

Patient Problems in the Office Practice of Six Family Physicians in Louisiana

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Using the Royal College of General Practitioners (RCGP) classification of disease, the patient problems encountered in six family practice offices were classified. The top 20 diagnoses are identified, collectively and individually, and compared with the top 20 diagnoses encountered in a similar, but larger study done in Virginia. The present study includes a regional practice profile based on the disease categories of Royal College of General Practitioners, which was compared with the distribution of problems in the Virginia data. This study confirms the Virginia information on the most frequently encountered problems. Collectively, southeastern Louisiana profiles show fewer respiratory problems and more circulatory problems than the Virginia study. Individually, each practice has a distinct enough profile to warrant consideration of individual practice profiles at the time of re-certification examination or planning of continuing education programs.

The medical profession has accumulated much information on the incidence of diseases as gleaned from insurance company reports and hospital records. However, that information is incomplete because the problems of the non-hospitalized or uninsured patient, recorded only in practicing physicians' offices, are excluded. Information on office problems helps in determining the true incidence of specific problems. The British physicians were the first to collect such information using the E-Book (Diagnostic Index). The E-Book,¹ a log of

encountered problems filed in diagnostic categories, uses the Coded Classification of Diseases of the British Royal College of General Practitioners. The RCGP classification of disease is problem oriented, offering the physician a choice of signs and symptoms (vomiting), procedures (physical examination), and specific diseases (diabetes mellitus).² Recently, the Medical College of Virginia (MCV) published similar data collected from physicians' offices in Virginia.³

In the course of this study, information was collected on outpatient problems in six practices in southeastern Louisiana and compared with those problems reported in the Virginia study. The top 20 diagnoses from the six practices were compared to each other and collectively to the Virginia study, and comparisons were also made between Louisiana and

Virginia in the general distribution of problems by diagnostic categories.

Materials and Methods

Based on their location, six practices were selected to participate in the study (Table 1). To facilitate recording and tabulation, the USA Modification of the Coded Classification of Diseases of the British Royal College of General Practitioners was condensed into a single-sheet, problem-analysis checklist for the practitioner's use at the time of the patient encounter (Figure 1). Each physician participated in a brief orientation to the problem-analysis sheet and problems in terminology were discussed as the study progressed. For example, it was pointed out that hemorrhoids should be classified under circulation and not under digestive tract; a urethral discharge secondary to gonorrhea should be classified under infectious disease and not under genitourinary problems. While the total number of possible diagnostic choices in the full RCGP Diagnostic Code was 715, this condensation reduced that number to 250. Data were collected from the six offices simultaneously during July and August 1975.

Results

Table 2 shows the number of problems and patient visits reported. Clearly, five of the six practices recorded more than one problem per patient visit, the average being 1.3. Practices IV and V did not see a large volume of patients during the study period. Eliminating the data from those two practices does not affect the statistical interpretation of the data.

When diagnoses are placed in 17 general diagnostic categories, the distribution of problems is as shown in Figure 2. For comparison the diagnostic data from Virginia are given also. Since five categories in the RCGP classification were omitted in this study, these same categories in the MCV data (three percent of MCV's total data) were likewise excluded.

