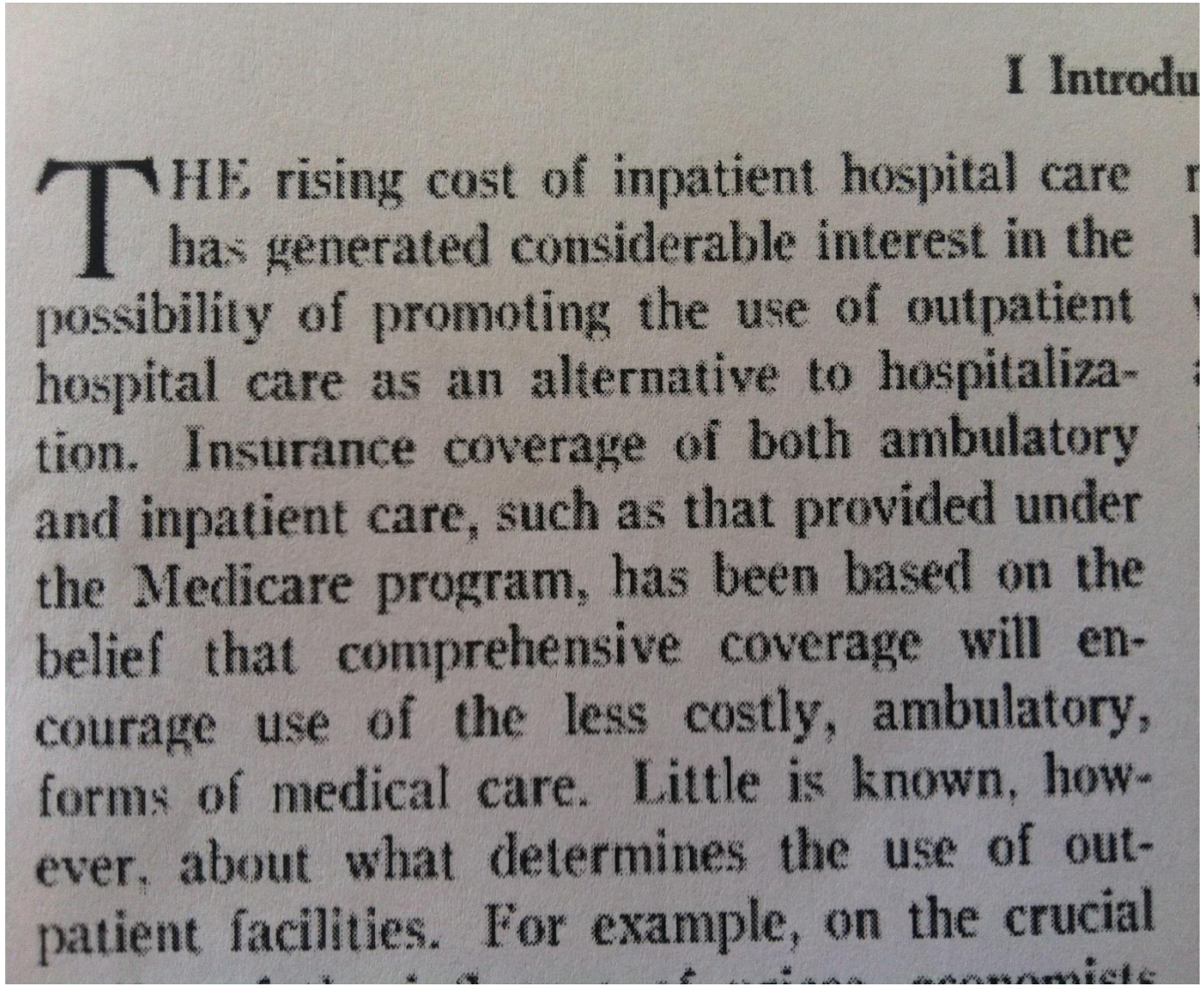
Delivering high quality care – creating value for patients with smart use of resources

Robert Sinclair, MD, PhD, Senior Medical Advisor Region Västra Götaland, Sweden
robert.sinclair@vgregion.se

REGION VÄSTRA GÖTALAND



I Introdu

THE rising cost of inpatient hospital care has generated considerable interest in the possibility of promoting the use of outpatient hospital care as an alternative to hospitalization. Insurance coverage of both ambulatory and inpatient care, such as that provided under the Medicare program, has been based on the belief that comprehensive coverage will encourage use of the less costly, ambulatory, forms of medical care. Little is known, however, about what determines the use of outpatient facilities. For example, on the crucial

