, Checklists, labels, etc.)

In addition, we have conducted research on a variety of medical topics and products:

- Effects of syringe forces (drug viscosity) on injection performance, posture and acceptance among HPCs and patients
- Drug labeling (vial labels, vial caps, syringe labels, carton labeling)
- Computer skills of medical providers
- Mobile computing (tablet PC) needs in hospital settings
- Ergonomic issues with diagnostic medical sonographers
- Effects of different packaging approaches.
- Factors that influence instructional comprehension, education and adoption

### IAA OWNS AND OPERATES A CUSTOM USABILITY TESTING FACILITY IN SAN JOSE, CA

## COMPANY INFO

IAA is a leading human factors, usability and ergonomics consultancy, in business since 1993. We help make technology approachable, intuitive, safe and fun! We can research, design, evaluate or test your product or work environment to be more useful, usable, safe, satisfying and desirable.

IAA applies a business-centered approach to user-centered design, evaluation and testing by focusing on user experiences that have marketability and economic impact. Our dedicated staff has experience in a variety of domains and contexts, including: Medical/Healthcare, Aerospace, Web, Desktop Software, Enterprise Applications, IT/Security, Computer Input Devices, Gaming, Networks, Mobile Devices, and more.

We believe that human factors, ergonomics, and usability attributes dramatically impact the utility of a product, system or work environment, as measured



IAA won the prestigious 2009 "User Centered Design Award" from the Human Factors and Ergonomics Society for their design of the Cardiac Science AED PowerHeart G3 Plus Defibrillator. This award recognized IAA's unique approach to the verbal prompting interface, called "Rescue Coach™" which helps guide untrained users through successful cardiac arrest rescue intervention and CPR.

by the efficiency, satisfaction, comfort and safety of those who interact with it. To each project we bring the highest level of knowledge in interface design, human factors, ergonomics, instructional design, graphics design, and usability testing, along with the practical skills necessary to pragmatically apply theory, principles, standards and best practices.

IAA is led by Dr. Anthony D. Andre, CPE, an internationally recognized expert in human factors, usability, user experience research and ergonomics. Dr. Andre has been both a practitioner and educator of human factors and ergonomics for the past 20 years. Dr. Andre is the current President of the Human Factors & Ergonomics Society.

## GENERAL CLIENTS

