



Pediatric Asthma Hospitalizations: Impact of Managed Care in the Patterns of Outpatient Healthcare Utilization

Capriles, JA., Rodríguez, MH., Rios, R.,
Dávila, R., and Sánchez, Y.

Puerto Rico Health Services Research Institute
University of Puerto Rico, School of Public Health



INSTITUTO DE INVESTIGACIÓN
DE SERVICIOS DE SALUD
DE PUERTO RICO

Introduction

- Most asthma hospitalizations for children are preventable with adequate disease management described in National Educational Prevention Program (NAEPP).
- Disparities are observed in health services utilization in Puerto Rican children by insurance coverage.



INSTITUTO DE INVESTIGACIÓN
DE SERVICIOS DE SALUD
DE PUERTO RICO

Introduction (cont)

- Medicaid Managed Care patients are three times more likely to use emergency department services than those enrolled in the Fee-For-Services group.
- The use of the emergency department as a primary usual source of care that may turn to deficient continuing preventive care for asthma, increased rates of preventable hospitalizations, and delay in the achievement of an effective long-term control of asthma.



Background

- 1993, integration of public and private healthcare delivery systems.
- The medically indigent population in the Healthcare Reform plan received private health insurance services paid by the government, which provided them access to health care within a group of providers in a Medicaid Managed Care (MMC) model.



INSTITUTO DE INVESTIGACIÓN
DE SERVICIOS DE SALUD
DE PUERTO RICO

Background (continued)

- Participants of the Healthcare Reform group are lower income individuals, former Medicaid beneficiaries, or uninsured.
- Primary care providers are paid by a fixed amount for each person served (Capitation), regardless of the number or nature of services provided to each person in a set period of time.



INSTITUTO DE INVESTIGACIÓN
DE SERVICIOS DE SALUD
DE PUERTO RICO

Study Objective

- To compare outpatient health services utilization patterns by health insurance coverage among children with asthma who at least one hospitalization per year.



Materials/Methods

- This study explores the patterns of health care utilization for people under 18 years old diagnosed with asthma (ICDC: 493.0, 493.1, 493.2, 493.9)
- Subjects: group of beneficiaries of the Puerto Rico Health Care Reform (MC, managed care) and group with private insurance (FFS, fee-for-services).
- Claims files (75,672) of the insurance companies for 1999, 2000 and 2001
- A total of 3,257 hospitalizations claims for three years were analyzed.



INSTITUTO DE INVESTIGACIÓN
DE SERVICIOS DE SALUD
DE PUERTO RICO

Table 1: Sociodemographic Characteristics of Asthma Hospital Claims by Insurance Type

Characteristic	Total n=3257	Manage Care (MC) n=1140	Fee for Service (FFS) n=2117
Age mean (SD)	4.60 (4.46)	4.14 (4.64)	5.46 (3.96)
0-12	91.8%	91.6%	92.1%
13-17	8.2%	8.4%	7.9%
Gender Male	57.9%	56.4%	60.6%
Female	42.1%	43.6%	39.4%
Socioeconomic Index			
High	60.8%	51.2%	78.7%
Low	39.2%	48.8%	21.3%



INSTITUTO DE INVESTIGACIÓN
DE SERVICIOS DE SALUD
DE PUERTO RICO

Table 2: Comparison of Patterns of Health Service Use of Hospital Claims by Insurance Status

Health Services	Manage Care (MC)			Fee for Service (FFS)		
	Mean	SD	Median	Mean	SD	Median
Physician's office visits	0.84	0.00	1.71	11.39	19.29	4.00
Emergency Room visits	0.77	1.43	0.00	1.19	3.37	0.00
Asthma Prescriptions	3.32	4.03	2.00	19.76	10.00	25.03



Results

- The FFS enrollees correspond to a higher mean of physician office visits (11 vs. 1),
- Number of drug prescriptions FFS (20 vs. 3) MC group.
- There were no differences in ED visits by insurance type.



INSTITUTO DE INVESTIGACIÓN
DE SERVICIOS DE SALUD
DE PUERTO RICO

Table 3: Results of Logistic Regression Analysis

	Physician's office visits O.R. (95% CI)	Emergency Room visits O.R. (95% CI)	Asthma Prescriptions O.R. (95% CI)
Managed Care*	.85 (0.807-0.887)	1.47 (1.360-1.596)	0.87 (0.860 - 0.912)
Fee-For-Services	1.00	1.00	1.00



Results (cont)

- The logistic regression analysis showed the FFS group had a higher probability of outpatient services use than the MC group with the exception of ED visits.
- The MC group has a higher probability to visit the ED than the FFS group (OR= 1.5; 95% CI= 1.36-1.60).



Conclusions

- Results illustrate differences in the way pediatric asthma patients are treated according to their insurance status.
- The differences observed between MMC and FFS patients in use of health services in Puerto Rico were confirmed by the recent evaluation of the healthcare system in Puerto Rico.
- It is vital further research assessing how the system structure, policies of practice sites, adherence to NAEPP guidelines and quality of services impact asthma management.



Study Limitations

- Databases were designed for administrative purposes
- Data does not enable to follow cases along years of study.
- Severity measures of asthma difficult to assess with available secondary databases.

Grant number: 1 R24 HS1 4060-02

Grant sponsor: Agency for Healthcare Research and Quality