

Mount Sinai HPPI

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The Mount Sinai School of Medicine initiated a partnership with the Gateway Institute for Pre-College Education in 1993. In the same year, Gateway worked closely with the Association of American Medical Colleges (AAMC) in developing pipeline models for the new Health Professions Partnership Initiative (HPPI). In the summer of 1993, Gateway participated in the AAMC's regional forums that were designed to stimulate medical schools to develop pipeline partnerships. Drawing on these experiences, Mount Sinai School of Medicine and Gateway joined with the New York City school system to open a secondary school, the Queens Gateway to Health Sciences, in the borough of Queens in 1994.

Based on the success of this early model, the dean of Mount Sinai School of Medicine applied for and received a HPPI grant to open a second school in Manhattan. The Life Sciences Secondary School, located less than ten blocks from the Mount Sinai School of Medicine's campus, opened after concentrated effort on behalf of all partners in 1997. The new secondary school (grades 6–12) appeared to be an ideal partnership, and there were hundreds of members of the Mount Sinai School of Medicine community who volunteered their time to work with the entering sixth- and ninth-grade students. Despite the exciting potential of this partnership, and the clearly documented success of its predecessor Queens Gateway, the new school faced many obstacles and has produced only modest student achievement. Still, it is a powerful example of the opportunity for medical center–secondary school partnerships. In this case study, we review some of the obstacles that can make these partnerships difficult to sustain in the hopes that future programs will succeed.

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Building the Partnership

South Jamaica, Queens, one of the most medically and educationally underserved communities in New York City, became the focus in 1993 of The Mount Sinai School of Medicine and the Gateway Institute when the two institutions began planning a secondary school with a health professions theme. The Gateway Institute and Mount Sinai School of Medicine formed a unique partnership with The New York City Department of Education. Other instrumental partners in the planning of the Queens Gateway Secondary School for Health Professions (grades 7–12) were Queens Hospital Center, City University, teachers, parents, and community leaders.

Mount Sinai School of Medicine proved to be an ideal partner for this collaboration because it had recently assumed responsibility for the medical staff at the Queens Hospital Center and had made a strong commitment to the South Jamaica community. Equally important, both the president of Mount Sinai and the dean of the School of Medicine were strongly committed to quality public education. The partners worked closely to create the new school based on Gateway's successful record of developing pipeline initiatives in the New York City public school system.

The Queens Gateway Secondary School for Health Professions had many struggles in its first few years. Most significantly, it was temporarily located on the top floor of an old middle school, where the building's roof collapsed within months of the school's opening. Fortunately, the school had the strong support of the Queens Borough president, and she fought for a suitable building. Although it took almost five years to complete the 600-seat building, the vision of the school's future home was sufficient to sustain the morale of the participants. Because the Mount Sinai medical center is a vital part of its community, it had the visibility to work closely with the community's political leaders. In spite of other early obstacles, and even though the Queens Gateway school was only moderately selective, the students were able to achieve a record of solid success.

Once Queens Gateway Secondary School for Health Professions had achieved success, we began in 1996 to plan for a second school, the Life Sciences Secondary School, in Manhattan, close to the main campus of Mount Sinai School of Medicine. We explored every possibility within two miles of the medical center, but with the real estate market booming, available space for a 600-student school had disappeared almost overnight.

Finally, an old school building in less than ideal condition was located close to the medical center. The building was constructed in 1900, and the heating system still required someone to shovel coal into the furnace. The leaders of the New York City Department of Education promised extensive renovations, and an opening was planned for September 1996. As time passed, there was no evidence of any renovations and the dean of Mount Sinai School of Medicine and the director of Gateway Institute met with school leaders and decided that the opening had to be postponed until 1997.

This delay gave more time for planning and, in many ways, it provided the opportunity to gain the support of all of the department chairs and division leaders at the medical center. A principal for the Life Sciences Secondary School had been selected in 1996, and the school system agreed to retain the principal for a year of planning. Queens Gateway had begun with seventh graders. The dean of Mount Sinai School of Medicine was eager to expand on Queens Gateway's success by targeting sixth graders as the starting point for the new school. This seemed to be a perfect plan since the school system informed us that under a new articulation, students would leave elementary school at the end of the fifth grade.

