

This study highlights the need for new imaginative approaches in pediatric emergency rooms and outpatient departments. It is based on a survey of the population served by the largest pediatric outpatient department in Southern California.

THE DEMOGRAPHICAL AND ECOLOGICAL CHARACTERISTICS OF A LARGE URBAN PEDIATRIC OUTPATIENT POPULATION AND IMPLICATIONS FOR IMPROVING COMMUNITY PEDIATRIC CARE

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Introduction

THE demand for outpatient and emergency services in hospitals in the United States has been accelerating at a rapid rate. In 1954, total outpatient visits were 65.4 million,¹ 70.5 million in 1962,² and 85.5 million in 1964.³ The increase in emergency room (ER) visits has been even more dramatic: 9.7 million in 1954, 18 million in 1958,⁴ and 20.2 million in 1962.² Projected ER services will increase by 79 per cent, whereas the increase in all outpatient department visits will be 18 per cent and hospital admissions 8 per cent during the decade 1960-1970.⁵ This increase in ER utilization is particularly interesting since many studies have indicated that much of the illness presented is not of an emergency nature.⁵

Social changes have played an important role in the demand for this form of service, especially in large cities. In 1940, 44 per cent of the population was classified as rural and 56 per cent as urban; in 1960 only 30 per cent of the population was rural.⁶ However, this movement into the city has apparently

been associated either with greater use of medical facilities and/or a different pattern of care, as the increase in the use of ER facilities of large urban medical centers has been greater than expected on the basis of population increase and rural-urban shifts.

The migration of minority groups from rural to urban areas presents another factor. Negroes from southern rural areas have migrated to the industrialized northern and western cities, and Mexicans have migrated into the western and southwestern states for economic reasons. These groups form a substantial portion of ER clientele in many western areas. Emergency room facilities of the Los Angeles area are further strained by the general westward migratory pattern with approximately 6,000 persons of all ethnic groups entering this area every month.

Scientific advances, especially in the field of infectious disease, have been rapid and well publicized and are common knowledge to all. Numerous lay and governmental publications extol the advantages of good health through preventive medicine and early attention to

apparently minor illness. Inexpensive or free medical care through governmental agencies is now available in all large cities.

Finally, the emergency room has become a ready source of medical care for patients who find it difficult to reach their personal physician on week ends, nights, or holidays. There is no convincing evidence that the patient goes to the emergency room solely to avoid payment of a fee for office or home care.⁷ The inability of low-income but health-conscious families to maintain ongoing relations with a private physician is a major factor in the pattern of using ER facilities for relatively nonurgent problems.⁵ Many patients are referred to the ER by the physician himself for diagnostic studies not readily available in his office. Health insurance which pays for hospital but not office procedures may frequently influence this decision. A sizable portion of the public then has grown to assume that the most convenient place to obtain medical care is the local hospital emergency room.

It is obvious that hospitals must plan a program to meet the expanding demand for outpatient services which will encompass both improved services and an exploration of all available medical and paramedical resources. Before a rational outpatient program can be designed, the current social, ethnic, and economic characteristics of the population served must be determined. Since different geographic areas may serve different population groups it was essential that our particular clientele be so characterized. This paper presents the methods used and the results obtained in surveying the present population served by the largest pediatric outpatient department in Southern California.

Methods

The responses of the parents of 3,058 children brought to the Pediatric Emer-

gency Room of Los Angeles County General Hospital during June, July, and August, 1965, are the basis of this report. This sample represented 22.2 per cent of the total pediatric emergency room visits during this period. The patients were selected at random each day on a 24-hour basis as soon as they were registered for care. The only omissions from random selection for interview were acute life-threatening emergencies. Fortunately this resulted in the omission of only three interviews during the period involved. It is likely, however, that the parents of a few seriously ill children were detained for interview, since the interviewers had no capacity for judging the severity of the illness but picked up the patients' charts as they became available at the registration desk. Only three families refused to be questioned, a surprisingly high rate of compliance in this population.

The Medical Data Research Center of the University of Southern California prepared the questionnaires consisting of 78 questions, many with multiple responses. A total of seven medical and premedical students served as interviewers after receiving instruction and pretesting in interview technique. The questionnaire required from 20 to 30 minutes for completion. Parents were frequently unable to answer every question because of lack of comprehension or of recall. This will be reflected in the total responses tabulated. The racial decision of the interviewer was based on personal observation and on inquiry if the interviewer was in doubt. This decision was difficult in a few instances of racial mixture and the patient's origin was then based on his appearance.

A variety of educational levels of physicians—interns, residents, fellows, attending pediatricians—examined the patients, wrote a concise but complete history and examination record, made a provisional diagnosis, and ordered treatment. The outpatient department

director and his associate analyzed these records the following day, determined the type of disease for each patient, and estimated the severity when not recorded, basing their judgment on the examining physician's physical findings, diagnosis, and method of treatment. The diseases were classified both by etiology and by organ system since the exact etiological agent of many minor infections is never determined; severity was based on the experienced reviewer's analysis of the chart. Colds were considered "mild"; pneumonia, "moderate"; and meningitis and other life-threatening illnesses "severe." The hospital records were consulted on any patient admitted into the hospital.

