

Hospital Problems Cared for by One Family Physician

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Most family physicians provide regular care in the community hospital setting. The North American literature is quite deficient in documenting this aspect of family practice. The purpose of this paper is to present the content of problems cared for in a small community hospital.

The study population consisted of all inpatients cared for principally by the author during the first year in practice. The hospital is a 100-bed facility in a representative midwestern community of 15,000. Data analyzed included age, sex, discharge diagnoses, and outcome. Diagnoses were coded and organized according to the ICHPPC code.

During the one-year study period, 509 hospital problems were cared for. Primary responsibility for 235 hospitalizations was assumed, for an average of 19.6 patients hospitalized per month.

The age/sex profile, when corrected for newborns and obstetric patients, showed peaks in the 75+ age category for both sexes.

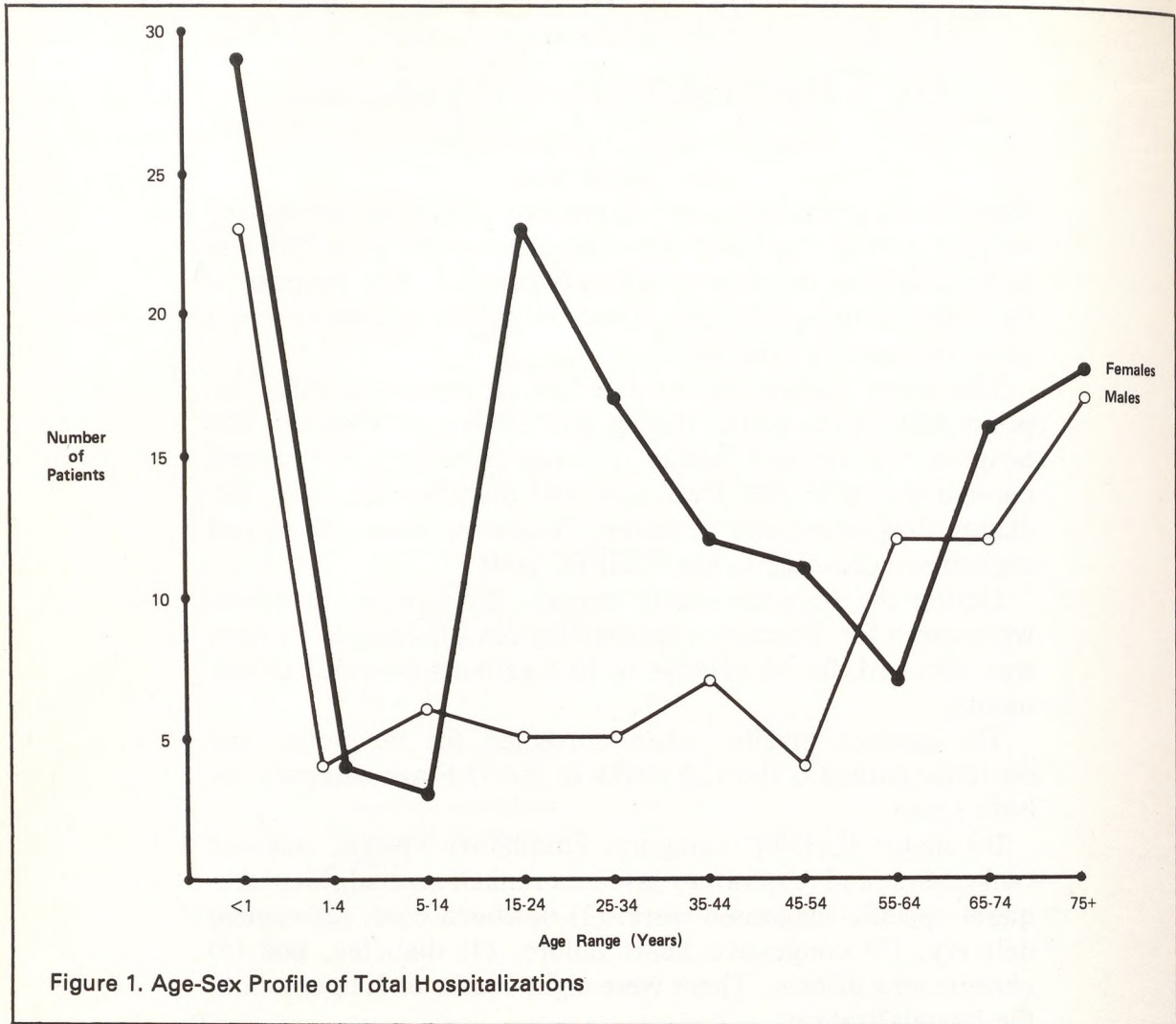
By major ICHPPC category, circulatory system diseases ranked first and respiratory diseases ranked second. Most frequent specific diagnoses were: (1) newborn care, (2) vaginal delivery, (3) congestive heart failure, (4) diabetes, and (5) chronic lung disease. There were eight deaths or 3.4 percent of the hospitalizations.