The Review *of* Economics *and* Statistics

VOL. LIV MAY 1972 NUMBER 2

THE SUBSTITUTION OF HOSPITAL OUTPATIENT CARE FOR INPATIENT CARE

Karen Davis and Louise B. Russell *

I Introduction

THE rising cost of inpatient hospital care has generated considerable interest in the possibility of promoting the use of outpatient hospital care as an alternative to hospitalization. Insurance coverage of both ambulatory and inpatient care, such as that provided under the Medicare program, has been based on the belief that comprehensive coverage will encourage use of the less costly, ambulatory, forms of medical care. Little is known, however, about what determines the use of outpatient facilities. For example, on the crucial matter of the influence of prices, economists have assumed that prices play an important role in the use of medical services, while medical care professionals have maintained that they do not influence medical decisions. There is not much evidence either way.

Thus, the first task of this paper is an investigation of the properties of the demand for hospital outpatient care. In order to explore the possibility of inducing the substitution of outpatient for inpatient care, the model to be estimated must specify fully all the means, including prices, by which such substitution might be induced. A demand function for outpatient visits is estimated by regression methods using data on 48 states for the year 1969. The model, data, and results are presented in sections II through IV. The estimates provide striking evidence of the responsiveness of outpatient visits to prices: the elasticity of outpatient visits demanded with respect to outpatient price is highly significant +1.0; its cross-elasticity with respect to inpatient price is also significant and varies from 0.85 to 1.46, depending on the measure used.

In order to permit a fuller exploration of the substitution between outpatient and inpatient care, the demand for inpatient care is estimated in section V.[1] Again, inpatient demand proves to be responsive both to its own price (the elasticity varies from −.32 to −.46, depending on the measure used) and to outpatient price (elasticity — 0.25).

Finally, the possible implications of these elasticities for the total costs of hospital care are suggested in section VI. Section VII summarizes the conclusions of the paper.

II The Demand for Outpatient Care: Specification of the Equation

The demand for hospital outpatient care is postulated to depend upon various economic and socio-demographic factors. Economic factors include the price charged for hospital outpatient care, the income of the population served, the extent and type of insurance coverage, the price charged for hospital inpatient care, the price charged for physician care, and the availability of physicians' and inpatient hospital care.

The price of outpatient care is expected to have the usual negative relationship with the quantity of care demanded. The relationship

* Received for publication January 7, 1971. Revision accepted for publication December 2, 1971.

The authors thank Herrington Bryce, Wayne Vroman, and Stanley Wallack for helpfull comments. The views expressed are the authors' own, and do not purport to be those of the Brookings Institution or the National Commission on State Workmen's Compensation Laws.

[1] Although there have been no previous econometric studies of the demand for outpatient care, several studies have investigated the relationship between economic variables and the demand for inpatient care. See Rosenthal (1964) and (1970), P. Feldstein (1964), and M. Feldstein (1970).

My background & perspectives

MD, PhD, DTM&H. General knowledge of health care (as clinician specialized in anaesthesiology and intensive care, as manager and head of a department at Sahlgren university hospital in Göteborg, as senior international medical adviser to some Swedish global companies and now as senior medical adviser in the Västra Götaland regional department of health care)

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

Sweden – political and administrative levels

- International: European Union
- National: State
  - establishes principles/guidelines
  - distributes responsibilities
  - supervises quality and safety
- Regional: Regions and County Councils
- Local: Municipalities

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

Sweden – in comparison with EU15, USA and Norway

Sweden has

- the oldest population (total population about 9 million)
- moderate health care costs and moderate increases in costs
- high medical quality (characteristics: knowledge and evidence based, safe, patient centred, efficient, equal, accessible, delivered in reasonable time)
- high deliverables (number of treatments related to population size)
- excellent results/outcomes
- However, there are some further needs to
  - reduce waiting lists in certain elective care areas
  - better coordinate/integrate care for people with long term conditions
  - continue to improve transparency and efficiency by making and publishing open comparisons of quality and medical results
  - improve patient safety
  - further improve the electronic information systems

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

General health care system characteristics

- Under democratic governance and control
- Include 100% of the population
- Provided
  - on equal terms
  - according to needs
- Tax based financing, building on solidarity
- Decentralised responsibilities (to regions/counties and municipalities)
- The State
  - establishes principles/guidelines
  - distributes responsibilities
  - supervises quality and safety

