



**SOCIETY OF
ACTUARIES**

Article from
International News
October 2019
Issue 78

Government-Sponsored Health Actuarial Initiatives in Colombia

By Armando Zarruk

The Colombian Association of Actuaries (CAA, or Asociación Colombiana de Actuarios), recently organized, with government and academic institutions, two actuarial seminars in health-related topics conducted by Society of Actuaries (SOA) members.

THE LOCAL HEALTH SYSTEM

The Colombian health system underwent a deep transformation in the 1990s and now operates as a government centrally managed system that has fairly succeeded in reaching universal coverage.

The health social security system is financed through wage contributions and public resources from the government.¹ It is made up of three major segments:

- the contributory regime for employed and independent individuals with ability to pay;
- the subsidized regime for the low-income population and those in the less formal economy; and
- some exempted regimes (e.g., police forces, teachers).

The compulsory system is administered by specialized health promoting insurers (EPS, “entidades promotoras de salud”) with the main function of properly managing the government-designed health benefit plan package and insurance rates. EPSs are required to manage health and financial risks, guarantee effective access and ensure quality in the provision of health services. They receive a risk-adjusted premium per capita (UPC, “unidad por capitación”) set yearly by the government, in addition to copayments paid directly by insured individuals; at the same time, they contract with health provider institutions (IPS, “instituciones proveedoras de servicios”) in order to deliver the prescribed services.

Health funds are administered in a centralized way by the Ministry of Health, which collects and redistributes them to EPSs



Attendees at the Risk Adjustment and Predictive Modeling in Health seminar (left to right): CAA vice president Luis Gabriel Caro; Ian Duncan; CAA president Armando Zarruk; Félix Nates, Ministry of Health official; Jacobo Pereira-Pacheco; and CAA treasurer Inti Gómez.

based on a government-defined risk-adjusted capitation formula that includes age, sex, geographical location, type of regime and health condition.²

SEMINAR ON RISK ADJUSTMENT AND PREDICTIVE MODELING IN HEALTH

To promote and help develop best practices among actuaries and technicians that work in the health arena, the CAA, in cooperation with the Colombian Ministry of Health and Social Protection and the National University of Colombia, organized the seminar Risk Adjustment and Predictive Modeling in Health, held Dec. 1, 6 and 7, 2018, in Bogotá, Colombia.

This three-day event started with a one-day short course covering basic statistical and R concepts as required for the seminar and given by Óscar Javier Lopez and Luis Hernando Vanegas, Ph.D., professors at National University.

The core part of the seminar was conducted by Ian Duncan, FSA, who dedicated the second day to health care risk adjustment topics. This session was of significant interest to the government and stimulated discussion among participants and government officials about the local system.

The last day was dedicated to predictive modeling and included several topics covered in the health predictive analytics seminar administered by the SOA. It was a practical, hands-on session that had the collaboration of Jacobo Pereira-Pacheco, who assisted participants to apply R to the case studies presented.

Presentations related to the local system were also given by Ministry of Health officials Felix Nates, director for the Division of Regulation of Benefits, Costs and Rates, and Anwar

Rodríguez, a delegate for Diana Cardenas, the vice minister of social protection.

SEMINAR ON RISK MANAGEMENT FOR THE HEALTH INSURERS (EPSs)

In June 2018, the Superintendence of Health issued Circular Letter 004, which established a comprehensive risk management system for EPSs, as well as management of only health risk to other supervised entities, mainly IPS providers. For EPSs, the standard includes health, actuarial, credit, liquidity, market and operational risks, among others.

To lay down guidelines, the Health Superintendence, in collaboration with the CAA, organized a one-day seminar titled Risk Management in Light of Current Regulation. The event was held Dec. 19, 2018, in Bogotá. The seminar targeted both management officials and senior technicians at the institutions overseen by the Health Superintendence, and it aimed to help companies not only to comply with the new regulation but at the same time to implement risk management mechanisms that provide value to their institutions.

The sessions began with a presentation by Daniel Pinzon, responsible for the Office of Supervision Methodologies and Risk Analysis at the superintendence, where he discussed main objectives and expected timeline for the implementation of the norm. Then, separate modules were presented on the different risks, including the fundamentals of risk management, the prescribed regulation and risk quantification approaches. Maureen Tresnak, FSA, presented two separate modules, covering actuarial risk and health risk. Luis Caro, ASA, covered the module on financial risks, and Steven Koegler, M.B.A., presented a module on operational risk.

Both events were free of charge for participants, and limited registration places were assigned to health insurance institutions and to CAA members practicing in health.

These two conferences are important events that highlight the relevance of the participation of actuaries in the health arena, from a regulator's point of view. The risk adjustment and predictive modeling seminar, sponsored by the SOA, had over 80 registered attendees, while the risk management seminar had over 100.

I would like to take this opportunity to thank the SOA's Latin America Committee for its support. These events contribute to the SOA's strategic initiative to expand actuarial knowledge internationally and at the same time, emphasize predictive analytics.



Maureen Tresnak presenting at Risk Management in Light of Current Regulation

For more information about these conferences, visit the events section of the Colombian Association of Actuaries website at www.actuarios.org.co. ■



Armando Zarruk, ASA, is the actuarial reserving manager for Liberty Insurance, in Bogotá, Colombia, and an actuarial instructor at the National University of Colombia. He can be reached at azarrukr@unal.edu.co.

ENDNOTES

- 1 In addition to the compulsory (public) health coverage, consumers can also purchase a voluntary (private) plan, comparable to a U.S. commercial health insurance; however, individuals have to demonstrate they are in the contributory regime in order to acquire a voluntary plan.
- 2 More details can be found in chapter 23 of *Healthcare Risk Adjustment and Predictive Modeling* by Ian Duncan (New Hartford, CT: ACTEX Learning, 2018).