Results

Four ethnic groups were studied—Caucasian, Negroid, Mexican-American and other, including American Indian and Oriental. The "other" category is generally omitted from the tables since the number (31) was too small to permit conclusions.

Day of Interview (Table 1)

The number of interviews tended to parallel the census in the emergency room. Monday was our busiest day, fol-

lowed by Wednesday and Tuesday; Saturday was least active. The data suggested that more Caucasians arrive on Monday and Negroes on Wednesday, and that all ethnic groups use the emergency room with equal frequency on week ends. Interviews during the day (8:00 a.m.-6:00 p.m.) consisted of 59 per cent Caucasians, 58.7 per cent Negroes, and 55 per cent Mexican-Americans. A study of similarities and differences of families using the facilities during the day and at night is in preparation.

Sex

A preponderance of males by 6 per cent was noted: 1,629 or 53.3 per cent males and 1,426 or 46.7 per cent females.

Ethnicity

The percentage of Negroes and Mexican-Americans in the general population of Los Angeles County is 7 per cent and 81½ per cent, respectively.¹¹ However, these ethnic groups accounted for 56 per cent and 29.6 per cent ER visits in this study.

Language Barrier

Of 903 Mexican-American families, 119 (13 per cent) spoke Spanish

Table 1—All previous visits to this clinic by patient

Number of visits	Total—3,058		Caucasian—407		Negro—1,708		Mexican-American—903	
	No.	%	No.	%	No.	%	No.	%
0-3	1,626	53	263	65	835	49	504	56
4-7	394	13	37	9	236	14	114	13
8-12	280	9	24	6	178	10	78	9
12-20	216	8	20	5	129	8	65	7
Greater than 20	332	11	36	9	202	12	89	17
Estimated under 20	116	4	13	3	65	4	37	4
Not known by informant	94	3	14	3	63	4	16	2

only, and 28 (3 per cent) had at least one parent who spoke no English. This may present a formidable communication problem since it is difficult to be certain of comprehension of questions and understanding of instructions, even with skilled interpreters. Such persons are not always present in a busy emergency room and friends of the family, siblings, and bystanders are frequently asked to aid in the communication—and both communication and cultural boundaries must be crossed in these patients.

Age

Infants of one year or less accounted for 22 per cent of visits; 37 per cent of all visits were by children 24 months of age or less. After that age, each successive two-year group contributed a decreasing proportion to the total caseload (e.g., 2-4 years 17 per cent, 4-6 years 12 per cent, 6-8 years 10 per cent, 8-10 years 8 per cent, 10-12 years 6 per cent, over 12 years 7 per cent). There was little variation between the ethnic groups in age distribution.

The average age of children seen in our ER is above that of private practitioners as reported from other areas: 78 per cent were over one year of age in contrast to private practice (65 per cent)¹² and 32 per cent were in the group over six years compared to 21 per cent.¹³ This difference reflects the greater emphasis on health supervision of younger children provided by practicing pediatricians.

Family Size and Number of Children

The mean number of children for this group is three per family. Mexican-American families, however, average 3.3 in contrast to 2.8 children per family of the Negro who generally has the smallest number of children of the three groups. These numbers far exceed the national average of 1.43 children per family,¹⁴ but this includes families with no children. All groups have a high

percentage of rather large families: 28 per cent of the Caucasians, 33 per cent of the Negroes, and 40 per cent of the Mexican-Americans have five or more children.

Total Number of Previous Clinic Visits By the Patient (Table 1)

This is probably a variable in which less reliable responses were obtained because the reply depended heavily on the parent's recall; however, certain trends are apparent.

Negro and Mexican-American groups had over twice as many families with 20 or more visits to the outpatient department as the Caucasian group. Further, this was frequently the first or second visit for the white child (65 per cent). It appears that the Caucasian either has less illness or is more likely or better able to seek care elsewhere.

Origins

About three-fourths of all patients were born in Los Angeles County. Of those not born in this county, 97 per cent were born in another urban area. Only 19 patients in the entire group were actually born in rural areas. The Mexican-American is the least mobile ethnic group since 39 per cent have always lived in Los Angeles County. Only 27 per cent of the Caucasians and 23 per cent of the Negroes were native to this county.

Use of Medical Facilities and Source of Medical Advice (Tables 2 and 3)

Of those children born in Los Angeles County, 86 per cent of the Negroes were born in public hospitals compared with 75 per cent of the Mexican-Americans and 60 per cent of the Caucasians. It might be noted that there were 15 home deliveries even in this large urban area with excellent free medical care available. Of those not born in Los Angeles County, however, the proportion of home deliveries was much greater,

12.5 per cent Negro and 20 per cent Mexican-Americans.

Before coming to Los Angeles County, the majority of these families had used public facilities elsewhere and were, therefore, well aware of what might be available here. Of the children born in a public charity hospital, 63 per cent were Negro, 45 per cent were Caucasians, and 40 per cent were Mexican-Americans. Only 46 per cent of the

group had used a private doctor or clinic in other geographic areas, although a racial difference is found here—60 per cent Caucasians had some contact with private medicine compared with 43 per cent Negroes and 46 per cent Mexican-Americans. The question did not specify regular or extensive care and replies usually indicated an occasional visit for a specific problem.

