



Defining the future of health care and developing tomorrow's Innovators.



2020 Medical Marvels Research Competition
A research competition for 9th and 10th grade students

Sponsored by the Feinstein Institutes for Medical Research and the Center for Workforce Readiness

At Northwell Health, we're Made for discovering, developing and delivering life-changing medical breakthroughs. The Northwell Health Medical Marvels Competition is one way we're inspiring and empowering the next generation of healthcare visionaries. Established in 2013 by the Feinstein Institutes for Medical Research and the Center for Workforce Readiness, Medical Marvels exposes 9th and 10th grade high school students to an incredible world of science, technology, engineering and math (STEM) careers. As we raise these students' awareness of the multidisciplinary impact of STEM careers, we encourage their creativity while helping school districts and industry leaders develop assets and improve the economic future of students.

A look back

In 2019, more than 200 students across 38 school districts participated in the seventh annual Medical Marvels Competition focused on vaping. Winners include: First place, Hicksville High School; second place, Garden City High School; third place, Paul D. Schreiber High School. In addition, Elwood-John Glenn High School, Plainview Old-Bethpage John F. Kennedy High School, Roslyn High School, and Sacred Heart Academy won presentation awards.



Northwell Health is pleased to announce the 2020 Medical Marvels challenge focus: **Vaccinations**

Background

Health starts in our homes, schools, workplaces, neighborhoods, and communities. We know that taking care of ourselves by eating well and staying active, not smoking, getting the recommended immunizations and screening tests, and seeing a doctor when we are sick all influence our health. Immunizations are considered one of the 20th century's most cost-effective public health achievements. They protect both individuals and the larger population, especially those people who have immune system disorders and cannot be vaccinated. As with many public health programs, immunization programs are invisible when they are working well. When a large number of the population is vaccinated due to immunization strategies aimed at infants and children, the incidence and risk of many communicable disease are significantly decreased.

State laws establish vaccination requirements for school children. They also offer exemptions to school vaccination requirements, including medical, religious, and philosophical exemptions or some combination of these exemptions. Some parents consciously choose to not have their children vaccinated, to delay vaccination, or to use alternative immunization schedules. Recently, a number of communicable diseases have re-surfaced in schools.

This has caused a resurgence of many infectious diseases due to the loss of herd immunity, which puts many communities at risk.

We invite students in grades 9 and 10 to participate in the 2020 Medical Marvels Competition, which consists of the following components:

Hypothetical challenge

You are the New York State Commissioner of Education. Over the last year, you have experienced measles outbreaks in some of your districts. You reviewed the vaccination rates for New York State and noticed an increase in vaccination exemptions in specific demographics. Community members and parents have been turning to you for a solution. In response, you will chair a statewide task force to develop and implement a strategy to address vaccine hesitancy and increase the immunization rate across the state.



Your solution will involve answering the following questions:

1. What research can be conducted to understand the nature and scope of the problem in NYS to develop an appropriate solution?
2. What type of data will you collect to create a strategy to support and enable recommended vaccination behaviors?
3. How will you and your team come up with an innovative solution to address vaccine hesitancy in NYS? Keep in mind that there is no single intervention that addresses all instances of vaccine hesitancy.
4. What groups will you engage throughout the community to implement your intervention to the target audience?
5. How will you measure the effectiveness of your intervention?
6. What tools can you use to ensure that another epidemic will not break out?

Eligibility and requirements

To ensure participants receive consideration in the competition, please review the following eligibility and participation requirements:

Evaluation and awards eligibility

School eligibility - Any New York State accredited educational institution located in Nassau, Suffolk, Manhattan, Queens, Brooklyn, the Bronx, Staten Island or Westchester is eligible to participate. Due to the expansion of the program, there will be a limited number of teams allowed to participate. The teams will be selected based on a first come first serve basis. A maximum of one team per institution will be accepted for awards and judging.

Student eligibility - Each team must have a minimum of three and maximum of six students. All student team members must be in 9th or 10th grade and actively enrolled in the educational institution designated on the submission.

Number of teams - only one team per school can submit a proposal for judging, awards, and attendance at the Medical Marvels Competition on February 28, 2020. If you have multiple teams wishing to participate, we encourage schools to host an internal competition in order to select one team to represent the school. The representing team does not need to be chosen until the final proposal is submitted on January 28, 2020.

Participation requirements

Please submit your school's form of intent by November 7, 2019. The information requested in the form of intent includes:

- School information
- Advisor and science chairperson contact information
- Notation if you are planning on having an internal competition

This form of intent is not binding. If you have any questions, please email medicalmarvels@northwell.edu.



Evaluation and awards

Evaluation process

The team representing your school is required to submit the completed proposal to **medicalmarvels@northwell.edu** by 4:00pm January 28, 2020. All proposals will undergo an evaluation and judging process, which will be conducted by a panel of scientists, clinicians and healthcare administrators using the National Institutes of Health (NIH) grant scoring criteria. Your school's team will additionally have the opportunity to present their completed proposal at the Medical Marvels Competition on February 28, 2020. Presentations and workshops will be held from 8am to 1pm. First, second, third, and presentation winners will be announced at the conclusion of the event. Student teams will bring their display boards and present to judges, researchers, and their fellow peers during the poster presentation.

Awards

- The winning team will receive an award in the amount of **\$1,800.**
- The second place team will receive an award in the amount of **\$1,000.**
- The third place team will receive an award in the amount of **\$500.**
- Presentation winners will receive an award in the amount of **\$300.**

Key dates

- **November 7, 2019:**
Intent to participate due
- **November 12, 2019:**
Detailed guidelines sent to schools
- **November 14, 2019 at 4pm:**
Webinar for mentors/advisors
- **December 13, 2019:**
Submission of student teams and contact information
- **January 28, 2020 at 4pm:**
Written proposals due to medicalmarvels@northwell.edu.
- **February 28, 2020 from 8am-1pm:**
Student presentations, workshops and awards ceremony

Follow this link to register your team.

Best of luck to all student teams!



For questions about the 2020 Medical Marvels Competition, please email medicalmarvels@northwell.edu or contact Kathryn Graves, Project Manager of Workforce Readiness, at **(516) 472-6026**.