The discipline of family practice is certainly making progress in the task of defining its ambulatory content. Several descriptive studies have addressed this topic and the list is growing.¹⁻⁴ It is generally agreed that although the specialty is broad, it must be able to define its content in order to maintain credibility as an academic discipline.

Although the majority of a typical family physician's time is devoted to ambulatory care,

most also provide day-to-day care in the community hospital setting. The belief by those in the academic setting that family physicians do not take care of serious illness must be dispelled with appropriate documentation. To date, however, there is little in the US or Canadian literature to define the content of community hospital problems.⁵⁻⁸ The Commission on Professional and Hospital Activities has published reports on the leading causes of admission to participating short-term general hospitals in the United States.^{9,10} However, these large studies include all medical specialties and various-sized hospitals. In contrast, the British literature does reveal considerable attention to the hospital practice of family physicians.¹¹⁻¹⁶

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To correctly characterize family practice, as is practiced in the smaller community in the United States, the content of hospital problems being cared for deserves documentation, along with the content of ambulatory care. This can serve as a further guide for: (1) family practice teachers in arranging residency curricular exposure, and (2) students and residents in becoming aware of what to expect in the smaller community hospital setting where many plan to practice.

The purpose of this paper is to present the content of problems cared for in a small community hospital during the author's first year in private practice. More importantly, it is hoped that it will stimulate larger descriptive studies by practicing family physicians in different types of community hospital settings.

Materials and Methods

The data were compiled between July 1976 and June 1977. This was the first year of practice after residency training for the author. The practice was an association of three physicians, each maintaining his own distinctive outpatient and inpatient population. During evenings and weekends, coverage of all three practices was shared and alternated. The hospital was a 100-bed facility located in Crawfordsville, Indiana, a representative midwestern community of 15,000. There was an approximate service population of 30,000. Services such as full-time radiologist and pathologist, coronary-intensive care unit, and fetal-maternal monitors were present. Along with 11 practicing family physicians, there were two surgeons and

Table 1. Discharge Diagnoses by Major ICHPPC Category

Rank	ICHPPC Category	Number	Percent of Total
1	Diseases of Circulatory System	97	19.1
2	Diseases of Respiratory System	54	10.6
3	Supplementary Classifications	52	10.2
4	Diseases of Genitourinary System	47	9.2
5	Pregnancy, Childbirth, Puerperium	38	7.5
5	Accidents/Poisoning/Violence	38	7.5
6	Endocrine, Nutritional, Metabolic Diseases	34	6.7
7	Diseases of Digestive System	32	6.3
8	Mental Disorders	20	3.9
9	Signs/Symptoms/III-Defined Conditions	18	3.5
10	Neoplasms	17	3.3
11	Diseases of Musculoskeletal System	16	3.1
12	Diseases of Blood/Blood Forming Organs	15	2.9
13	Infective/Parasitic Diseases	10	2.0
14	Diseases of Skin, Subcutaneous Tissue	9	1.8
15	Diseases of Nervous System/Sense Organs	6	1.2
16	Congenital Abnormalities	4	0.8
17	Perinatal Conditions	2	0.4
	Total	509	100.0

two obstetrician/gynecologists on the active hospital staff. There were no pediatricians or internists.

With assistance from the Medical Records Department, data were collected from the discharge "face sheet" on each patient taken care of principally by the author. Data analyzed included patient age, sex, discharge diagnoses, and outcome. Although the hospital coded each diagnosis according to ICDA-8, the diagnoses were recorded and organized according to the ICHPPC system for the purpose of this study. When a given patient was readmitted for exacerbation of one or more chronic conditions, each discharge diagnosis was counted as a separate episode of attention and care for that diagnosis. For example, if one patient was discharged three times with the same diagnosis of heart failure, this was counted as three episodes of heart failure each requiring hospital care. It would appear the same in the total analysis as three separate patients, each having one discharge diagnosis of congestive heart failure.