Regarding the source of health in-

Table 2

Facility where child was born if born outside Los Angeles County								
No.	%		Caucasian		Negro		Mexican-American	
			No.	%	No.	%	No.	%
183	27	Private hospital	49	41	72	21	59	31
353	53	Public charity hospital	54	45	216	63	77	40
86	13	Home	4	3	43	13	39	20
40	6	Other	13	11	11	3	11	8
Facility where child was born if born inside Los Angeles County								
No.	%		Caucasian		Negro		Mexican-American	
			No.	%	No.	%	No.	%
438	18	Private hospital	97	34	170	13	166	23
356	15	Public charity hospital other than LACGH	28	10	278	20	45	6
1,553	65	LACGH	148	52	900	66	486	68
15	0.6	Home	1	0.3	7	0.5	7	1
17	0.7	Other	6	2	7	0.5	4	0.6

Table 3—Facilities used before coming to Los Angeles*

	297 Families		1,308 Families		549 Families		2,154 Families	
	Caucasian		Negro		Mexican-American		Total	
	No.	%	No.	%	No.	%	No.	%
Private M.D.	163	55	501	38	219	40	883	41
Private clinic	20	7	65	5	36	7	121	6
Private hospital	39	13	102	8	48	9	189	9
Public health center	33	11	241	18	82	15	356	17
Public hospital	86	29	540	41	168	31	794	36
Other (midwife, military hospital, miscellaneous facilities)	25	8	88	7	34	6	147	7

* May have used multiple facilities.

Table 4—Facilities currently in use in Los Angeles (sources of medical advice) 3,058 cases

	Total		Caucasian		Negro		Mexican-American	
	No.	%	No.	%	No.	%	No.	%
School M.D. or nurse	663	22	91	22	350	21	182	20
Public health center	2,198	73	259	62	1,262	74	653	72
Private M.D. and clinic	1,592	53	243	60	854	50	480	53
Public hospital (other than LACGH)	169	6	25	6	100	6	37	4
Druggist	707	23	105	26	404	23	197	22
Grandparents	994	33	112	27	596	35	283	31
Other relatives	652	22	59	13	394	23	183	20
Friends	745	25	93	23	473	28	178	20
Magazines	41	1	55	1	23	1	6	0.1
Books and magazines	35	1	6	1	23	1	6	0.1
Books	1,179	39	171	42	730	43	265	29
Television	52	1	1	—	33	1	17	0.5
Nowhere	184	6	29	1	90	0.3	63	2

formation, it is apparent (Table 4) that only half of these patients have any contact with private physicians. Public Health Centers are a source of advice for over two-thirds. The druggist is a source of information more often than the school doctor and the grandparents are more important than either. There is little variation in the use of grandparents or other relatives among the three ethnic groups, although we had expected that the more stable and extensive Spanish family would rely heavily on grandparental advice if available.

Surprisingly, 42 per cent of the Caucasians and Negroes get medical advice through reading printed material such as books and pamphlets; however, we did not specifically inquire which books were read. Only 30 per cent Mexican-Americans used books, but only about 15 per cent do not speak English and it is doubtful that some can read well enough for comprehension of such material.

Since many patients use the telephone

to seek medical advice from private physicians, this parameter was investigated as part of the family study. While 60 per cent have this facility available, especially the Negro families (Caucasians, 50 per cent, Negroes 70 per cent, Mexican-Americans 47 per cent), it is unusual to receive calls for advice in this Outpatient Department either day or night. However, clinic patients at Los Angeles County General Hospital have never been encouraged to use the phone either for appointments or for consultations.

Fifty per cent of the Caucasians, 40 per cent Negroes, and 39 per cent Mexican-Americans currently take their children to private physicians; however, only a fourth of the parents themselves see a private doctor. The reasons given by the parent for personally consulting a private physician were primarily for nonemergency care such as chronic illness or psychological problems. Only a very few sought birth control information.

Immunizations

Seventy-seven per cent of the children had had DPT injections; but of this group only three-fourths had had the full immunizing series of three shots. Therefore, a maximum of 60 per cent had been adequately protected against these diseases. Most of the DPT injections were given through public health facilities. However, Caucasians received their immunization from a private physician twice as often (19 per cent) as other ethnic groups (8½ per cent). Fourteen per cent had no knowledge or records of previous immunizations.

About half of the patients were immunized against smallpox. Caucasians had been vaccinated by private physicians three times as often as the Negro or Mexican-American who tended to use

public health facilities. There was no great difference in the per cent vaccinated among the three ethnic groups.

Seventy-five per cent of the children had received polio vaccine in some form, but actually 57 per cent had received three or more doses of any form. Most of this vaccine was administered by public health facilities and "polio clinics" and the Caucasian utilization of the private doctor was not so striking.

