



## International Partners In Health

### All the Stars Align: NYUCD–Henry Schein Cares Global Student Outreach Completes Survey Phase of Oral Health Model for Grenada



In January 2010, a 43-member team representing the NYU College of Dentistry - Henry Schein Cares Global Student Outreach Program arrived in Grenada, launching the first phase of a four-year mission to develop a sustainable oral health model for the tri-island nation. The NYU dental team carried out the most comprehensive oral health assessment and treatment program ever undertaken in a Caribbean country, hosted by the governments of Grenada, Carriacou, and Petite Martinique.

Over the past two decades, NYUCD and Henry Schein, Inc., the largest distributor of healthcare products and services to office-based practitioners, have combined forces to conduct oral health outreach projects in underserved and at-risk communities around the world. Last year, thanks to a major gift from Henry Schein Cares, the global social responsibility program of Henry Schein, the NYUCD - Henry Schein Cares Global Student Outreach Program was created to focus specifically on narrowing the disparity in the delivery of oral healthcare services and information to underserved communities, both in the US and abroad.



The decision by NYUCD to help meet Grenada's oral health needs was fueled by a request from Ms. Gracelyn Harris, an NYUCD Clinic Coordinator who emigrated 24 years ago from St. George's, Grenada, to the United States. When Ms. Harris heard the news that a trip to Grenada was being planned, she quickly helped orchestrate the involvement of Concerned Grenadians of New York (CGNY), a nonprofit advocacy group. "I wanted to make sure everything would run smoothly," said Ms. Harris. "This was all very new to Grenadians, who usually go to the dentist only when they have pain."



Ms. Harris, along with other CGNY representatives, developed a media plan for Grenada starting in October 2009. "Every week, announcements about the NYUCD visit were broadcast on Grenadian radio. So when the outreach group finally arrived, the country was excited - the people were ready," said Ms. Harris.

NYUCD volunteers surveyed 1,075 children at 22 schools throughout the country. In addition to the oral health assessment, the NYU dental team provided free general and emergency dental care - including fluoride varnish, sealants, root canals, fillings, and extractions at the Tivoli



Ms. Gracelyn Harris on-site in Grenada.

### Medical Station in St. Andrew's Parish.

Hundreds of Grenadians lined up at the clinic each morning seeking dental care. In five days, over 500 adults and 200 children were seen, many needing multiple visits. The team focused its efforts on completing treatment for children at a primary school located adjacent to the clinic. Dr. Amr Moursi, Associate Professor and Chair of the Department of Pediatric Dentistry, trained a local dental auxiliary assigned to the area by the Grenada Ministry of Health in the proper method of applying fluoride varnish so that preventive measures could be continued for the children at three-month intervals, until NYUCD's next outreach to Grenada in January 2011.

The NYUCD team also offered oral health education for parents; spoke to students at a community college about considering dentistry as a profession; and provided continuing education lectures to dentists throughout the island.

Dr. Mark Wolff, Professor and Chair of the Department of Cariology & Comprehensive Care and Associate Dean for Predoctoral Clinical Education, who led the Grenada outreach as Survey Director, said, "We had the generous support of Henry Schein Cares; a wonderful team in the Office of International Affairs & Development - Rachel Hill, Lauren Meyers, and Amanda Meissner - who organized the outreach; the enthusiastic Grenadian government, which immediately issued a formal invitation to us; and the Concerned Grenadians, who not only raised additional money to support the outreach, but also went down to the island in advance to prepare for our visit. The stars of industry, academia, government, and community aligned beautifully."

To assess the present oral health status of children and their future needs, the NYU dental volunteers used the World Health Organization (WHO) Basic Oral Health Survey pathfinder methodology and the stratified (age, gender, and location) cluster sampling technique. Children ages 6, 7 - 8, and 14 - 15 from the six parishes across the main island, plus the sister island of Carriacou, were examined to determine the caries prevalence and the mean number of decayed, missing, and filled tooth surfaces. The dental exam consisted of a traditional visual-tactile examination method using a mirror and an explorer with compressed air. Fluoride levels in the water were assessed by collections made at each sampling site.

