LANG YOUTH MEDICAL PROGRAM
OVERVIEW

Mission

To inspire and support young people from Washington Heights to develop intellectual habits of mind and life skills that position them to attend college and to become future leaders in the sciences and their communities.

Five-point strategy

1. Challenging six-year, longitudinal curriculum that puts the Hospital's educational resources to work for the Lang Scholars
2. Culture of peer support
3. Caring, consistent relationships with adults – university and medical students and health professionals; parents and families
4. Leadership opportunities
5. Financial incentives.

Challenging six-year, longitudinal curriculum that puts the Hospital's educational resources to work for the Lang Scholars.

The first three years of our curriculum follows a "miniature medical school" model, focusing first on normal structure and function of the human body, then on disease processes and finally on case studies. Throughout, the students investigate the science of each topic and the implications of personal behavior and decision-making on individual and community health. Each topic culminates with an exciting project that allows the students to take what they are learning back to the community. Workshops and enrichment activities, such as preparation for the specialized high school test, and skill building in mathematics and reading support academic development beyond the general curriculum.

Seventh graders. The seventh graders begin their curriculum studying the science basics of medicine and dentistry. Once they have developed an understanding of the science basics behind health, they move on to the function and structure of the human body, investigating the following areas in-depth: circulatory system, nervous system, endocrine system, and human development. Then the students will study how our personal decisions and lifestyle affect the health of our body's systems. During the summer between seventh and eighth grade, students investigate a health issue facing their community. They choose an issue and investigate how the issue affects the community and how the Hospital addresses the problem. They then create related radio public service announcements, thereby sparking a personal commitment to improving the health of their own community.

Eighth graders. Having spent their first year investigating normal structure and function, in their second year of the program the scholars focus on what goes wrong. During the morning session of each program day, students investigate the science behind how we acquire diseases, specifically genetic, immune mediated, bacterial/viral, environment/lifestyle and multi-factorial. In the afternoons, students conduct research projects on diseases from each of those categories. They apply their scientific knowledge and develop research skills from selecting a topic to researching valid sources to interviewing doctors and patients to note taking to writing. In addition to this curriculum, students participate in workshops to prepare them for their summer program, "Health Careers Camp." Workshops include leadership skills, transitioning to high school, social identity, career 411 (internship readiness class), communication skills, ethics and confidentiality. The Lang Youth Health Careers Camp summer program is designed to bolster students' science skills while introducing them to a wide variety of health career options through hands-on activities, speakers, field trips and tours, job shadows and lab activities. Students spend the month of July visiting with local health professionals, college faculty, and financial aid advisors. Weekly experiences include "medical ethics" discussions and mentor lunches with health professionals. The final project for the summer program will be a Health Careers Fair that students produce for neighborhood youth.

Ninth graders. In ninth grade students undertake a demanding chemistry curriculum to prepare for the academic rigors and social challenges awaiting them in high school and in their internships. This curriculum is in the development phase, but will be designed to build a solid foundation in our students' math and science skills. On Saturdays during the school year, students will engage in case-based learning that will expose them to the application of basic science and math principles to medical chemistry and disease processes. They will develop an understanding of how math and science together explain natural phenomena. Workshops during this year will include transition to high school, goal setting, time management, study skills, and others.

Culture of peer support.

Lang Youth creates a physical, social and emotional space where having – and nurturing – an intellect is praised, where students' common interest is making it to college and beyond, and becoming advocates and voices of change in their community. Students develop their own rules (e.g. respect, attentive listening, no put-downs and teamwork) and check in on how they are doing as a group. We begin cultivating a culture of peer support through a two-day team-building retreat before the students start program each school year. We revisit the activities through monthly team-building initiatives. Through programs such as our Outward Bound Urban Exploration, students explore their own social identities and gain appreciation of the important place all cultures play in our city and our society. With the support of the scholars' parents, we also include monthly recreational events to alleviate academic pressures facing the students. Events include museum visits, popcorn and movie nights, sailing, picnics at Hospital staff's country houses, and college visits among others.

Caring, consistent relationships with adults.