Results

A total of 509 hospital problems were cared for during the one-year study period. The author had primary responsibility of 235 hospitalizations in

this period, for an average of 19.6 patients hospitalized per month. Seventeen patients were hospitalized two times and two patients were hospitalized three times during the year. Thus, the total number of actual patients requiring hospitalization in the year was 214.

Figure 1 shows the age/sex profile of the total hospitalizations. Overall, there were 95 male and 140 female hospitalization episodes. The graphic profile reveals peaks in the age group <1 and 75+ for males, and <1, 15-24, and 75+ for females. Twenty-seven percent of the hospitalizations were in the 65+ group. When the newborn infants are selected out, 34 percent of the total hospitalizations were in the 65+ category. The content of problems by major ICHPPC category is shown in Table 1. Diseases of the circulatory system ranked first, with diseases of the respiratory system second, and supplementary classifications (nearly all well-baby care) third. Diseases of the genitourinary system ranked fourth, and pregnancy/childbirth/puerperium was the fifth most frequent category.

Table 2 lists the most frequent specific discharge diagnoses seen during the one-year study period. Newborn care was most common, with 50 of 52 being well-baby care, and 2 of 52 being care

Table 2. Most Common Discharge Diagnoses

Rank	Diagnoses	Number	Percent of Total
1	Newborn Care Well-Baby Care (50) Ill Neonates (2)	52	10.2
2	Vaginal Delivery Uncomplicated (15) Complicated (11)	26	5.1
3	Congestive Heart Failure	18	3.5
4	Diabetes Adult Onset (15) Juvenile (2)	17	3.3
5	Chronic Lung Disease Chronic Bronchitis (9) Emphysema (7)	16	3.1
6	Ischemic Heart Disease Chronic Ischemia (10) Acute Myocardial Infarction (5)	15	2.9
6	Cardiac Arrhythmia Atrial Fibrillation/Flutter (8) Paroxysmal Tachycardia (3) Ectopic Beats (4)	15	2.9
6	Urinary Tract Infection Cystitis (14) Acute Pyelonephritis (1)	15	2.9
7	Fractures Femur (6) Tibia/Fibula (3) Humerus (2) Skull (1) Vertebra (1) Carpal/Metacarpal/Tarsal/Metatarsal (1)	14	2.8
8	All Other Heart Disease	13	2.6
8	Hypertension Uncomplicated (12) Target Organ Involved (1)	13	2.6
9	Other Disease of Kidney/Ureter/Bladder	12	2.4
10	Pneumonia	11	2.2
11	Acute Bronchitis/Bronchiolitis	10	2.0
11	Cholecystitis; Other Biliary Disease	10	2.0
11	Other Puerperal Complications	10	2.0
11	Arthritis Osteoarthritis (7) Rheumatoid (2) Other (1)	10	2.0
11	Malignancy (5 sites)	10	2.0
12	Anemia Microcytic (6) Other (3)	9	1.8
13	Drug Overdose	7	1.4
14	Cerebrovascular Disease Stroke, all types (5) Transient Ischemic Attack (1)	6	1.2
14	Depressive Neurosis	6	1.2
14	Thyroid Disorder Hypothyroidism (4) Goiter (2)	6	1.2
14	Other Arteriosclerotic Heart Disease	6	1.2
15	Obesity	5	1.0
15	Pleural Effusion	5	1.0
15	Benign Prostatic Hypertrophy	5	1.0

of premature infants with hypoglycemia and respiratory distress syndrome. Vaginal delivery was second, with 15 of 26, uncomplicated cases and 11 of 26, complicated cases (eg, protracted labor, persistent occiput posterior, preeclampsia, forceps delivery, postpartum hemorrhage). No cesarean sections were performed on the author's 26 deliveries. Congestive heart failure ranked third with 18 episodes. Diabetes was fourth, with 15 of 17, adult onset cases and 2 of 17, juvenile diabetic cases. Chronic lung disease was the fifth most frequent reason for hospitalization, with 9 of 16 cases being the chronic bronchitic type and 7 of 16 being the emphysematous type.

The diagnoses ranking 6 through 15 are listed in detail for examination and comparison.