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

National principles

- National legislation: Hälso- och sjukvårdslag (1982:763)
- Nationwide free patient choice of care
- Guaranteed accessibility (1/7/90/90 days)
- Responsibility of the counties to help patients obtain care according to the guarantee

National Government Agencies

- Independent bodies with freedom to make their own decisions - *however* the government decides on their general roles and resources:
  - The National Board of Health and Welfare (Socialstyrelsen)
  - The Health and Social Care Inspectorate (IVO)
  - The Medical Responsibility Board (HSAN)
  - The Swedish Council on Technology Assessment in Health Care (SBU
  - The Medical Products Agency (MPA)
  - The Dental and Pharmaceutical Benefits Agency (TLV)

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

Regional and local authorities

- 20 county councils/regions – populations ranging between 127000 and 2 019 000
- 290 municipalities – populations ranging between 2500 and 829000
- Regional/county and municipal councils are elected every four years
- Local self-government with rights to levy taxes on incomes and charge users for services provided

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

Compensation for health services

- Each county council/region decides on
  - patient fees
  - systems for contribution for health care services
- National high cost protection (Health Services Act)
- Nationwide agreement on out-of-county health services
- Price list set by each medical services region

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

Financing of health and medical service costs

- Taxes ~70%
- State grants ~15%
  - General grants
  - Targeted grants
- Fees
  - County councils/regions ~3%
  - Municipalities ~7%

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

Financing (continued)

- 15% of costs paid directly by patients (mainly pharmaceutical products and dental care)
- High cost protection (per annum 90 Euros direct fees, 180 Euros prescription drugs)
- 70 % of county council services financed by county council taxes. Payment for short-term somatic care based on DRGs
- Some county council income come from sold services
- General and targeted government grants
- Privately provided care makes up about 10% of county councils net costs (excluding dental care)
- Medical costs paid privately out of pocket, incl. payment from private medical insurances, are very limited

Political agenda

New national Government in 2006. On the agenda:

- Improve access to healthcare
- Stimulate private enterprises and entrepreneurs providing tax-financed health and medical care

The Health Care System of Region Västra Götaland

Robert Sinclair, MD, PhD, Senior Medical Advisor

”Good Care”

- Knowledge and evidence based
- Safe
- Patient centred
- Efficient
- Equal
- Offered in proper time (care guarantee 0/7/90/90)

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

”Open” comparisons between counties

- National Board of Health and Welfare together with SALAR
- Medical results, patients’ experiences, accessibility and costs
- Descriptive, not analysing
- 124 indicators

The Swedish Health Care System

Robert Sinclair, MD, PhD, Senior Medical Advisor

National Quality Registers

- 107 (in 2015)
- Initiated by the medical professions
- Related to individual patient data (diagnoses/ treatments/processes and results/outcomes)
- Used for benchmarking/comparisons development and research
- The European General Data Protection Regulation, now under debate, *must not* obstruct such research

Structural changes in health care

During recent years we have seen:

- Full scale emergency hospitals (24 h emergency care) reduced from about 115 (in 1960) to about 60
- Reduction in hospital beds: now lowest rate of hospitals beds in EU
  - from inpatient care to outpatient care
  - from hospital care to nursing home and home care
- Increased differentiation and specialization

Some comparisons

Health care expenditures (percentage of gross domestic product (GDP)

- Austria 2003 = 9.2 2013 = 10.1 (11,1?)
- Sweden 2003 = 8.0 2013 = 11.0
- US 2003 = 14.0 2013 = 16.4

Inpatient data

Number of patients discharged from Swedish hospitals

- 877000 in 1988
- 838000 in 2013

Largest proportional decrease

- Diseases of the eye and surrounding structures (e.g. cataract surgery)

Largest proportional increase

- Chronic renal failure

Outpatient data

Number of daysurgery operations (total and per inhabitant)

Sweden	2005 = 925000 and 0.1	2013 = 1950000 and 0.2

Number of hospital beds (OECD Health Statistics 2015)

- Curative acute care beds
- Psychiatric care beds
- Long-term care beds
- Other hospital beds

Total number of beds/100000 inhabitants

- Austria 2003 = 7.7 2013 = 7.7
- Sweden 2003 = 3.05 2013 = 2.6
- OECD average 2011 = 4.8 (psychiatry 0.7)
- Sweden 2011 = 2.7 (psychiatry 0.47)

Terminology

- **ALOS** – Average Lenght Of Stay = Inpatient days / Admissions

Influenced by traditions, reimbursment systems and possibilities to discharge during weekends, to home care, home etc..