With a year to plan, the new principal and the Gateway Institute's director met with every school and community agency in East Harlem, which was the target area for recruiting students to Life Sciences Secondary School. After the recruitment was completed, the school system reversed its earlier decision, determining that elementary schools would not

graduate students until the end of the sixth grade. This led to many of the best students deciding to remain at their elementary schools and Life Sciences Secondary School had to scramble to fill its first class. As a result, students entering the first class were more unprepared than we had anticipated. This posed problems for some of our new teachers, who were still inexperienced in managing a classroom with a wide range of issues.

Our experienced teachers were outstanding classroom managers, and their classes were exemplary. Some of our new teachers, through no fault of theirs, lacked experience and disruptive students took advantage. As a result, instruction at Life Sciences Secondary School was uneven. Added to this, renovations had been sparse, and the only space for lunch was in the middle of the school's lobby. This added to the problems of keeping the students engaged in learning. These and other problems led to the gradual disengagement of Mount Sinai School of Medicine from the school. We believe, however, that Mount Sinai School of Medicine's participation in the first few years of the school's establishment remains a model for future replication.

Partnership Activities

The Mount Sinai School of Medicine's faculty and staff partnered with the teachers at Life Sciences Secondary School to provide a unique educational experience for the students (see Table 1). Even in the middle of all of the difficulties, there was close and extensive cooperation between the school and the medical center to provide high-quality experiential instruction.

Some of the most significant examples of these academic activities were:

- All residents in medicine and pediatrics had a month-long rotation at the Life Sciences Secondary School where they partnered with science teachers to produce and deliver units that linked each topic to relevant applications in medicine and health.
- Each department chair identified faculty interested in preparing lectures, seminars, or discussions for the school. The first to be implemented were from the departments of rehabilitation, emergency medicine, anesthesiology, and anatomy.
- Over 100 Life Sciences Secondary School students participated every week in mentorships throughout the hospital.

- About half the students participated in special summer courses or introductory research experiences.

These examples, along with many other activities, created a thriving interchange between Mount Sinai School of Medicine and the Life Sciences Secondary School. Although many details of each activity are noteworthy, perhaps the most unique was the participation of the residents. A very talented fellow in medicine/pediatrics was recruited to organize this effort. With complete and enthusiastic support of the chairs of medicine and pediatrics, she worked with a different team of residents each month. The results far exceeded expectations as we sometimes take for granted the excellent teaching skills of our residents and fellows.

An early lesson was that for enrichment instruction to be effective, a close partnership between the residents and the teacher must be established. The structure of the month rotation was:
 Week 1: Residents and teachers meet to review science curriculum and brainstorm for possible medical enrichment activities.
 Week 2: Teaching modules and materials are prepared.
 Week 3: Residents and teachers team teach using both lecture and small-group

Table 1

Mount Sinai Medical Center and Gateway Institute Health Professions Partnership Initiative Programs and Activities

Programs and activities	Target students	Description
Queens Gateway to Health Professions Secondary School	7 th –12 th grades	Small high school (550 students 7–12 th grades) with a rigorous curriculum where students learn about health professions from formal activities at the Queens Hospital Center, speakers at the school, and alumni who are health professionals who return regularly to the school.
Life Sciences Secondary School	6 th –12 th grades	A college preparatory high school that provides academic-year and summer instruction and enrichment activities for students who wish to pursue health careers.
Queens Hospital Center	7 th –12 th grades	A New York City public hospital affiliated with Mount Sinai. Students attend classes and lectures with a full complement of health-related activities on the hospital campus. A new building is planned on the campus as an expansion of the partnership with the Department of Education, the Gateway Institute for Pre-College Education, Health and Hospitals Corporation, and Mount Sinai Medical Center.
The After School Corporation	7 th –12 th grades	A yearlong, after-school program at Queens Gateway to Health Professions Secondary School, which includes academic tutoring in science and mathematics, sports, arts, music, and dance.
Mount Sinai Medical and Pediatric Residents	7 th and 8 th grades	Pediatrics and medical residents from Mount Sinai taught one semester biology course at Life Sciences Secondary School in a partnership with the classroom teachers.
Center for Excellence in Youth Education	9 th –12 th grades	Summer programs based at Mount Sinai Hospital in Manhattan for research, shadowing physicians, and classes about current health issues in New York City.
WIA Program	9 th –12 th grades	Work-preparedness program, which places students in health-related internships during the summer with counseling during the school year for the students.
SYEP – Summer Youth Employment Program	9 th –12 th grades	Students are placed in hospitals for paid summer internships.
Mount Sinai Mentors	6 th –8 th grades	Students prepared research projects and presented them at Mount Sinai to the medical and pediatrics residents who had worked with the students.