Only 6 per cent of the children had been immunized against measles. This vaccine has been developed only recently, has lacked the widespread favorable publicity given the polio vaccine, and may be considered unnecessary by many families who do not appreciate the considerable morbidity associated with rubeola.

Table 5

	Family stability person child lives with							
	Total 3,058		Caucasian 407		Negro 1,708		Mexican-American 903	
	No.	%	No.	%	No.	%	No.	%
Father and mother	1,609	53	225	55	768	45	491	65
Mother only	1,238	42	148	36	825	48	255	28
Father only	24	1	5	1	10	0.6	8	1
Mother and stepfather	103	3	14	4	54	3	32	3
Father and stepmother	5	0.2	1	0.2	3	0.2	1	0.1
Other (includes grand- parents, siblings, other relatives, and foster parents)	79	3	14	4	48	3	16	2
	Whom child lives with, marital status							
	Total		Caucasian		Negro		Mexican-American	
	No.	%	No.	%	No.	%	No.	%
Single	377	12	16	4	289	17	68	7
Married	1,735	57	253	62	836	49	618	68
Separated	613	20	80	20	406	24	122	13
Divorced	222	7	46	11	113	7	60	7
Widowed	91	3	10	3	52	3	29	3
Other or uncertain	20	1	2	0.4	12	1	6	0.6

Table 6—Routes to the emergency room—who referred child to clinic

	Caucasian 376	Negro 1,434	Mexican-American 770	Total referrals	
	referrals %	referrals %	referrals %	No.	%
Friends or relatives	22	28	26	801	27
Been coming for a long time	13	25	21	668	22
Private M.D. or clinic or hospital	27	9	12	369	12
LACGH	9	11	10	324	11
Public health clinic or health department	10	6	9	222	7
Social worker or police	9	4	5	138	5
Other public hospital	2	2	2	64	2

Socioeconomic Status of the Family

In our questioning we determined with whom the patient lived and the marital status of the person presently caring for the child. These give an indication of family stability or at least family intactness as stability may involve many other factors.

Mexican-American families were the most intact as the child lived with married parents in 65 per cent of the cases studied and the divorce and separation rate were the lowest of the ethnic groups (Table 5). Only 48 per cent of the Negro children had a father in the home. Negro families tended to separate without legal divorce and 17 per cent of the Negro children were described as illegitimate. The Caucasian divorce rate was almost twice that of either of the other groups, and their separation rate was nearly that of the Negro families.

A high rate of joblessness prevailed in all three groups and was highest for the Negro. The employment rate for males if present in the home was 70 per cent. However, 60 per cent of the total families were not supported by an employed male. Mothers were employed in 13 per cent of the cases, Negro mothers most often. The Mexican-American mothers were least likely to be employed.

In either sex, the parent was almost

always employed in either manual labor or service positions. Ten per cent of the Caucasian males, 7 per cent of the Negro, and 3½ per cent of the Mexican-Americans stated that they were self-employed.

The major source of income other than employment was welfare. About half of these families received welfare support, largely Aid for Needy Children (71 per cent of welfare cases) and Unemployment Compensation (11 per cent). Of other means of support, many lived with parents or relatives, only a few received alimony (in spite of a high divorce rate), and a few parents reported support only from odd jobs.

Source of Referral

Half of the Caucasians were referred either by private physicians who had been caring for an illness until hospitalization or special study became necessary or by friends or relatives. Negroes and Mexican-Americans were aware of county hospital facilities, had been using them for a long time, or were advised to come by neighbors (Table 6).

Route to the Hospital

Seventy-six per cent of the patients arrived in an automobile. Los Angeles is a city large in area with a complex

transportation system which is not likely to encourage parents to attempt to bring a sick child to the hospital by bus. However, the Mexican-American population living a short distance from the hospital made use of public transportation and a few walked to the clinic. Many of the patients had an arduous trip when traveling by bus. Fifty-two per cent (314) transferred from one bus line to another one time and 20 per cent (119) required two or more transfers before reaching the hospital. In spite of these problems, 72 per cent of the families live within 40 minutes transportation time from the hospital; 25 per cent can reach the hospital in 20 minutes or less.

Fathers were present at 29 per cent of all visits, slightly more often with Caucasian (35 per cent) or Mexican-American (35 per cent) families than Negro (24 per cent), probably because there are fewer single mothers in these ethnic groups. Fathers came with equal

frequency whether the visit was day or night. Lack of transportation facilities, together with a high rate of unemployment, may be responsible for the substantial numbers of fathers accompanying their children to the pediatric emergency room compared to the small numbers reported by private physicians.

Apparently all ethnic groups discuss their children's illnesses with a variety of lay, medical, or quasi-medical sources before making the decision to seek medical care (Table 7). There was surprisingly little difference in these sources between the paternally dominated culture of Mexican-American families and matriarchal Negro families. Caucasians consulted private doctors or clinics much more; grandparents are still a source of advice and were consulted in a third of the cases. The table indicates that parents usually had multiple consultations before bringing the child to the ER.