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- 1. Communicable**
 ___013 Chicken pox
 ___004 Gonorrhea
 ___016 Hepatitis
 ___026 Intestinal parasite
 ___011 Measles
 ___029 Meningitis
 ___015 Mumps
 ___012 Rubella
 ___022 Scabies
 ___021 Skin fungus
 ___006 Scarlet fever
 ___003 Syphilis
 ___025 Warts
 ___025 Venereal warts
 ___028 Other_____
- 2. Neoplasms**
 ___068 Cancer
 ___Type_____
 ___066 Hodgkin's disease
 ___067 Leukemia
 ___070 Benign
 ___Type_____
 ___094 Other_____
- 3. Allergic**
 ___086 Asthma
 ___087 Dermatitis
 ___095 Drug allergy
 ___085 Hay fever
 ___257 Rhinitis/Sinus
 ___094 Other_____
- 4. Endocrine**
 ___097 Cushing's syndrome
 ___091 Diabetes
 ___088 Hyperthyroid
 ___089 Hypothyroid
 ___094 Other_____
- 5. Metabolic**
 ___093 Gout
 ___092 Hypovitaminosis
 ___096 Lipid abnormality
 ___101 Obesity
 ___094 Other_____
- 6. Blood**
 ___111 Iron deficiency anemia
 ___110 Pernicious anemia
 ___112 Sickle cell anemia
 ___114 Sickle cell trait
 ___114 Other_____
- 7. Psychological**
 ___139 Addiction (alcohol, drug)
 ___130 Anxiety
 ___134 Depression
 ___148 Enuresis
 ___145 Frigidity/Impotence
 ___146 Insomnia
 ___137 Neurosis
 ___124 Paranoid states
 ___138 Psychopathic states
 ___140 Retardation
 ___125 Schizophrenia
 ___127 Senility
 ___563 Situational therapy
 ___135 Tension headaches
 ___151 Other_____
- 8. Central Nervous System**
 ___199 Ataxia
 ___195 Coma/Stupor
 ___158 Epilepsy
 ___159 Migraine
 ___169 Neuralgia
 ___157 Parkinsonism
 ___168 Sciatica
 ___160 Other_____
- 9. Eye**
 ___179 Cataract
 ___170 Conjunctivitis
 ___180 Glaucoma
 ___176 Refractive error
 ___178 Strabismus
 ___172 Sty
 ___177 Ulcer
 ___181 Other_____
- 10. Ear**
 ___189 Hearing loss
 ___161 Labyrinthitis
 ___182 Otitis externa
 ___183 Otitis media
 ___205 Tinnitus
 ___200 Vertigo
 ___190 Other_____
- 11. Congenital Abnormalities**
 ___433 Circulation
 ___435 Digestive
 ___436 Gastrointestinal
 ___437 Bone
 ___438 Other_____
- 12. Circulatory**
 ___122 Angina
 ___221 Arteriosclerosis/
 Cardiovascular disease
 ___236 Ascites
 ___212 Cerebral ischemia
 ___231 Chest pain
 ___215 Congestive heart failure
 ___209 Cor pulmonale
 ___235 Dyspnea
 ___234 Edema
 ___218 Benign hypertension
 ___219 Malign hypertension
 ___225 Hemorrhoids
 ___216 Left ventricular failure
 ___211 Myocardial infarction
 (acute)
 ___229 Pulmonary embolism
 ___223 Peripheral arterial
 disease
 ___210 Rheumatic heart disease
 ___233 Syncope
 ___228 Thrombophlebitis
 ___224 Varicose vein
 ___227 Other_____
- 13. Respiratory**
 ___258 Bronchiolitis
 ___254 Bronchiectasis
 ___247 Bronchitis (acute,
 chronic)
 ___241 Cold (with fever)
 ___240 Cold
 ___267 Cough
 ___245 Flu
 ___255 Emphysema
 ___244 Larynx/Trachea
 ___251 Pleurisy
 ___246 Pneumonia
 ___257 Rhinitis (no allergy)
 ___243 Sinusitis (acute,
 chronic)
 ___266 Stridor
 ___249 Tonsillar, adenoidal
 hypertrophy
 ___256 Other_____
- 14. Digestive**
 ___306 Abdominal pain
 ___292 Anorexia
 ___309 Anal fistula
 ___283 Appendicitis
 ___300 Ascites
 ___289 Cirrhosis
 ___301 Colic
 ___290 Constipation
 ___303 Diarrhea/Vomit
 ___295 Dysphagia
 ___274 Esophagitis
 ___307 Flatus
 ___287 Gall stones
 ___273 Gastritis
 ___285 Gastroenteritis
 ___298 Hepatomeglia
 ___283 Hernia
 ___284 Umbilical
 ___283 Inguinal
 ___284 Hiatal
 ___283 Femoral
 ___284 Ventral
 ___276 Oral cavity
 ___279 Peptic ulcer
 ___285 Other_____
- 15. Genitourinary**
 ___322 Breast disorder
 ___332 Cervicitis
 ___313 Cystitis (acute, chronic)
 ___342 Dyspareunia
 ___325 Dysmennorrhoea
 ___337 Dysuria
 ___320 Epididymitis/Orchitis
 ___340 Frequency
 ___339 Incontinence
 ___327 Menstrual abnormalities
 ___329 Menopause
 ___310 Nephritis/Nephrosis
 ___316 Prostatitis
 ___318 Prostatic hypertrophy
 ___323 Salpingitis
 ___312 Stone
 ___315 Urethritis
 ___338 Urethral stenosis
 ___324 Uterine/Vaginal
 prolapse
 ___335 Vaginitis
 ___344 Other_____
- 16. Pregnancy**
 ___352 Pregnancy (normal)
 ___362 Pregnancy (problem)
 ___350 Abortion (spontaneous)
 ___354 Abortion (incomplete)
 ___351 Normal delivery
 ___364 Cesarean section
 ___363 Postpartum hemorrhage
 ___366 Other_____
- 17. Skin/Hair, etc**
 ___369 Acne
 ___394 Bites
 ___370 Boil, carbuncle, abscess
 ___371 Cellulitis
 ___380 Dermatitis (contact)
 ___378 Dermatitis (seborrhea)
 ___395 Erythema
 ___388 Hair loss
 ___375 Impetigo
 ___374 Lymphadenitis
 ___387 Nail disorder
 ___368 Pityriasis rosea
 ___396 Pruritus
 ___398 Rash
 ___390 Ulcer
 ___381 Urticaria
 ___399 Other_____
- 18. Bone/Muscle**
 ___409 Arthritis
 ___406 Osteo
 ___405 Rheumatoid
 ___409 Other_____
- 19. Accidents, Poisonings, Violence**
 ___478 Dislocation of:
 ___467 Fracture of:
 ___477 Finger
 ___476 Hand
 ___475 Radius/Ulna
 ___474 Humerus
 ___473 Clavicle
 ___467 Vertebra
 ___470 Skull
 ___471 Rib
 ___467 Femur
 ___472 Pelvis
 ___469 Tibia/Fibia
 ___476 Foot
 ___477 Toe
 ___481 Head injury (closed)
 ___484 Foreign body
 ___485 Burn
 ___485 1st degree
 ___486 2nd degree
 ___487 3rd degree
 ___488 Overdose
 ___491 Aspirin
 ___490 Drug
 ___496 Other_____
- 20. Prophylactic Procedures**
 ___585 Contraceptive
 ___543 Immunization
 ___505 Injection
 ___500 Pap test
 ___511 Physical examination
 ___511 Annual
 ___510 Insurance/School
 ___504 Health education
 ___541 Skin test
 ___505 Other_____
- 21. Socioeconomic**
 ___700 Economic
 ___704 Marital conflict
 ___730 Legal problems
- Patient # _____
 Age _____

