In response to rapidly increasing payments to long term-care hospitals (LTCHs), Medicare introduced the LTCH prospective payment system (PPS) in 2002. The PPS bases payment on a patient's diagnosis (DRG) rather than her reported cost of care, which is intended to provide incentives for LTCHs not to over-prescribe treatment. However, the structure of the LTCH PPS includes a discontinuity as patients pass a threshold number of days that increases payments from "short-stay" status to the full LTCH amount. The discontinuity in payments produces a financial incentivize for LTCHs to strategically schedule patient discharges for reasons other than the well-being of the patient. Using Medicare claims data, we present evidence that LTCHs respond to this incentive by strategically discharging patients in the days immediately after they exceed the threshold for higher payments. We identify this strategic behavior using variation both in the length of thresholds across DRGs and changes in thresholds within DRGs over time. Furthermore, we find that for-profit LTCHs and those with a hospital-within-hospital structure are more likely to strategically discharge patients. Finally, we show that LTCHs acquired by the two large LTCH chains, Kindred and Select, increase their use of strategic discharge post-acquisition, suggesting a corporate strategy focused on maximizing revenue from Medicare. We estimate a structural dynamic model of patient discharge to measure how different facility types, including chain and not-for-profit status, respond differently to financial incentives.