Table 3 lists a selection of other problems for which four or fewer cases were managed in the hospital during the year. This is presented for examination and comparison to future work.

Table 4 lists selected procedures performed on the hospitalized patient population. Sigmoidoscopy was most frequent with ten cases, and lumbar puncture second with seven occurrences. An additional number of these procedures, such as sigmoidoscopy, lumbar puncture, and cystometrogram, were also performed on an outpatient basis.

Finally, concerning outcome, there were eight deaths during the one-year study period (3.4 percent of the 235 hospitalizations). Seven of these eight were in the 65+ age group. The remainder of the patients were discharged either to home or to nursing homes.

Discussion

In discussing the above results, it is reasonable to emphasize that there is little in the literature available for comparison. The total of 235 hospitalizations per year compares to Tarrant's 164 per year, and to Fowler and Falk's mean of 228 per year.^{7,8} (These are Canadian studies from larger community and hospital settings.)

Concerning the age/sex profile in Figure 1, the peak in the <1 year category for both sexes is entirely from newborn infants. Also, the peak for women in the 15-24 year category is largely from healthy women on the obstetric service. Thus, the inpatient population of ill patients is highly skewed toward the geriatric age group. Even when the

Table 3. Less Common Discharge Diagnoses

Diagnosis	Number
Convulsions: Febrile or Unknown Etiology	4
Organic Brain Syndrome	3
Thrombophlebitis	3
Asthma	3
Head Injury/Concussion	3
Urinary Calculus, all sites	2
Low Back Pain	2
Fever Unknown Origin	2
Burns, all degrees	2
Pulmonary Embolism	1
Pelvic Inflammatory Disease	1
Weight Loss, unknown etiology	1
Tension Pneumothorax	1
Ulcer Disease	0

newborns and maternity patients are included, 27 percent of all hospitalizations were in patients 65 years or older. For comparison, Ward reports 21.5 percent of all discharges in US Professional Activity Study hospitals were 65+ in 1974-1975.¹⁷ This is a nationwide study of over 1,800 US non-federal, short-term general hospitals and bridges all medical specialties.

In this small community hospital practice, diseases of the circulatory (19.1 percent) and respiratory systems (10.6 percent) ranked highest. In a larger city hospital practice, Tarrant found conditions of pregnancy most common in each of two years (16 percent and 17 percent), with gastrointestinal disease second one year (13 percent), and miscellaneous problems (ICD Category 18) second another year (14 percent).⁷ Fowler and Falk also noted pregnancy (20 percent) as most frequent, with respiratory diseases (19 percent) second in their report.⁸ In patients 65 years and older, Ward found heart disease, including acute myocardial infarction, to be the most frequent category of illness (17 percent).¹⁷

The data in Table 2 reflect the specific problems managed. It is clear that knowledge of managing pregnancy and delivery, newborn infants, all varieties of cardiac problems, and chronic lung

Table 4. Procedures Performed on Hospitalized Patients

Procedures	Number
Sigmoidoscopy	10
Lumbar puncture	7
Thoracentesis	4
Paracentesis	2
Neonatal umbilical vein catheterization	2
Cystometrogram	1
Oxytocin challenge test	1
Thoracostomy tube	1

disease, is extremely important for the physician practicing in a small hospital such as the study institution. Residents planning practice in a rural community such as this might arrange their elective time to include extra exposure to problems seen frequently.

Also of note were the conditions in Table 3 seen less frequently. The author attended relatively few cases of asthma, phlebitis, pulmonary embolus, or ulcer. This is not to imply knowledge of these conditions is not important, but it does reflect their relative occurrence in this practice situation.

Conclusion

Detailed documentation of the types of problems cared for by family physicians in the hospital has not been adequately made in the United States. The present study is an attempt to do this; however, certain criticisms are recognized. First, it is recognized that the numbers are small in this one-year study and a five-to-ten year analysis would be much more meaningful. Secondly, analyzing more than one physician's inpatients would tend to diminish personal bias of care or diagnosis. Thirdly, other data, such as number of days hospitalized, type of admission, and consultations obtained, would be interesting to study. Finally, an accurate age/sex profile or other characterization of the ambulatory practice from which these inpatients were taken would be helpful in the overall evaluation of the data.

Despite these drawbacks, this descriptive report may be of value to students and educators interested in community hospital medicine. More importantly, it is hoped this study will stimulate additional comparative and larger scale studies from different regions of the United States.

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