The usual reason given for arriving at the clinic at a specific time was onset

Table 7—Whom parents talked to

	Total 3,058		Caucasian 407		Negro 1,708		Mexican-American 903	
	No.	%	No.	%	No.	%	No.	%
Spouse	1,737	57	241	59	889	52	583	65
Friend	1,186	39	171	42	696	41	305	34
Other relative	1,119	37	114	28	663	39	333	37
Grandparent	1,080	35	132	32	640	37	300	33
Private M.D.	505	17	100	25	248	15	152	17
Public health center	211	7	27	7	102	6	80	9
Social worker	178	6	44	11	90	5	41	5
No one	174	6	23	6	102	6	45	5
School nurse or doctor	135	4	23	6	71	4	40	4
Private hospital	126	4	29	7	63	4	33	4
Public hospital	114	4	20	5	60	3	32	3
Private clinic	72	2	26	6	20	1	24	3
LACGH	43	1	6	1	24	1	13	1
Police	15	0.5	2	0.5	12	0.7	1	0.4
Other	128	4	27	7	65	4	35	4

Table 8—Disease classification*

	Total 3,058		Caucasian 408		Negro 1,708		Mexican-American 903	
	No.	%	No.	%	No.	%	No.	%
Infectious disease	203	7	28	7	109	6	66	7
Mycoses	18	0.6	0	0	13	0.8	5	0.5
Parasites	13	0.4	1	0.2	7	0.4	5	0.6
Total allergy—except eczema	102	4	12	3	75	4	35	4
Asthma only	66	2	7	2	41	2	18	2
Total skin disease	428	14	60	15	231	13	155	16
Impetigo and abscess only	177	6	24	6	84	5	69	8
Eczema	115	4	14	3	70	4	31	3
Musculo-skeletal	82	4	10	2	45	5	27	3
Total respiratory	937	31	128	31	544	32	265	29
Upper respiratory	732	24	92	23	428	25	212	23
Lower respiratory	199	6	36	9	113	7	50	6
Cardiovascular	29	1	6	1	16	1	7	0.7
Total hematology	56	2	3	0.7	40	2	13	1.5
Fe deficiency	37	1.2	3	0.7	22	1.3	12	1.3
Total gastrointestinal	395	13	59	14	207	12	129	14
Gastroenteritis only	292	8	29	7	120	7	93	10
Genitourinary	92	3	13	3	48	3	31	3
Endocrine	10	0.3	3	0.7	5	0.3	2	0.2
Neurological	46	1.5	9	2	22	1	15	2
Eye	126	4	5	1	82	5	39	4
Ear including otitis	268	9	41	10	130	8	97	11
Otitis media only	218	7	32	8	108	6	78	9
Nose	16	0.5	2	0.5	9	0.5	5	0.6
Teeth	74	2	16	4	34	2	24	3
Trauma including poisoning	401	13	54	14	229	13	117	13
Tumors	21	0.7	4	1	12	0.8	5	0.6
Fevers undetermined	29	1	2	0.5	21	1	6	0.7
No disease found or well child	70	2	9	2	40	2	21	2
Psychiatric	48	1.5	11	2.6	26	1.5	11	1.2
Failure to thrive	9	0.3	0	0	5	0.3	4	0.4

* Many patients had several concurrent medical problems.

of illness or worsening of an existing illness at that time. Transportation was a factor in a significant proportion of the cases, especially for the Negro. Many mothers had to wait until the father got home from work or until a friend's car was available. Most respondents gave several reasons and not all could answer this question. A number of the

evening patients were rather defensive in their answers and their responses to this question may be unreliable.

Presenting Illnesses

As might be expected, respiratory diseases provided the largest category of illness (Table 8). The incidence of trauma and gastroenteritis was high but

only 40 children presented behavior problems. Little ethnic variation was noted in the type of disease.

The respondent usually tended to overestimate the severity of the child's illness in comparison with the physician's estimation (Table 9). This was also true when grandparents, friends, and relatives were called upon to give an opinion. The most striking difference was in the "very severe" group; a fourth of the patients believed that their child's condition was desperate, while the reviewers considered less than 1 per cent of the patients critically ill. The majority of illnesses were typical of the pediatric age groups with abrupt onset or acute attack of a chronic illness such as asthma. However, one child in four was using the emergency room as a source of medical care for a recurrent or chronic illness.

Forty per cent of acute illnesses were of less than 24-hours' duration and two-thirds had an onset within three days; 19 per cent of the children had been ill for over seven days. There was no

remarkable ethnic difference in delay in seeking treatment.

Services Rendered (Table 10)

For medico-legal reasons it is the policy of this department to have almost every patient examined by a physician. A doctor was, therefore, involved in the treatment of 99 per cent of these patients, although many illnesses were very minor, e.g., carious teeth, immunizations, and the like. Registered nurses provided some type of services to only one patient in six. Most of the routine weighing, temperature recording, and giving of injections is now being handled by licensed vocational nurses.

Contrary to the general impression that house officers in training are unable to function without requesting a large number of laboratory tests, only 20 per cent of the patients had laboratory work done at that time and 20 per cent had x-rays taken in spite of the ready availability of these facilities. This also probably reflects the mildness of much of the illness seen.