experiences. Week 4: Residents participate in evaluation, student discussions, and editing the curriculum materials for future use.

This effort was labor intensive but rewarding both to the participants and to the education of our students. For purposes of replication, it is essential to recognize the role of the fellow in leading the project. Education is rarely successful without carefully developed plans, and without continuity and development, this experience would have been an exciting but quickly forgotten experience. If medical center faculty randomly participated, the results might be interesting but disjointed. The key to good education is providing content based on a carefully developed plan to have an impact on the learning skills of students.

Lessons Learned

Problems we encountered in the establishment of the Life Sciences Secondary School revealed lessons that future endeavors should anticipate. First, as major entities within the community, medical centers can—and may have to—leverage their visibility for political purposes. We learned this by benefiting from the support of the Queens Borough President who monitored the repairs needed at the Queens Gateway Secondary School for Health Professions. Second, when we decided to open a new school in Manhattan, we encountered difficulties locating affordable and suitable real estate. Lesson two became: If you plan to open a school, know the real estate market. Third, we learned that the New York Department of Education, like most school systems, faces innumerable

challenges. And, no matter how important our project was, we were not the only problem that the school system faced. In New York, there are over 1,000 school buildings, almost all in need of repair—ours could not move to the top of the list.

In addition to these more practical lessons, we learned others that fuel our optimism. The most important lesson is that a medical center and a public high school can be the core of a powerful partnership. Further, the creation of a new high school is a complicated process and the partnership must be prepared to identify and solve issues that range from recruitment and training of teachers, inviting students and parents to an unknown entity, and developing an entirely new school culture. These are exciting challenges but working with an existing school should also be considered.

Third, the potential enrichments available at a medical center are enormous but they must be organized, coordinated, and carefully integrated with the instruction at the school. The medical center's activities were very inspiring for the students, but they required curriculum, supervision, and close cooperation with the teaching staff. Although these activities require planning and personnel, the investment has a large payoff.

A final important lesson, and one that has inspired our continued confidence, is that teaching and learning are at the heart of a good medical center. At Mount Sinai School of Medicine, hundreds of adults were eager and excited to commit their time to the education of young people. Education and health care are really natural partners.

Institutionalizing the Partnership

Although the Queens Gateway Secondary School for Health Professions was started before the HPPI grant, its development became part of the Mount Sinai School of Medicine's HPPI initiative. Queens Gateway Secondary School for Health Professions has developed an impressive track record of student achievement and is fully institutionalized. The New York City Health and Hospitals Corporation (HHC) was a key partner in that effort. Based on that success, HHC and the Gateway Institute are now replicating at two additional sites with Harlem Hospital and Coney Island Hospital. Other partners include community and senior colleges within the City University system.

The Life Sciences Secondary School has continued but with more limited participation of the medical center. The blueprint that was established for partnership will endure at other locations in the future. What was demonstrated in the first three years is that students can learn from interactions with everyone in a medical center: from entry-level employees to department chairs, from medical students to fellows. The lessons are:

- Medical care offers exciting learning opportunities for young people,
- Students discover many new careers in health care,
- Hard work is essential for both education and quality medical care, and
- Close interaction between students and adults has many rewards for all participants.