Developments In Business Simulation And Experiential Exercises, Volume 19, 1990

A SIMULATION OF THE EFFECT OF THE MEDICAID PAYMENT LAG ON THE FINANCIAL POSITION OF COMMUNITY PHARMACIES

Thomas J. Reutzel, The University of Illinois at Chicago
Edward T. Reutzel, Penn State University

ABSTRACT

Medicaid was enacted in 1965 to bring poor people into mainstream health care. Outpatient drug coverage is a Medicaid service for which pharmacists are paid a dispensing fee and reimbursed for product cost. Pharmacists in Illinois have recently expressed concern over the length of time ("payment lag') to be reimbursed for services rendered to Medicaid patients. In this paper a simulation model is presented which examines the effect of payment lag on pharmacy financial viability and secondarily the implications of this for society in terms of access to pharmaceutical products and services and the quality of services provided.

PAYMENT LAG: A CASH FLOW PROBLEM

In order to secure sales that it might otherwise forego, businesses often provide credit to allow customers to make purchases today and pay for them at a later date. If a business is heavily dependent on a single agent (Illinois Department of Public Aid-IDPA) with fiscal responsibility for the purchases of a block of customers, the organization loses its credit management flexibility and is in a high risk cash flow position. Moreover, if the agent chooses to delay payments the situation is exacerbated. This is the dilemma currently faced by many Illinois pharmacies that participate in the Medicaid outpatient drug program.

COMPONENT PARTS OF THE MEDICAID PAYMENT LAG

The payment lag can b. defined as the sum of the six time periods listed in Table 1. Each "TIME PERIOD n" is a label for the length of time between the dates on the lines immediately above and below it.

TABLE 1
The Medicaid Payment Lag

Date pharmacy provides service
TIME PERIOD 1
Date of claim submission by pharmacy
TIME PERIOD 2
Date of physical receipt of the claim by IDPA
TIME PERIOD 3
Date of official receipt of the claim by IDPA
TIME PERIOD 4
Date of claim adjudication by IDPA
TIME PERIOD 5
Date Comptroller issues the check
TIME PERIOD 6
Date pharmacy receives the check

While the lengths of periods 1, 2, and 6 remain fairly constant, periods 3, 4, and 5 depend on the protocols and procedures of the IDPA and the state Comptroller and are random. In summary, the entire Illinois Medicaid payment lag is made up of three deterministic and three stochastic 'mini-lags'.

THE SIMULATION MODEL

The simulation model combines parameter estimates of sales, fees, costs, supplier payment schedules, etc., with probabilistic data on the above payment lags into mathematical relationships that allow the measurement of a pharmacy's cash flow position vis-a-vis its bank account balance. Specifically, two outcomes were recorded: (1) the daily balance through two years of operation, and (2) the number of days it takes for the account to have a permanently positive balance.

The simulation was executed using Lotus 123 with the @RISK add-in program on an IBM microcomputer. Payment lags for periods 3, 4, and 5 were randomly generated from truncated normal distributions and added to the constant lags of periods 1, 2, and 6 to simulate the overall payment lag. A 48 day lag represents the situation when all of the random elements take on their minimum values, a 65 day lag represents the random elements assuming their average values, and an 85 day lag corresponds to them assuming their maximum values.

The results show that even when the lag is at the smallest achievable time of 48 days, the account balance does not reach a permanently positive position until day 152 and when the lag is approximately 56 days the end of the year account balance has yet to become positive. Obviously, the expected or average payment lag of 65 days places pharmacies in serious economic straits. Unless they have significant cash resources they can anticipate a severe cash flow problem through their first one and a half years of operation. Interestingly, it takes almost as much time to achieve a permanently positive account balance in the expected case (543 days) as it does in the worst case (554 days). The random nature of the payment lag leads to very uneven inflows of cash and accentuate the timing discrepancy between revenues and costs.

DISCUSSION

At a management level, these results imply that fairness to Medicaid pharmacies requires that the service to reimbursement lag never exceed about 50 days. As the best estimate of the actual lag in Illinois during spring, 1991 was 108 days, this seems very unlikely. If the pharmacy has an expected account balance of ($18,667) after one year under normal circumstances (65-day lag), the impact of a 108-day lag is dramatic. Faced with these serious fiscal problems, the pharmacy may very well: go out of business completely, withdraw from Medicaid participation, recruit and overcharge non-Medicaid patients, or stock only low cost drugs. These implications are especially poignant in light of the 1990 Omnibus Budget Reconciliation Act, which places demands on pharmacists (record keeping, drug utilization review, counseling, etc.) that increase costs, but does not provide for similar increases in reimbursement or decreases in payment lag.

The results of the simulation are understated, powerful, and built on an analytical foundation that makes it more difficult for public representatives to ignore or dismiss them out of hand. What is described here provides an example of the types of analyses available to pharmacists in their quest to improve the health status of their communities and achieve a fair price and prompt payment for so doing.