It all began with a little dry ice.

In 1989, Sandra Mayrand, MBA, was a research assistant at the Worcester Foundation for Biomedical Research (WFBR), which became part of UMass Medical School in 1997) with two children at Shrewsbury High School. As her son struggled with chemistry, he realized that it couldn’t hurt his academic efforts to procure some dry ice for the class from his mother’s lab. The dry ice was an instant hit and a connection between the WFBR and Shrewsbury High School was formed, with Mayrand as the central link. Guided by Mayrand’s expertise, that initial collaboration with one high school has expanded to become the UMass Medical School (UMMS) Regional Science Resource Center (RSRC), a vital component of the UMMS Office of Science Education.

Today, the RSRC is a thriving enterprise committed to enhancing K-12 science, mathematics and technology education and outreach for school districts throughout the state.

For her achievements, Mayrand received the 2008 Manuel Carballo Governor’s Award for Excellence in Public Service along with nine other service-oriented state employees. Named for a former secretary of human services, the Carballo Award is given annually to a select few who exemplify “the highest standards of public service through exceptional accomplishment, superior leadership, creativity and productivity.”

“I am truly honored by this recognition of the center’s work,” said Mayrand. “Over the last 15 years the staff and our partners in the K-12 and higher education systems, business and non-profits have helped students connect what they are learning in math and science classrooms to the world of work. This award reflects the state’s validation of a strong K-12 education system and the important role that institutions like UMass Medical School have in working with school systems toward common goals of a talented, innovative workforce of tomorrow.”

Among the RSRC’s offerings is a state-of-the-art laboratory for students in K-12 standards-based mathematics and science curriculum library with over $100,000 of instructional materials for teachers to preview and borrow; Science to Go! a refurbishment program for K-6 National Science Foundation curriculum units; teacher professional development programs in mathematics and science; and technical assistance to districts across the region.

In fiscal year 2007, the RSRC served 138 districts, 2,135 teachers and 2,099 students directly through the lab at UMMS’ Maple Street, Shrewsbury campus, and 112,335 students indirectly through curriculum and teacher enhancement programs.

The RSRC facility in Shrewsbury houses the fully equipped student laboratory that has become the setting for motivated high school students whose teachers have recommended them for independent research—work that may advance them to local, regional and state high school science fairs. (Mayrand currently chairs the Massachusetts State Middle School Science and Engineering Fair.) And each year, the RSRC, in partnership with the Worcester EcoTarium, sponsors the Women in Science Conference, the goal of which is to introduce middle school girls to careers in science and to engage them in conversations with local women who use science in their professions.

The success of the RSRC is a result of Mayrand’s passion for science and enthusiasm for sharing her knowledge. Originally funded by the Worcester Foundation, the RSRC, under Mayrand’s leadership, now receives more than 90 percent of its funding from grants and fees. Earlier this year, the Massachusetts Board of Higher Education’s STEM Pipeline Fund awarded the Central MA STEM Pipeline Network—an RSRC program—a $500,000 grant to launch STEM Central, a strategic communication initiative that will increase awareness of science, technology, engineering and mathematics careers and the educational pathways required for entry into the 21st century workforce. The effort specifically targets middle school girls, underrepresented minorities, and potential first-generation college and low-income students.

UMass Memorial Enhances Heart and Vascular Care

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in Massachusetts and number two in the United States for surviving a heart attack.

In addition, for the third consecutive year, the Cardiac Surgery Program received the 3-star Quality Rating from the Society of Thoracic Surgeons (STS) —its highest designation. Only 14 percent of the 900 hospitals in the STS cardiac surgery database received the 3-star rating.

The new “Top 100” recognition follows an examination by Thomson Reuters of the performance of nearly 1,000 hospitals of their outcomes for measures related to coronary artery bypass grafts and percutaneous coronary interventions, such as angioplasties. The analysis used data from CMS. It identified 100 hospitals that did significantly better than their peers on risk-adjusted measures of mortality and complications.

“These cumulative achievements are truly a reflection of the tremendous effort put forth each and every day by our Heart and Vascular Center of Excellence staff. And it is a reflection of the high-quality care provided by UMass Memorial Medical Center,” said President and CEO John O’Brien.