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BRIEFING NOTE
Physician contracting and cesarean sections

Source:
Spetz, J., Smith, M. and Ennis, S. "Physician Incentives and the Timing of Cesarean Sections: Evidence from California" Medical Care, June 2001. 39: 536-550, 2001.
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Executive Summary

The study explores how **physicians' contracting models and desire for time off may influence the decision and timing of cesarean sections**. Analyzing 1995 birth and financial data from California, the authors examined whether the likelihood of cesarean delivery varied by time of day and patient insurance type, focusing on diagnoses of fetal distress and prolonged labor. The study found that **patients insured by group-type HMOs, such as Kaiser, had a more stable likelihood of cesarean delivery throughout the day**, suggesting that this organizational and compensation model may better align physician incentives, unlike other insurance types where an increase in evening cesareans was observed. In sum, this research highlights **the impact of care structures and incentives on obstetric practices**.

Key words
Financial incentives for doctors
Timing of Cesarean sections
Timing of C-sections
Type of patient insurance
Group-type HMO
Labor and fetal distress
Incentives, Cesareans, and Timing: California Study

Context

Physician Incentives: The study assumes that physician behavior is influenced not only by income, but also by the value they place on leisure time, professional prestige, and quality of care. The authors explore how financial incentives (via reimbursement method) and leisure-related incentives (avoiding irregular or extended working hours) may affect the decision to perform a cesarean section.

Temporal variation of cesarean sections: The central hypothesis is that if physicians are incentivized to maximize their free time, there will be a greater likelihood of cesarean sections in the evening.

Role of Insurance Type: The study examines five payment categories: group-based HMOs (primarily Kaiser Foundation Health Plan), other HMOs, non-HMO private insurance (including PPOs), Medicaid (Medi-Cal in California), and other forms of payment. The hypothesis is that insurance type influences financial incentives and, therefore, the timing of cesarean sections. Group-based HMOs, with their compensation systems (salary with profit sharing) and

organizational structures (rotating call, use of midwives), are expected to better align incentives and potentially reduce cesarean sections motivated by convenience.

Method

This study examines the role of financial incentives and physician convenience in the decision to perform a cesarean section and, more specifically, in the timing of cesarean delivery. The authors analyze birth certificate data and financial data from California hospitals in 1995 to assess whether the likelihood of cesarean delivery varies by time of day and patient insurance type. The study focuses on two diagnoses associated with unplanned cesarean sections: fetal distress and prolonged/obstructed labor.

Main results

Patients insured by a group-type HMO (Kaiser) have a more stable probability of cesarean section during the day than those insured by other types of insurance.

Group-based HMO patients with a prior cesarean section are less likely to have an evening cesarean section and are less likely to be diagnosed with fetal distress or prolonged/obstructed labor.

Cesarean section rates are generally lower for Kaiser patients than for other groups.

An increased likelihood of cesarean delivery was observed in the evening for patients insured by FFS/PPO plans, other HMOs, and Medi-Cal, suggesting an influence of the incentive to maximize leisure.

The differences observed for Kaiser patients could be due to consistent financial incentives, better ability to guide medical practice, and staff support reducing the leisure-based incentive.

Non-group HMOs do not appear to reduce physicians' incentives to maximize leisure relative to traditional insurance.

Potential limitations of the study

Inability to distinguish non-HMO managed care plans from fee-for-service plans.

Focus on a single group-type HMO (Kaiser), limiting the generalizability of conclusions for this model.

Potential selection bias of patients and physicians toward different types of insurance and medical groups.

Conclusions

The study suggests that group-type HMOs are more effective at influencing physicians' financial and leisure-related incentives for cesarean sections than other HMOs and non-HMO insurance plans. The observed differences highlight the importance of organizational structures and compensation models in shaping physician practices.

Relevant Quotes:

- *"We hypothesize that if physicians have an incentive to perform cesarean sections to maximize leisure, physicians will perform cesarean sections more frequently at times of day when they more highly value their leisure time."*
  - *"If the financial incentives of managed care insurers mitigate the leisure incentive, there should be less hourly variation in cesarean section rates among managed care patients than among nonmanaged care patients. There should be fewer cesarean sections in the evening hours for managed care patients."*

"A physicians' happiness is not likely to be a function of income alone. A physician might value leisure time, professional prestige, or providing high-quality care for patients."

  - *"A physician's financial incentive to perform a cesarean section will increase as the net income for this procedure rises relative to that for a vaginal delivery. A physician's incentive to perform a cesarean section to obtain leisure time will increase when a patient's labor occurs or continues during nonregular work hours."*

"In particular, we expect to observe a higher probability of cesarean sections in the evening hours."

"The probability of cesarean sections for patients insured by a group-model HMO is more stable during the course of a day than that for patients insured by all other insurance plans."

- *"Group-model HMO patients with previous cesarean sections are less likely to have cesarean sections in the evening hours and are less likely to be diagnosed with fetal distress or prolonged/dysfunctional labor."*
- *"The differences in cesarean sections and diagnosis rates between group-model HMO patients and other patients could arise from several mechanisms: group-model HMOs provide consistent financial incentives to their staff, they may be better able to guide physician practice, and they might provide staff support to physicians so there is less leisure-based incentive to perform cesarean sections. In contrast, nongroup-model HMOs do not appear to reduce the incentive of physicians to maximize leisure relative to traditional insurance."*

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