Table 9—Family's view of severity of illness

	Total		Caucasian		Negro		Mexican-American	
	No.	%	No.	%	No.	%	No.	%
As seen by respondent (parent)								
Not severe at all	98	3	14	3	50	3	34	4
Mild	630	21	77	19	358	21	185	21
Moderate	1,282	42	169	41	725	42	365	40
Very severe	826	27	124	31	457	27	241	27
No comment	37	1	7	2	19	1	11	1
Undetermined	185	6	16	4	99	6	67	7
As seen by physician								
Not severe	308	10	42	10	177	10	83	9
Mild	1,941	63	231	57	1,103	65	584	65
Moderate	758	25	124	31	401	23	223	25
Very severe	19	0.5	7	2	6	0.4	5	0.6
Uncertain	31	1	3	1	20	1	8	1

Table 10—Services rendered*

	Total		Caucasian		Negro		Mexican-American	
	No.	%	No.	%	No.	%	No.	%
Doctor	3,044	99	402	99	1,683	99	900	99
Nurses aide	151	5	18	4	86	5	46	5
Registered nurse	497	17	69	17	261	15	156	17
Laboratory work	602	20	88	22	328	19	181	20
X-ray	561	19	86	21	309	18	163	18
Pharmacy	1,650	55	209	51	914	53	505	56
Injection	540	18	74	18	287	17	168	19
Other	87	29	11	3	43	3	32	4

	Disposition							
	Total		Caucasian—407		Negro—1,707		Mexican-American—903	
	No.	%	No.	%	No.	%	No.	%
Hospital	148	5	31	8	69	4	46	5
Home—no further care	1,078	35	105	26	645	38	308	34
Return to general clinic	1,219	40	166	41	668	39	373	41
Return to special clinic	565	18	96	24	299	17	164	18
Other	48	2	9	2	26	2	12	2

* Most patients received more than one service.

Only 18 per cent of patients received injections of some type of medication, usually either epinephrine or an antibiotic. Apparently penicillin injection is used judiciously in this area even in the presence of a large volume of respiratory disease. Slightly more than half of the patients received prescriptions for oral medication and some additional patients received drugs dispensed directly by ER physicians. An additional 5 per cent of patients were hospitalized and did not receive oral drugs in the ER.

The mode of disposition is interesting, since the Caucasian was more likely to be hospitalized or sent to a specialized clinic and fewer were sent home without further care. The prior selection by private physicians appears to be important here, since moderate and very severe illness was more likely to occur in Caucasians (Table 9) with conse-

quent greater need for more extensive care.

Comments

“As a window to the unsolved problems of health service for a growing and mobile population, the hospital emergency unit provides an observation post of great usefulness.”²² This study of pediatric patients and their families as emergency room patients in a large Los Angeles public hospital reveals that the family profile varies only slightly from other sections of the United States.^{5,8,9,15,21}

Many of the characteristics have persisted since the 19th century reports of Chadwick, Shattuck, and Villerme¹⁰: 20 per cent more visits for Negroes than whites; 30 per cent more for unemployed than for employed; twice as many outpatient visits for families with

incomes under \$2,000 per year as for those receiving over \$5,000; a low level of education; and a preponderance of lower socioeconomic occupations.⁸

Our ER patients were largely from the minority groups, especially Negroes, who lived in the central core of the city. Half of the families were on relief, in just over half was a parent employed, and those who worked held low paying jobs. Families tended to be large—especially the Mexican-American families.

This city is one focal point of the continued western migration. The migratory patterns of our patients are city to city rather than rural to urban; consequently the pattern in this emergency room is that of migrating poverty-stricken urban families, using public facilities wherever they locate. This raises the interesting question of who provides medical care, if any, for the rural to urban migrant.

Minority groups had poor or no relationships with private doctors, either for themselves or their children. Are private doctors reluctant to see these groups, for either personal or economic reasons, or do these groups prefer the free care and anonymity of the lay public? Alpert¹⁶ noted that 37 per cent of poor urban families rejected a comprehensive pediatric care program which closely resembled private medicine. He also noted that Spanish families accounted for the greatest loss from the program and our study indicated that this ethnic group was the least likely to consult private doctors or immunize their children through these facilities. Alpert attributes loss from the program to lack of interest, residential instability, and cultural lag.

These patients apparently do not significantly alter their previous pattern of seeking health care after moving to Los Angeles. Of the children born outside this county, most were born in another public hospital and used public health

centers and charity hospitals as their source of medical care. Most of the children born in Los Angeles were delivered in this hospital and have never broken relations with it. The implications are clear.

The rate of illegitimacy among Negroes was 17 per cent. Fathers were present in less than half of the Negro homes. More Negro mothers were employed and, therefore, out of the home during some part of the day. In spite of this, the number of emotional problems encountered in this ethnic group was only 1.5 per cent. Either the Negro children accept the broken home as a way of life and are able to cope with the situation or the care offered in an ER is so crisis-oriented that the psychological aspects of diseases are easily overlooked.

On the other hand, Mexican-American families were more settled, both in residence in this area and in marriage where the religion inhibits divorce. The rate of employment was highest in this group and the type of work tended to place them in a higher socioeconomic group. Ten per cent less were on welfare than other ethnic groups.