- **BOR** – Bed Occupancy Rate = Inpatient days / Bed days (in a year = number of beds x 365)

A measure of the utilization of the available bed capacity

- **BTR** – Bed Turmover Ratio = Total patient admissions / Number of beds

A measure of productivity of hospital beds

To consider when reducing hospital beds

- Provide high quality alternatives to inpatient care
- Reduce inappropriate admissions to hospitals, start phone and web councelling
- Make inpatient care effective
- Facilitate quick and safe discharges
- Boost the ambulance/transport organisation (competence, numbers etc)

Drawbacks/risks having to few available hospital beds

- Hospital aquired infections
- Insufficient pain relief
- Delayed diagnostics and treatments
- Risk of raised mortality (e.g. because of reduced resources for trauma/multitrauma care)
- Reduced patient satisfaction
- Working environment problems

In (hospital)- versus outpatient (ambulatory) care

To be discussed:

- Costs
- Quality
- Accessibility (gatekeepers or guides)
- Patient choice and patient centeredness
- Fragmentation/Coordination/Integration/Continuity of care
- Access to data/Supportive Information Communication Technology/Reliable and relevant indicators/Quality registers

In (hospital)- versus outpatient (ambulatory) care

Rationales from a patient centered perspective

- Inpatient
  - Competence range
  - Technical resources
  - Safety and security
  - Responsiveness to fast fluctuations in health
  - Patient resources
- Outpatient
  - Patient preferentials, experienced safety and security
  - Distances, urban/rural areas
  - eHealth/Telemedicine

Five principles when creating a successful ambulatory care model (Ambulatory care of the future, 2011, The Chartis Group)

- Culture and alignment – leadership, clear objectives, stakeholder involvement
- Reliability – degree of standardization, minimizing variability
- Customization – patient/person centeredness
- Access
- Coordination
- Logistics

Aspects when shifting from fragmentation to seemlessness, from staff- to patient-centeredness

- Change management
- Leadership
- Clear objectives
- Clear responsibilities
- Organisation preparedness
- Incentives – patients, staff incl. doctors, unit, system
- Reimbursement schemes
- Support structures (incl. availability of inpatient backup)
- Quality indicators (structure, process, results) and follow up

Challenges and Critical success factors when shifting from in- to outpatient care

Challenges

- Disruption of structures, well known and proven ways of working (”tradition”, ”hierarchies)” and reimbursing
- Management of more or less losely connected outpatient networks of specialist resources *versus* running a coordinated and integrated inpatient system

Critical success factors

- Patient involvement and health ”literacy”
- Health staff genuinly dedicated to patient ”centeredness” incl. coordination of services and processes (”*pressure to change often coming from outside – while will to change must come from within”*)
- Access to relevant information and transparency

The outpatient visit – more than just a visit

- Previsit
- Visit
- Post visit

****

Example:

- Day care laparoscopic cholecystectomy
- Chronic heart failure

Further aspects

- Recruitement/staffing
- Task shifting
- Education
- Research, development and innovation

Frölunda

- Gynecology
- Surgery
- Orthopedics
- Internal medicine (mainly circulatory diseases and diabetes)
- Neurology
- Ophtalmology
- Ear/nose/throat
- Skin end veneral
- Physiotherapy

- Laboratory
- X-ray
- Ward Monday - Friday

Lundby sjukhus

- Gynecology
- Surgery
- Orthopedics
- Urology
- Internal medicine (mainly circulatory diseases and diabetes)
- Nephrology incl. dialysis
- Neurology
- Ophtalmology
- Ear/nose/throat
- Skin end veneral diseases
- Psychiatry
- Physiotherapy
- Diet advice

- Laboratory
- X-ray
- Ward Monday - Friday

Objectives

- Specialist care close to population
- Patient centeredness
- Health promotion
- Illness/disease prevention
- Research and development
- Innovation

Angereds Närsjukhus

- **Specialist care center for children and adolecents** 0 - 18 years of age including neuropsychiatry aas well as issues like stop smoking, anxiety, stress and depression, sex & relations, gender & sex, sexual and physical harassments, questions about menstruation, pregnancy testing, contraceptives, testing for veneral diseases, ”body knowledge” etc.
- **Specialist care center for grown ups** incl. gynecology, day surgery, cardiology, diabetology, chest/pulmonary, neurology, psychiatry, pain clinic, rehabilitation incl. physiotherapy and speech terapy