Regulation of Hospitals: Lessons from the Past and Implications for the Future

Frank A. Sloan

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Why Regulate Hospitals?

- Largest single component of health sector, albeit declining in importance
- Expenditures on hospitals rose rapidly following implementation of Medicare and Medicaid in 1966.
  - Cone and Dranove emphasize importance of state Medicaid programs rather than overall hospital expenditure growth as determinant of regulation, particularly rate-setting.
- Deficiencies of retrospective cost-based reimbursement (and retrospective charge-based reimbursement) →"medical arms race"
- Perhaps less organized political opposition to regulation than among physicians. Hospitals like entry regulation, but some hospital groups oppose rate-setting.
- Other sectors also regulated (e.g., nursing homes)

Types of Regulation: Overview

- **Entry regulation**: state certificate of need programs—also Section 1122 for Medicare and Medicaid
- **Price/revenue regulation**: Nixon Administration Economic Stabilization Program 1971-75; rate setting programs (states, Blue Cross), Medicare Prospective Payment System
- **Utilization review**: payers, e.g., Blue Cross; Medicare/Medicaid (PSROs)
- **Other** (e.g., Voluntary Effort)

Most Important and Evaluated Programs

- Certificate of need programs (CON)
- State rate-setting programs
- Medicare PPS (more recently)

CON Program Characteristics

- Covers hospitals, nursing homes, home health, ambulatory surgery facilities (some state variation)
- CON required for change in bed capacity, investment, change in major facilities/services
- First CON law, NY. States required by Federal statute to have CON law 1974-84. After law lapsed, several states dropped CON or at least parts of it .
- Goals have evolved over time.
  - Initially primarily cost containment
  - Later improve access (has gained access constituency), quality enhancement

CON Roots

- Health planning moving—started many decades earlier
- Rationale—cottage industry argument, need for coordination rather than cost containment

Structural Weaknesses of Existing CON Programs

- Concept of “need” not well defined or definable. No concept of marginal benefit
- Incomplete coverage: excludes physicians’ offices
- Incomplete coverage: does not apply to labor inputs--at least not directly; does not apply to most surgical procedures.
- CON has no capital budget—cannot initiate projects→limits access improving role
- CON limits entry, but little or no on-going supervision of facilities with certificates.

Structural Weaknesses of Existing CON Programs (cont.)

- De facto franchising: strongest constituency are incumbents → raises antitrust issues
- Does not correct capital market distortions, e.g., tax subsidized interest rates
- Does not change provider incentives, e.g., beyond calculations in application, not subject to ex post scrutiny
- Some states do not drop because they fear spending surge:
  - Supporters include state agencies themselves, hospitals and other incumbents, unions (e.g., UAW), some employers (e.g., big 3 auto manufacturers)

Many of these deficiencies remediable

- Could perform cost-benefit analysis on project-specific basis and/or for standard setting and assess uncertainties around cost-benefit calculations
- Could expand coverage at least to capital in physicians' offices (e.g., MRIs).
- Could implement capital budget
  - Give CON agency greater incentive to say "no"
  - Give CON agency ability to initiate projects to improve access
- Could increase operating budget to monitor whether or not promises and projections in CON application kept. Could limit franchise to set fixed terms for certificates and/or allow competitive bids for franchises.
- CON could gather and disseminate information to consumers on facility quality

State Rate-Setting Programs: Description

- Mandatory-regulatory; mandatory- advisory; voluntary-regulatory; voluntary-advisory:
  - “Mandatory”=required by state law vs. “voluntary” private payer’s program;
  - “Regulatory” must abide by agency decision vs. “advisory” programs serve informative or educational role.
- All payer or some payers only
- Unit of payment: individual service, per diem, per case, budget
- Formula v. budget review
- Whether facility can retain profit; dynamics of rate setting

Medicare Prospective Payment System

- Implemented FY 1984
- Only applies to Medicare budget, about 35% of hospital revenue
- Per case system
- Had large effects on other payers

Focus on

- Mandatory-regulatory
- All-payer
- Formula over budget review. Being inflexible (formula) has pros and cons
  - Pro - regulator more likely to make decisions at arms length
  - Con - more difficult to consider special circumstances (one size fits all)

States Employing Mandatory All-Payer Rate Setting (source: Schneider 2003)

State	All-Payer Enactment	Regulatory Reform
Connecticut	1984	1994
Maryland	1978	2000
Massachusetts	1982	1992
New Jersey	1980	1992
New York	1983	1997
Washington	1978	1989

Advantages of All-Payer Rate Setting

- Addresses adverse incentives of retrospective cost-based reimbursement
- *May* reduce X- and allocative inefficiencies
- Potential savings in public budgets to states, e.g., Medicaid programs
- Allows for explicit treatment of cross-subsidies
- Empirical evidence shows some success in hospital cost containment.