Integral to our program design is support, recognition and nurturing by adults. Program staff, university and medical students, and health professionals provide advice on college, career choices and life issues. These adults foster leadership and provide guidance and exposure to broader environments that help students dream big and set high goals for themselves. When successful doctors, nurses, researchers, technicians believe in our students, the students believe in themselves. In addition to providing mentors and role models, we support children's first and most consistent teachers, their parents. We provide workshops to provide parents with tools to assist their children's academic growth and the development of success-oriented social attitudes. The past year's workshop topics included self-esteem; high school for college-bound students; how to talk to your children about sex, alcohol and drugs; transition from pre-teen to teen; and nutrition.

Leadership opportunities.

Perception is reality. As such, we make it a priority to instill in our scholars a belief in themselves as academic, peer and community leaders. When young people receive guidance, support, encouragement and tools they positively influence their peers, families and community. We provide workshops in life skills, character education, leadership skills, effective communication, presentation skills, problem solving, cultural sensitivity, self-esteem, and positive values. We give students opportunities to put their leadership skills and capabilities into practice. One example of this is the culmination of the seventh graders' "healthy organs" unit: a series of presentations they make in neighborhood elementary schools, with power point presentations they create and actual human organs from the pathology lab (resulting from their seventh-grade projects). We implemented a peer mentor program. For example, four "upperclassmen" applied and were selected to serve as peer leaders at the 7th graders' team-building retreat. They underwent a seven-session training developed and implemented by one of our college advisors. Another example is two students who came to the Lang Youth office for weekly book club sessions. They read The Seven Habits of Highly Effective Teens and are planning monthly presentations and activities for the seventh graders, who are reading the book as part of their required coursework.

Financial Incentives.

Upon completion of the six-year program, graduates are eligible for $1,500 college scholarships, renewable annually. Because many of our students' families depend on them to bring in, we are working to raise funds for paid internships. With these funds, we can place the scholars in research and clinical settings where they will at once be progressing toward their educational goals and also providing financial support to their families.

Junior Medical School Curriculum

Overarching Understandings:

- People's questions are the basis for discovery, invention, and decision-making; Scientists are explorers and entrepreneurs.
- Science is constantly changing, requiring scientists to revise hypotheses or theories over time.
- The body is constantly changing, which leads to changing physical, social, and emotional needs.
- Medicine is the prevention, treatment, and control of disease, and depends on a person's biology, lifestyle, and environment

Unit Understandings:

Year one:

- Science is the study of the world around you; it is the collection of many interdependent disciplines.
- A scientist is a person who observes, experiments, and hypothesizes to advance in knowledge of a field.
- Health depends on the coordination of body systems, supported by nutrition, and influenced by a person's lifestyle/everyday choices.
- Disease occurs when the coordination of body systems is compromised; Prevention, treatment, and control of disease depend on a person's biology, lifestyle, and environment.

Year two:

- Disease occurs when the coordination of body systems is compromised
- There are many different types of diseases that can cause the body to malfunction in different ways
- The body has several natural defense mechanisms
- Diseases can be classified by their mode of transmission and their types of symptoms
- Medical therapies exist to prevent, treat, and control disease
- Some diseases may be the result of multiple factors
- Not all diseases can be prevented
- A person's lifestyle choices can stop the progress of a genetic disease they may have been genetically predisposed to

Year One

October-June

- The Healthy Human Body
    - The nervous system
    - The circulatory system
    - The digestive system
    - The respiratory system
    - The endocrine system

- Human Development
- Nutrition/Lifestyle

- What is a Scientist?
  - General Science Skills

Summer

- "Healthy Washington Heights"
  - Community Health
  - Injury Prevention
  - Violence Prevention
  - Nutrition and Exercise
  - Environmental Health

Year Two

October-June

- How do we get Sick?
  - Bacterial/viral (HIV)
  - Genetic (Sickle-Cell Anemia)
  - Environment/Lifestyle (Asthma, Obesity)
  - Immune mediated (Lupus)
  - Multi-factorial (Depression, Diabetes)
  - Community-Specific Diseases (Diabetes, Asthma, Mental Health, Kidney Disease, Drug-related, Hypertension, Accidents/injuries)
- Research Seminar

- Medical Ethics

Summer

- Health Professions