The considerable number of mothers listed as "single," especially in the Negro group, does not necessarily imply a broken or disorganized family or financial abandonment by the father. In an investigation of the role of the "unmarried father" Sauber¹⁷ noted that two-thirds of unmarried mothers had received financial help from the father of the baby. The father was frequently still a personal associate, frequently sharing a home and often helping to meet expenses. The actual and potential strengths and assets of these liaisons should be recognized. Legal aspects of receipt of welfare payments in many cities frequently preclude the legal marriage of parents of a child born out of wedlock, especially if the father has a reasonably well-paying job. It should

also be recognized that, for the same reasons, many married fathers may be living outside the home but still surreptitiously contribute to the family income while the mother becomes eligible for welfare payments.

The ER parent has multiple sources of medical advice, especially from friends, relatives, and grandparents. The pharmacist plays an important role, dispensing advice as well as drugs. Fortunately, most pharmacists realize the limits of their knowledge and according to patients will dispense a patent medicine with the advice "If this doesn't work, see a doctor." Half of the parents—mostly the Caucasians—get advice at some time from private physicians.

The small percentage of fully immunized children in this population is an indication of the low level of awareness of the value of preventive health care. Free immunizations, well publicized by the Health Department, are readily available at all district health centers which are conveniently located for most of our families.

Most interesting is the number of Caucasians and Negroes who read books and pamphlets on child care. In contrast, magazines apparently are not widely read and television does not appear to be an important source of medical information for this population. The finding seems to indicate the need to see this approach for a large segment of the population through the medium of books written in simple, colloquial language and adequately illustrated. It also emphasizes the importance of the language barrier in Mexican-American mothers for reading or understanding the "baby books." A number of these mothers, particularly recent immigrants, may be unable to read in any language.

Half of the Caucasians and Mexican-Americans and 70 per cent of the Negroes have immediate access to a telephone. A clinic-based center offering telephone advice for minor illnesses and

clinic follow-up may be a method of decreasing unnecessary emergency room visits. However, this presents certain medico-legal problems and requires an experienced nurse or physician to handle calls effectively.

Our clinic parents do not seek medical attention quickly or early. This major decision is thoroughly discussed with many consultants before the final decision is made. Only one patient in twenty is brought to the hospital without a conference of some type. Suchman¹⁸ has noted the inability of the uneducated, low-income groups to make individual major decisions regarding medical care. This medical disorganization may be only one specific instance of the over-all social disorganization found in this segment of society and may be an additional barrier to communication.

The most frequent source of referral followed a "back-yard" or neighborhood consultation with friends or relatives. In the case of Caucasians the private doctor was the major source of referral. The Negroes were usually aware of the facilities available at the hospital from previous visits either with the child or personally.

The excessive dependence on the automobile as the major type of transportation and the circuitous routes and multiple transfers required for public transportation suggests additional problems in providing effective services. Perhaps direct bus lines between selected areas and a regional hospital might facilitate the decision to seek medical care and might expedite earlier use of the facility. At present, an ill child must often wait until the father, friend, or relatives get home from work with the one family vehicle.

Another unexpected finding was that this was the first or second visit for half the families. Is this another indication that we are not meeting the needs of our families and they are seeking follow-up care elsewhere? Or are most

of these families so mobile and transient that the one or two visits will be the only contacts with a physician in this community? At any rate, routine checkups, periodic follow-up and preventive medical care are not part of the way of life for our families. To what degree sociocultural factors influence this finding and to what degree the existing community medical structure is responsible remains to be explored.

Negroes seemed to accept the care most readily and accounted for the greatest number of permanent clinic clientele (20 or more visits). In this area, the Negroes accepted the Los Angeles County General Hospital as "their" hospital, possibly because of impartial acceptance and the many Negro hospital personnel or perhaps as a result of difficult relations with private doctors.

There was little difference generally in the types of disease seen in the three ethnic groups. The incidence of each category of illness was very similar to that reportedly seen in private pediatric practice.^{19,20} The emergency room should be an appropriate source of training for pediatric residents preparing to enter practice. However, the emphasis on preventive medicine must be increased if it is to be a truly effective area for training.

In an independent study of the incidence of iron deficiency anemia in our ER patients in 1966, we found that 25 per cent of 300 randomly selected children had a packed cell volume of 30 or less and a hypochromic microcytic blood smear. In contrast, iron deficiency anemia was diagnosed or suspected in less than 2 per cent of the children in the present study. Emergency room care is frequently and often necessarily hurried and fragmented with attention given to the presenting complaint.

Since our data also indicate that many of these families have received apparently adequate dietary advice through public well-baby clinics, there appears

to be a problem in effective communication, or at least in parent motivation. At present we are exploring the use of indigenous personnel from similar social and cultural backgrounds in reaching this group of parents.

