Milliman Pandemic Modeling Suite

In just a few months, COVID-19 has brought the world to a standstill, and the healthcare industry is experiencing unprecedented challenges, accompanied by a high level of financial uncertainty. The pandemic has many implications for medical cost and utilization, both in the near term and down the road. These effects interact in non-intuitive ways. Developing a sound strategy requires sophisticated modelling and expertise that can adapt to the ever-shifting experience and see all the relevant facets of complex healthcare questions.

Milliman consultants have a long history of helping clients successfully navigate through uncertain times. The current challenges affecting the healthcare industry are no exception. Our consultants are uniquely qualified to provide informed perspectives on the major factors driving the impact of the COVID-19 pandemic on the full range of stakeholders. Because the effects are local and linked to underlying population and delivery system characteristics, understanding the challenges and opportunities requires a local lens. Milliman has developed a suite of pandemic projection models that provide your Milliman expert with cutting edge tools and data they can use to quantify the potential range of financial effects on patients, payers, and providers in 2020 and beyond.

Milliman Pandemic Suite Modeling Capabilities

MACROECONOMIC MODEL

The Macroeconomic Model projects COVID-19 infection levels, hospital bed utilization by disease severity level, and hospital capacity limitations. Macroeconomic impacts can be projected at the nationwide, state, or metropolitan area.

COVID-19 ADVANCED POPULATION SHIFT MODEL

The COVID-19 Advanced Population Shift (CAPS) Model estimates the impact of pandemic-related job termination scenarios on employer sponsored insurance coverage and household incomes, and models coverage transitions for households experiencing income and/or coverage loss into one of Individual ACA, Medicaid, or uninsured statuses. The model leverages public and proprietary data sources to build a robust picture of each state's population before and after the pandemic by employment status, income, health insurance coverage, demographic characteristics, and health status.

MICROECONOMIC MODEL

The Microeconomic Model estimates the aggregate financial effects of COVID-19 for a U.S. healthcare risk-bearing entity (e.g., an insurer or ACO) under various infection scenarios. The cost of COVID-19 treatment and testing can be estimated by geographic region and age group, and provider reimbursement can be modeled either as a percent of Medicare or a discount off billed charges.

DEFERRALS AND RETURNED UTILIZATION MODEL

The Deferrals and Returned Utilization Model (DRUM) estimates the impact of deferred and forgone medical services on 2020 and 2021 medical costs. It also incorporates the impact of the potential return of previously deferred services. The model combines clinical judgement and actuarial methodologies to estimate the impact across the full spectrum of medical services. Estimates can be developed for Medicare or Commercial lines of business, and can be further differentiated by geography.

For more information, contact your Milliman consultant.

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