Dr. Nicole Holland, '10, a member of the Grenada outreach survey team, said, "One of the biggest challenges was getting the consent forms signed - getting the children to take the forms home and explain to their parents that they needed to sign them and then bring them back. That was often tricky."

The baseline data collected from the study reported alarmingly high caries prevalence at 83.4 percent. The DMFS (Decayed, Missing, or Filled Due to Cavities Score) for 6 - 8 year olds was 10.1 (SD = 12.1) and the DMFS for 11+ year olds was 5.5 (SD = 6.8). Approximately 25 percent of children interviewed said they do not own a toothbrush and an even greater number had never visited a dentist. Among those who had, most had likely not seen a dentist in more than two years.

"In approximately 1,000 children, we found almost 10,000 cavities," said Dr. Wolff. "Multiply that by the 26,000 children on the island, and it gives

you some idea of the magnitude of decay." (The tri-nation of Grenada's entire population is about 108,000.) Dr. Wolff pointed out that these were preliminary numbers, which the team is still in the process of verifying.

The high decay rate is tied to a lack of preventive measures and the high consumption of sweets. "We saw candy stores right outside the schools and in the schools themselves," said Dr. Wolff. "Now add the fact that there are only approximately 14 dentists on the entire island. One is an orthodontist and one is an oral surgeon. Now you're looking at just 12 people dealing with decay."

The initial findings of the assessment along with recommendations for the establishment of an oral health model were presented to the Grenadian Ministry of Health in June 2010, and to the International Association for Dental Research in Barcelona, Spain, in July 2010.

"We will give the Grenadian government some preliminary results and discuss the possibilities of what can be done in terms of treatment and prevention," said Dr. Wolff. "That's where we hope to see some progress made in the future for these kids." Prevention strategies may include water fluoridation or salt fluoridation, oral health education, and sealants.

"Understand, if there were 1,000 cavities, we saw 6,000 early lesions which hadn't cavitated yet," said Dr. Wolff. "If we intercept two-thirds of them with fluoride, we can save 4,000 cavities in the future. That's pretty dramatic."

"Every night when I go to sleep I think, 'My God, I did it. I hit the lotto for my people,'" said Ms. Harris. "It's a dream come true."

In addition to Dr. Wolff, Ms. Harris, Dr. Moursi, Dr. Holland, Ms. Hill, and Ms. Meissner, participants included Dr. Stuart M. Hirsch, Associate Dean for International Affairs and Development; faculty members Dr. Ananda Dasanayake, Professor Jill Fernandez, Dr. Sumitra Golikeri, Dr. Lily Lim, Dr. Lynwood Bennerson, Dr. Heather Baumhardt, Dr. Raid Satta, Dr. Paul Rosenberg, Dr. Jennifer Frangos, and Dr. Andrea Jordon; pediatric dentistry postdoctoral fellows Dr. Rima Gluzman and Dr. Lin Li; DDS Class of 2010 graduates Drs. Robert Block, Richard Lee, Jeffrey Lo, Guojun Ma, Melissa Nevid, Duc Nguyen, Adam Palmer, and Jenny Weng; Vincent Wong, Dental Hygiene Program '09; and Ms. Kellie Kennedy and Ms. Amy Soss, both Dental Hygiene Program Class of 2010; Alexis Cohen, DDS/MPH '11; and DDS Class of 2011 students Heather Anderson, Anil Gudipati, Justin Hastings, Suman Kafle, Zachary Linhart; International Comprehensive Dentistry Program students Dr. Marie Roge and Dr. Niyati Panday; and residents Dr. Brianne Hama, Liora Benichou, and Kapila Pragati (pediatric dentistry); and Drs. Wael Oweity and David Vazemiller (postgraduate endodontics).

To view a video of the Grenada outreach, please go to <http://www.nyu.edu/dental/news/nyucdtv/grenada.html>.