Reviewer's report

Title: Health Insurance, Neighborhood Income, and Emergency Department Usage by Utah Children 1996-1998

Version: 1 Date: 9 November 2004

Reviewer: Anne Gadomski

Reviewer's report:

General

The question posed by the authors is well defined but not new. The issue of how managed care affects utilization and costs of care is quite important but has been in contention for 30 years or more.

The methods utilize emergency department (ED) discharge data for children from 1996 to 1998. Are these data electronically submitted by ED’s in Utah or did the authors perform data entry or ED record abstraction? How valid are the data and have they been cleaned or edited by the authors to remove duplicate entries etc.

The low return (i.e. 3%) on the linkage of ED records and ambulance run records suggest that these data may be unreliable.

The use of the AIS and ISS comparison seemed promising as a means of determining need for ED care, i.e. urgency, however no p value is presented for the difference between the mean score of 1.8 for non-Medicaid versus 1.6 for Medicaid. (I suspect that this is because the p-value is not significant, nevertheless it should be compared and reported).

Socioeconomic status is inversely associated with disease, injury and mental impairment and so it is not surprising that it drives ED utilization. Methods that were used to compare incomes estimated based on zipcode of residence should be referenced and prior published findings related to estimated annual income and ED utilization addressed in the discussion.

Data did not contain the time of the ED visit so it is impossible to say whether a primary care provider could have seen these children, provided they had access to one. This comment in the discussion hits upon an important issue of access to primary care for medicaid vs non-Medicaid insured. See section below under major compulsory revisions.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Describe the Utah Medicaid managed care program. Expansion of the Utah Medicaid program to managed care affords an important opportunity to examine what effects of such a program on health outcomes, patient satisfaction, utilization and costs. I have analyzed a similar “fortuitous” change in Medicaid in Maryland. In a complex Medicaid claims database analysis, we evaluated a fee-for-service Medicaid managed care program in the state of Maryland, called Maryland Access to
Care (MAC). That study demonstrated an inverse relationship between preventive care and pediatric hospitalization in the context of the MAC program.

I would suggest that the authors describe the components of the Utah Medicaid managed care program because the program components are an important determinant of what effects the program will have. Thus, the paper lacks a description of the topography of the Medicaid managed care program. For example, the MAC program included the following features of Medicaid managed care: 1) assignment to PCP either by voluntary choice or mandatory enrollment of eligible AFDC, Medical Assistance (medical needy), and SSI; 2) a “medical home” accessible 24 hours/day, 7 days a week; 2) PCP authorization of ED, inpatient, specialty care but without disincentives to PMP for referral; 3) fee-for-services reimbursement (with a physician rate increase) for primary care, authorized specialist care, and hospitalization; 4) required EPSDT exams; and 5) an on-line eligibility verification system available to all medical providers. These features were chosen to rectify the historic problems Medicaid programs have had, i.e. fragmented care, lack of primary and preventive care, lack of physician participation and high turnover. What features do the Utah program include and why, and why would the authors expect there to be an effect on ED utilization in Utah?

In our study of the MAC program, we documented the following. Per-capita ambulatory care visits, especially per-capita preventive care visits, increased significantly during the MAC program (b=0.003, p =.0001) whereas per-capita ED visits did not change (p=.87). Using all 3.2 million child-quarter observations, MAC enrollment (O.R. = 2.2, 95% CI 2.17-2.22) was strongly associated with the probability of any preventive care visits (1 or more), a good thing. However, MAC enrollment was also associated with an increased probability of any ED use (O.R. = 1.4, 95% CI 1.42-1.46) or any ambulatory care visit (O.R. = 2.58, 95% CI 0.57-2.60). Yet, among those children who utilized ambulatory care (1.2 million child quarters), MAC enrollment was associated with a lower probability of avoidable (OR=0.89, 95% CI 0.83-0.97) and any hospitalization (OR=0.81, 95% CI 0.79-0.84). Hospitalization is more costly than ED utilization, and therefore the ED utilization outcome has represent increased access to care, ultimately associated with less hospitalization.

Medicaid children, given their lower socioeconomic and otherwise disadvantaged status, would be expected to have poorer health and more chronic diseases that independently drive utilization. This is not controlled for in this study. Thus, behind the first diagnosis listed in Table 2, there may lurk a second diagnosis reflecting chronic disease that places the first diagnosis in a different perspective, i.e. this is a child with special health care needs that qualify him or her for Medicaid. For example, a child with asthma who has a URI, a child with complex congenital anomalies who has an otitis, a child undergoing chemotherapy who has gastroenteritis, etc..

Lastly, continuity of care and access to primary care has been shown to decrease ED utilization, a factor that is largely unaccounted for in this study but that may account for the differences observed among payor groups.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Abstract
Line 2 - Insert "Medicaid" before managed care.

Discretionary Revisions (which the author can choose to ignore)

The introduction and discussion could be better focused on Medicaid rather than the uninsured, because the abstract guides the reader toward thinking the focus of the analysis is the introduction of Medicaid managed care and its effects on ED utilization by children insured by Medicaid.
**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No

**Declaration of competing interests:**

I declare that I have no competing interests.