Disadvantages of All-Payer Rate Setting

- May introduce new X-inefficiencies and allocative inefficiences depending on unit employed:
  - per diem→increase length of stay;
  - hospital budget→"bed blockers"
  - hospital stay→reduce length of stay

- May reduce innovation.
  - Health plans may innovate if on their own but not if have to bring all payers along.
  - Incentive for innovation and cost saving reduced since hospital does not keep surplus (unlike Medicare PPS)

Disadvantages of All-Payer Rate Setting

- As with CON, coverage incomplete. Has only applied to hospitals. This likely to lead to distortions (e.g., growth of facilities outside hospital sector). However, see Lanning et al. 1991 which reports no distortions.

Empirical Evidence: State CON Programs

State CON Programs

- Cost (CON does not constrain cost growth)
- Access (very limited empirical evidence)
- Quality (evidence mixed, but positive for cardiac services)

Why CON might have these effects?

- Cost containment—reduce facility duplication and excess capacity, uneeded facilities/services; require facilities to operate at efficient scale
- Access—deny CONs in areas with more capacity and grant CONs in facility-starved areas; require applicants to show how they will serve disadvantaged populations
- Quality: applicants demonstrate adequacy of staffing and sometimes source of staffing; apply minimum volume of service criteria

Results: CON Cost Containment

- Some reduction in beds but increase in hospital investment (in some studies) with no net impact on total hospital investment
- Increase in labor use attributable to CON.
- No overall decrease in hospital cost per unit of output, may be increase
- No surge in hospital expenditures when CON controls lifted

Results: CON Access

- Little rigorous empirical analysis of access
- Even if were to have initial shift of facilities from advantaged to underserved areas, need continued financing of facilities in underserved areas to guarantee facility survival

CON Quality

- Shortell and Hughes (1988): Hospitals in states with stringent CON programs experienced higher in-hospital death rates.
- Vaughn-Sarrazin, Hannan, Gormley et al. (2002): Mortality rates were appreciable higher (22%) in states without CON than in those states with CON. Mean annual volume per hospital with CABG was 84% lower in states without CON.

CON Quality (cont.)

- Ross, Ho, Wang et al. (2007): Found that rates of questionable catheterizations lower in states with CON.

Empirical Evidence: Mandatory-Regulatory Rate Setting

Summary of Findings on Rate-Setting

- Mandatory rate-setting was effective in cost containment with average effects ranging from about 4 to 20%.
- However, by mid-1990s, following introduction of Medicare PPS, and growth in managed care, the effects of rate-setting on cost containment were minimal or even zero.
- States have dropped rate setting.

Rate-Setting in the 21st Century?

- Have rate-setting under Medicare PPS
- Rate-setting model of the variety implemented by the states most applicable under single-payer system.
- Could also apply to all private payers or all payers other than Medicare

Rate-Setting in 21st Century

- Could possibly maintain multi-payer system and have bilateral negotiations over prices. Individual payers would then seek achieve savings in utilization. Germany has this type of system. Negotiations between association of sick funds and association of sick fund doctors over prices. Done at the state (Land) level.
- Or could negotiate over maximum ceilings, allowing hospitals/insurers to price below the ceilings. This raises "excessive competition" argument and solvency issues.
- Question what unit of output would be, but previous results for 1970s and 1980s were not generally sensitive to unit of output to which rate setting applied.

Summary and Implications

- Research on hospital regulation has yielded some clear and consistent findings. When results conflict, seems mainly to reflect change in observational period.
- Policy makers and stakeholders have often ignored empirical findings
- CON does not achieve cost containment. However, in selected areas, e.g., cardiac surgery, there are favorable results on quality. If we don't end it, we should mend it.
- Rate-setting's effectiveness declined with growth of competition in hospital sector. Now state rate-setting is extinct but so are largely savings from managed care.
- List of references is available.

