



Skin Cancer Around the World

A first-hand look at the Cuban health care system

By Maral K. Skelsey, MD

As member of a delegation from the Center for Democracy in the Americas (democracyinamericas.org), I recently had a unique opportunity to get a first-hand look at Cuba's health care system. Fifteen representatives of various professions and academia in the United States traveled to Cuba for five days in early January to meet with their Cuban counterparts to learn about each other's professions and exchange ideas.

Cuban Health System Overview

From the time of Carlos Finlay – the Cuban physician who discovered the yellow fever vector in 1881 – to today's highly organized post-Revolution national health system, Cuba has long taken pride in its accomplishments in medicine. While the public health system is quite different from that in the U.S., it is well organized and quite capable and boasts several enviable aspects despite lacking resources in some areas.

Our introduction started with a lecture by Dr. Marcelino Feal, Professor of General Surgery at Calixto Garcia University Hospital, who provided an overview

of Cuba's health care system. Dr. Feal reviewed the tenets of the Cuban system: Health care is a right; society is responsible for maintaining public health; and robust economic development can only happen when supported by a robust public health care system.

The successes of the Cuban system are many and include low rates of infant mortality and high life expectancy. These facts are undoubtedly due to the well-trained network of Cuban physicians who are also widely respected outside their country. In fact, Cuban physicians are often prominent members of teams treating patients around the world during major health crises such as Ebola outbreaks in West Africa and the South Asian tsunami. Although private medical clinics were not allowed after the Revolution of 1959, medical tourism is now becoming an increasingly significant source of valuable currency. Patients from around the world seek Cuban expertise in oncology, ophthalmology, cosmetic surgery and orthopedics at the Centro Internacional de Salud – La Pradera.

Access to health care is excellent in Cuban cities and is based on a well-organized three-tiered system. The first tier are primary physicians who live amongst the population for whom they care — often on the second floor of their clinic. They are responsible for the general care of approximately 1,000 individuals, all of whom are within walking distance of the office. This primary clinic is the resource behind major public education campaigns regarding smoking, alcohol use and safe sex. The second tier includes a general hospital with facilities for surgical procedures. The third tier provides highly specialized care including oncology and neurosurgery at institutes generally limited to the capital, Havana.

Dermatology in Cuba

Cuba's population is aging and experiencing increased rates for all types of cancer including skin cancer. Dr. Tania Torriente Equivel, a dermatologist from Calixto Garcia Hospital, discussed the Cuban skin cancer epidemic. She reports that public access to dermatologists is



Dr. Solares with her long-time nurse in the HPV clinic.



Dr. Feal presents an overview of Cuba's health care system.



Lawrence J. Gumbiner, Cuban U.S. Embassy Chargé d'Affaires; Kathleen Sheehan, U.S. Department of State; Shannon Pryor, MD, Department of ENT Georgetown University; Emily Mendrala, Executive Director of Center for Democracy in the Americas; Dr. Skelsey; Wolfram Anders, Chief Special Operations Officer at International Finance Corporation

excellent. For instance, a dermatologist sees patients at a neighborhood primary clinic on a regular basis. At the clinic, they perform biopsies, other simple procedures and total skin exams using a dermatoscope. Mohs surgery, laser surgery (for hemangioma and birth marks) and other more extensive excisional surgery are performed at a specialty hospital at the tertiary level.

Because of the trade embargo imposed by the U.S. on Cuba, there are limits on Cuba's ability to purchase medication produced by the U.S. or covered by U.S. patents. In response, Cuba has developed a robust biotechnology sector that develops treatments and vaccines for Cubans, as well as for export. For instance, to treat squamous cell carcinoma of the head and neck, the Center for Molecular Immunology (CIM) formulated nimotuzumab, an EGFR monoclonal antibody, that is marketed in several countries around the world. Another example is Heberferon, an injectable treatment for non-melanoma skin cancer, which is currently undergoing clinical trials. Cuban innovation is responsible for "Heberprot-P", a topical recombinant epidermal growth factor for diabetic foot ulcers that is purported to reduce the need for amputations. For vitiligo,

which Dr. Torriente describes as "the stone in every Cuban dermatologist's shoe," many patients are successfully treated with "Melagenina Plus." This novel lotion derived from human placenta results in re-pigmentation in approximately 50 percent of patients after use for six months.

In recent years, the rate of skin cancer in Cuba has increased, with more than 10,000 diagnosed cases in 2016. Dr. Torriente said educating people on the risks of skin cancer was a major obstacle. There are few public campaigns highlighting the association of sun exposure with skin cancer nor any that emphasize the issue of cutaneous malignancies in skin of color, (about 35 percent of Cuba's population). Tanning beds are not used in Cuba, but younger people in urban areas spend hours on the beach. Surprisingly, none of the physicians knew the cost of a bottle of sunscreen in relation to an average citizen's income. The cost turns out to be \$20. Realizing that an average physician's salary is about \$40 per month,



Drs. Skelsey and Solares



Dr. Skelsey with the director of Habana Compas Dance, a group that performs traditional and modern dance blending Spanish and Afro-Cuban heritages.

it seems there may be some truth in the Cuban saying: "The Revolution's big successes are health care, education and sports – and its failures breakfast, lunch and dinner."

Other Specialties

Dr. Ana Margarita Solares, Chief of Pathology, Gynecology and Colposcopy at Hospital Ramon Gonzalez, highlighted Cuba's success in reducing mother-to-child transmission of HIV and syphilis. She describes well-orchestrated grass-roots efforts to educate patients in clinics, at neighborhood parties and in schools. Children receive mandatory vaccinations in schools. However, according to Dr. Solares, due to the embargo the vaccine for HPV is not available to Cubans. ●



Member in the News

SkinIO – a start-up capturing national media attention for making high-tech skin cancer screening accessible to more patients at a greatly reduced cost – was co-founded by ASDS member Jean Christophe Lapiere, MD. SkinIO makes total body photography (TBP), which has been found to be highly effective in detecting new or changed skin lesions, available on a mobile device. That means physicians can now do a complete TBP session (a set of 13 photos) in under five minutes in their own office.

Skin changes are accurately tracked by directly comparing an initial baseline set of photos to new photos through the use of SkinIO's comparative image processing algorithm. The artificial intelligence-enabled (AI) solution automates mole-mapping and matching in order to flag new or changed spots, providing a visual reference for the dermatologist to better target areas of interest during in-person exams. Dr. Lapiere uses the technology in his own office and finds that it greatly helps to keep track of changes in his patients' skin over time.

"This technology is designed to help improve diagnoses, while also reducing unnecessary procedures," Dr. Lapiere said of SkinIO, which has been seen in Medscape, MedCity News, WGN 9 Chicago and other Chicago-based media outlets.

Dr. Lapiere is a third-generation dermatologist and co-founder of the Northwestern Skin Cancer Institute in Chicago.



Jean Christophe Lapiere, MD