



FACULTY OF SCIENCE & TECHNOLOGY  
DEPARTMENT OF MATHEMATICS

Join us for a Seminar  
By



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**Title:** **Doubly Enhanced Medicaid Partnership Annuities (DEMPANs): A New Tool for Providing Long Term Care to Retired U.S. Seniors in the Medicaid Penumbra**

**Abstract:** A major problem facing many U.S. retirees is accessing and paying for long term care. The 2019 National Association of Insurance Commissioners (NAIC) guide on long term care insurance estimates that, of the individuals living in the U.S. who reach age 65, about 70% are expected to need some form of long term care at least once in their lifetime and about 35% are expected to enter a nursing home at least once in their lifetime. Although Medicare covers most of a U.S. retiree's medical care, Medicare does not ordinarily pay for long term care. U.S. retirees often can access long term care services via the Medicaid program, which is a means-tested program geared to lower income Americans. But, to quickly qualify for Medicaid, many retirees take drastic steps such as transferring their assets to family members. When access to long term care is not urgent and long term planning is an option, most U.S. States have developed so-called Partnership for Long Term Care (PLTC) Program insurance policies that provide access to Medicaid services while sheltering some or all of a retiree's assets. In this paper, we propose a hybrid annuity product called a doubly enhanced Medicaid Partnership annuity (DEMPAN) that combines an annuity with a long term care rider that is integrated within the framework of a qualified Partnership policy. (Outside the U.S., bundled retirement products similar to Dempans are called life-care annuities.) To analyze our Dempans, we use a multi-state model of long term care with health states that are based on a retiree's ability to perform activities of daily living (ADLs), instrumental activities of daily living (IADLs), and cognitive ability. A significant contribution of this paper is to explicitly model how the quality of long term care a retiree receives affects the retiree's health state transition probabilities used in the multi-state model. As higher quality of care usually comes at a higher cost but with better health outcomes, we provided an example that explores an expected discounted utility maximizing retiree's optimal choice of Dempans. Our example showed that it may be optimal for retirees who purchase Dempans to buy average quality long term care. We hope Dempans fill a gap in the long term care market by providing an important tool for eldercare planning for those in the Medicaid penumbra (i.e., in the middle and lower-middle income classes). Retirees who purchase Dempans have the benefits of an annuity, private long term care, Medicaid assistance with paying their long term care bills, and some degree of asset protection from Medicaid estate recovery.

**Key words and phrases:** Medicaid asset protection, quality of long term care, eldercare, multi-state model, Partnership for Long Term Care.

**Date:** Friday April 22, 2022

**Time:** 11:00 a.m.

**Zoom:** <https://us06web.zoom.us/j/87804942143?pwd=Qmt1NUI2d0VTRHqZmVwanczNU9Pd09>