The low incidence of behavioral and social problems may also reflect the "crisis-oriented" position of the emergency room. If this area is to provide comprehensive care for children, as it apparently is not doing at present, substantial changes are needed in both training and staffing patterns. This is further suggested by the parental overestimation of the severity of illness. The parent may be seeking health information or counsel unrelated to the presenting complaint and is either unable to communicate this to the examining physician or is disregarded because of other ER pressures. In support of this is the fact that many of the children's colds were so mild that the examining doctors often wondered what motivated the parents to bring their child to the emergency room.

Hospitalization was required in only 5 per cent of these patients, most often in the Caucasian group (7.6 per cent), and 75 per cent required a second visit to the various clinics. The number of hospital admissions from the ER has decreased by 30 per cent in this hospital over the past two years. With more effective staffing and clinic support many more patients now are referred to the medical clinic for care of complicated illnesses.

An interesting comparison with this study may be made with the analysis of a much more stable, higher socioeconomic and predominantly Caucasian pediatric population from the emergency room of the Boston Childrens Hospital made in 1962 by Bergman and Haggerty.²¹ They noted that only 11 per cent of their families were broken, and 11 per cent were on welfare. Half of their families had no private physician

and half had no systematic health supervision. Seventy per cent were self-referred and 12 per cent had more than five visits to the emergency clinic alone; 60 per cent came by automobile and lived within five miles of the hospital. Respiratory infections (55 per cent) and gastroenteritis (11 per cent) accounted for most illnesses, but over half of the children were not classified as acutely ill and 39 per cent were discharged without a return appointment, indicating the mildness of much of the disease. The investigators concluded that a social crisis added to the medical illness is a major factor in prompting a family to seek care at emergency rooms.

Since our experience with indigents of all ethnic groups has been similar, we agree with the Boston group that appropriate staffing of an emergency room handling a large volume of pediatric patients with high proportion of mild, self-limited illness as the presenting complaint, but with obvious socioeconomic and emotional stress problems, should include ancillary health personnel such as social workers, public health nurses, health educators, homemakers, and trained health aides possibly with similar sociocultural backgrounds. The importance of the atmosphere in which patient care is offered and the opportunities for cooperation with community health agencies are stressed by Friedman and Leonard.²³

Provision of quality care has been complicated by those "hard core" patients who appear only when they or their children have been seriously ill for many days, who break appointments, are unimmunized, have uncorrected visual and auditory defects, carious teeth, and who fail even to respond to home visits by public health nurses.²⁴ Traditional outpatient service for this group has been crisis-oriented and fragmentary with only sporadic success at continuity at a few medical centers.²⁵

The present emergency system lacks communication with such problem families, indeed may communicate poorly with the majority of patients in large urban centers.

Many of the families in the socioeconomic group we studied do need comprehensive and preventive medical care. Their unwillingness or inability to use existing health resources in an appropriate manner has important implications for pediatric emergency rooms and outpatient departments:

1. The outpatient department should be prepared to offer "on-the-spot" preventive medical services whenever a parent brings a child to the ER for the care of an acute illness. Immunizations, dietary advice, well-child counseling and even family planning are examples of services which can and should be offered to all family members at the time of the emergency visit rather than at some future date.
2. Medical care should be rendered in a climate of understanding and respect.
3. The outpatient department should encourage continuing assistance and follow-up, not just emergency care. In many instances active interest and intervention must replace the traditional waiting for the family to return. The follow-up services offered should be comprehensive including necessary and appropriate specialties. These services should be interpreted to the families served in a manner understandable to them.
4. The outpatient department should provide appropriately designed, simple, colloquially written health literature, illustrated, and translated into foreign languages depending on the clientele. The vocabulary should not exceed the sixth- to eight-grade reading level.
5. Outpatient department personnel should encourage families to help themselves. Staff should provide links with and support of programs of other community services, agencies, schools, and private practitioners.
6. The director of the outpatient department should encourage the participation of paramedical personnel at various levels of education and especially of indigenous paramedical ethnic groups in planning and operating the departmental program. Those persons who can contribute to the understanding of the social and cultural backgrounds of patients may be particularly

valuable in establishing communication with the "hard-core" families.

- The director should encourage the entire staff to think creatively in the areas of patient care, outpatient methods and operations, and to propose and implement innovative and imaginative programs.

Summary

The 3,058 patients in a large urban hospital Pediatric Emergency Room were interviewed by specially trained students administering a structured questionnaire.

Families of the children in this study represented largely minority ethnic groups living in the central area of the city and often supported by welfare funds. Most of the families were urban migrants accustomed to using public medical facilities and apparently unable to establish and maintain relations with private physicians for themselves or their children. In only half the families were both a mother and a father present in the home.

Twenty-five per cent of the disease was chronic and much of the acute disease was very mild. It appears that many of these families use the fragmented care of the Pediatric Emergency Room as the only medical supervision for their children.

The study highlights the need for new, imaginative approaches in Pediatric Emergency Rooms and Outpatient Departments. The expanded use of ancillary personnel such as social workers, public health nurses, health educators, and indigenous trained health aides, utilizing individual and group technics and appropriate materials such as thoughtfully designed health literature is worthy of exploration. Comprehensive health services for acute care should be available in the ER and offered to the child and his family. This may be one of the few contacts of this child with a physician.

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