

A 12-Year Analysis of the Relationship Between Market Trends and Case Volume

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Abstract

Background:

Over the past 12 years, U.S. cosmetic surgery volume has nearly doubled. The bulk of this growth can be attributed to minimally invasive procedures (MIPs). Despite the recent economic recession, MIP volume growth year-over-year (YoY) remained stable compared to major surgical (MS) procedure growth, which declined nearly 27% between 2006-2009, suggesting that MIP is less sensitive U.S. market fluctuations. Prior studies have shown that self-payment revenue in a private plastic surgery group proved indicative of market trends approximately one month in advance. The aim of this study is to investigate which market indices may predict MS and MIP volume.

Methods:

An investigation of the U.S. total reported procedural volume was performed from 2000 to 2012. The rolling YoY volume averages of a single-surgeon practice were compared to state and national industry data and market indices including unemployment, inflation, GDP, and the DJI. Multivariate statistical analysis and linear regressions were used to identify correlations and predictive trends between market fluctuations and case volume.

Results:

Statistically-significant, independent, state-level predictors of MIP volume include overall GDP, media, food, healthcare, real estate, and unemployment. Only retail is an independent predictor of MS volume. U.S. GDP and unemployment were found to be statistically-significant, independent predictors of MIP volume. The DJI and national inflation rates are independently predictive of MS. No national indicators were jointly predictive of MIP and surgical volume. Altogether, the state and national predictors explain ~40% and ~35% of fluctuations in MIP volume and ~20% and ~7% of MS, respectively. The DJI correlates with surgical volume with a 2-month lag period. The drivers of the MIP:surgical ratio at the state level are finance, legal, entrepreneurship, entertainment, and unemployment. Fluctuations in state and national unemployment are predictive of similar changes in MIP volume at 1 and 2 months, respectively. U.S. GDP is predictive of changes in MIP volume with a quarterly lag.

Conclusions:

These findings demonstrate that trends in state and national economic indicators may be a useful means of analyzing and predicting future trends in cosmetic surgery and MIP volume. The outcomes of such an analysis may be employed to guide the diversification of a clinical practice, such that clinical revenues might be less vulnerable to fluctuations in the economy.

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