



## Health

### Challenge:

The Air Force Medical Service (AFMS) Surgeon General needed to standardize medical modeling and simulation training for better skill acquisition and retention.

### Solution:

ICF developed and staffed a multicourse, leading-edge training program based on unique client needs and best practices.

### Result:

Effective, sustainable, and cost-effective delivery of medical simulation training is provided to thousands of medical personnel each year at more than 80 sites worldwide.

To learn more about how ICF provides training to assist federal and state agencies in preventing, detecting, and responding to global health security issues, visit: [icf.com/GHSecurity](http://icf.com/GHSecurity).

# Standardized Process for Medical Modeling and Simulation

The AFMS Surgeon General contracted with ICF in April 2007 to help manage the integration of leading-edge medical modeling and simulation (MODSIM) into the basic and continuing medical education of the AFMS at all provider levels. The project's goal was improving the existing Air Force Medical Modeling and Simulation Training (AFMMAST) program.

With its rapid expansion and distributed nature, AFMMAST allowed more individuals and teams worldwide to be trained in critical medical skills. Personnel at each site developed simulation training scenarios and curricula to meet the needs of medical professionals. This success led to increased demand to deploy the training at more sites. ICF worked with the client to create a program that would support training expansion while ensuring standardization and improved skill acquisition and retention.

### ICF: A qualified partner for a formidable challenge

Our focus? Designing and implementing standardized processes and training within decentralized operational platforms and difficult-to-navigate command structures. This approach presented a formidable challenge, but ICF's breadth and depth of experience is well suited to the task. We have enabled medical personnel to achieve critical skills in multiple procedures via multidimensional blended medical scenarios, Web-based training, and mobile applications to train and evaluate medical providers and staff—for both the U.S. Air Force and U.S. Navy.

## Challenges

1. Independently operating medical treatment facilities (MTFs)
2. A general lack of total asset visibility
3. Underutilized or inadequately used simulation technologies
4. A lack of consistent staffing to run and maintain new equipment
5. A need for a standardized, validated, and shared training curriculum

## Solution

### ICF's multicourse, blended learning training program

Our solution aims to train team members with limited medical simulation experience—such as part-time simulation operators at small medical treatment





facilities (MTFs). Divided into two courses, the training builds skills around performing simulation by using a standardized preprogrammed scenario in a high-fidelity simulator (Simulation 101). The training then effectively builds on this foundational knowledge and skills with other simulation equipment (Simulation 201). Rather than an endless outline of "buttonology" that often characterizes vendor training, ICF's solution offers a practical application. Operators learn not only how to perform these operations but why they are performed and how the equipment can be used to accomplish simulation's larger goal—training medical professionals to be safer and more effective practitioners.

### **Baseline Assessment: understanding resources, capacity, and needs**

Before designing the solution, ICF began with a baseline gap assessment and analysis to develop a clear view of the existing program's resources, capacity, and needs. Our consultants identified what new capabilities were necessary and how best to implement them. Using a combination of site visits, surveys, and data collection tools, they recommended a range of changes, including policy revisions, infrastructure development, and standardized procedures for organization-wide adoption of the new MODSIM curricula. Putting assessment into action, ICF:

- Recruited, hired, and placed simulation center coordinators and simulator operators across the AFMMAST sites.
- Incorporated standard taxonomies and classifications for designing, developing, conducting, and evaluating simulation-based training operations across AFMS.
- Rolled out a standard curriculum-development process, a broad set of simulation training templates, and a full-array of associated learning evaluation tools.

### **Multimode approach to training success**

ICF's program uses multiple training methods to address learning from different angles. Web-based training and mobile learning applications provide "just-in-time" information. Print-based self-study aids provide logical flows and contain increasingly advanced content focused on the use and maintenance of simulation equipment and the management of simulation centers.

### **WBT modules provide on-demand skills acquisition.**

Convenient, online training enables learners to navigate through training modules with the assistance of an experienced simulation operator who explains key concepts and provides real-life examples. Scenario-based exercises help contextualize information with considerations for how to apply learning to individual simulation centers. Self-assessments allow learners to determine their proficiencies in key areas, all online.



### About ICF

ICF (NASDAQ:ICFI) is a global consulting and technology services provider with more than 5,000 professionals focused on making big things possible for our clients. We are business analysts, policy specialists, technologists, researchers, digital strategists, social scientists, and creatives. Since 1969, government and commercial clients have worked with ICF to overcome their toughest challenges on issues that matter profoundly to their success. Come engage with us at [icf.com](http://icf.com).

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### Self-study aids fulfill specific training gaps.

With self-guided study modules, learners select a piece of medical simulation equipment and practice using it, at the same time achieving key learning objectives. Completion of both Web-based and self-study modules is followed by a capstone project in which learners develop a simulation scenario to meet a key training gap at their site. Feedback from the AFMMAST Central Program Office enables refinements of scenarios and improvement conducting scenarios with medical professionals.

### Mobile learning applications provide on-the-job answers.

ICF developed three mobile apps designed to augment the full training curricula. Keyword search functions and information databases enable learners to access tutorials and images to answer specific questions while on the job.

## Result

### Evaluation: benchmarks of success

Following a successful rollout, ICF consultants used their expertise in advanced research to provide the AFMMAST program with a detailed metrics model to measure and report the program's training return on investment and cost-benefit analysis. Future iterations of this model also are expected to report on improvements in patient outcomes, helping ICF's client to measure not only the monetary value of the program but also its success in enabling better medical care.

### Modsim solutions for government clients

As a partner with The McConnell Group, ICF continues to advance MODSIM training for government clients. Together, we supported the U.S. Navy Medical Simulation Center efforts with a training curriculum and multidimensional blended medical scenarios that use advanced human patient simulators and medical part-task trainers to train and evaluate medical providers and staff. Now we are helping the Veterans Health Administration's Simulation Learning, Education and Research Network (SimLEARN) in simulation operations and research.

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