Appendix 1
Summary of Empirical Studies for State CON Programs

CON Cost Containment

- Salkever and Bice (1976): Used data from 1968-72. CON reduced bed expansion but increased plant assets per bed→no net impact on total hospital investment
- Hellinger (1976): Used data from 1972-3. CON and Section 1122 have not significantly reduced hospital investment.
- Sloan and Steinwald (1980): Used time series cross data on 1200+ individual hospitals, 1970-75. No cost saving. No compensatory response on plant assets. However, found increase in labor use attributable to CON.

CON Cost Containment

- Sloan (1981): Used state time series cross section for 1969-78. Neither Section 1122 nor CON constrained cost growth.
- Sloan (1983): Used state time series cross section for 1963-80. CON reduced length of stay and profit margins but no effect on cost measures.
- Lanning, Morrisey, and Ohlsfeldt (1991): Used state times series cross-section for 1969, 1972, 1976-82. CON adoption is endogenous. In their two-stage model, coefficient on CON is *positive* in all 3 expenditure equations.

CON Cost Containment, cont.

- Antel, Ohlsfeldt, and Becker (1995): Used state-time series cross section for 1968-90. CON raises hospital cost per day and per admission. No impact on hospital cost per capita population
- Conover and Sloan (1998): Used state time series cross section for 1980-93. Mature CON programs are associate with a 5% long-term reduction in acute care spending per capita population, but there was no reduction in total spending per capita. No evidence of a surge in acquisition of facilities or in costs following removal of CON program. Mature CON programs result in 2% reduction in bed supply but higher cost per day and per admission and higher hospital profits. CON regulations generally have no detectable effect on diffusion of various hospital-based technologies.

CON Quality

- Shortell and Hughes (1988): Data from 214,000 hospitalized Medicare patients, 1983-84. Hospitals in states with most stringent procedures for CON review had ratios of actual to predicted death rates that were 5-6% higher than hospitals in other states.
- Vaughn-Sarrazin, Hannan, Gormley et al. (2002): Data on 911,000 Medicare beneficiaries undergoing CABG surgery during 1994-9 in 1,063 hospitals. Mortality rates were appreciable higher (22%) in states without CON than in those states with CON. Mean annual volume per hospital with CABG was 84% lower in states without CON.

CON Quality (cont.)

- Ross, Ho, Wang et al. (2007): Used data abstracted from medical records on 138,000 Medicare beneficiaries admitted between 1994-6 for AMI (CCP data). Found that rates of catheterization among persons with equivocal indication for catheterization were 12% lower in states with CON. Among those patients with weak indications for catheterization, catheterization rates were 22% lower in CON states. No difference between CON and non-CON in catheterization rates among patients for whom catheterization was clinically indicated.

Appendix 2
Summary of Empirical Studies for State Hospital Ratesetting Programs

Cost Containment - Ratesetting

- Sloan and Steinwald (1980):Early study. Most effective program was ESP.
- Sloan (1981): Only programs to reduce hospital spending were ESP and mature mandatory rate-setting. In equilibrium, if all payers included, get 7-20% reduction in cost with rate-setting.
- Sloan (1983):Even larger effects than Sloan (1981) with longer time series of state cross sections.
- Dranove and Cone (1985): Argues that favorable results for rate-setting could be regression toward the mean. More of a problem for estimates of effects for individual states than for average effect of rate-setting.
- Lanning, Morrisey, and Ohlsfeldt (1991): Simultaneous-equation results indicate that mature rate setting associated with lower per capita health care expenditures, including hospital and non-hospital expenditures.

Cost Containment, cont.

- Antel, Ohlsfeldt, and Becker (1995): Results difficult to interpret, given interaction terms. At least some evidence that rate-setting reduced cost per day and per admission but not per capita cost (per capita spending on hospital care in state and year).
- Schneider (2003): Consistent with findings of similar studies, hospitals residing in all-payer rate setting states in 1984 and 1991 had operating costs approximately 3-4% lower than others. But by 1996, effect of rate regulation on hospital costs reduced to approximately -0.4% (p=0.09). Attributes decline in effect to growth of competition in hospital sector. Results in Conover and Sloan (1998) on rate-setting consistent with Schneider.