Figure 1. Problem Analysis Sheet

Table 1. Types of Practice by Location

Rural (Population < 5,000)	
II	— solo
V	— solo
Suburban (Population 5,000-99,000)	
III	— 2 practitioners
IV	— 2 practitioners
Urban (Population ≥ 100,000)	
VI	— 18 practitioners
I	— 2 practitioners

Table 2. Number of Problems and Patients Seen

Practice	Total Number of Problems	Total Number of Patients	Average Number of Problems per Patient
I	1,882	1,653	1.4
II	959	909	1.1
III	989	630	1.6
IV	123	89	1.4
V	286	288	1.0
VI	2,358	1,450	1.6
Total	6,597	5,019	1.3

Table 3 lists by practice the 20 most frequent diagnoses.

Table 4 ranks the 20 most frequent problems from the combined six practices and compares them with the rank order of the same problems in the Virginia study. Notably, of 715 possible problems in the RCGP Classification of Diseases, southeastern Louisiana and Virginia physicians generally encounter the same frequent patient problems. Only five problems in Louisiana are not in the top 20 diagnoses for Virginia; but those five are still within Virginia's top 51.

For another view, Table 5 lists entries from among Virginia's top 20 diseases which did not appear in the Louisiana top 20 diagnoses.

Discussion

When all the problems are compared according to their distribution by diagnostic category (Figure 2), startling differences can be seen between those from Virginia and southeastern Louisiana. Respiratory

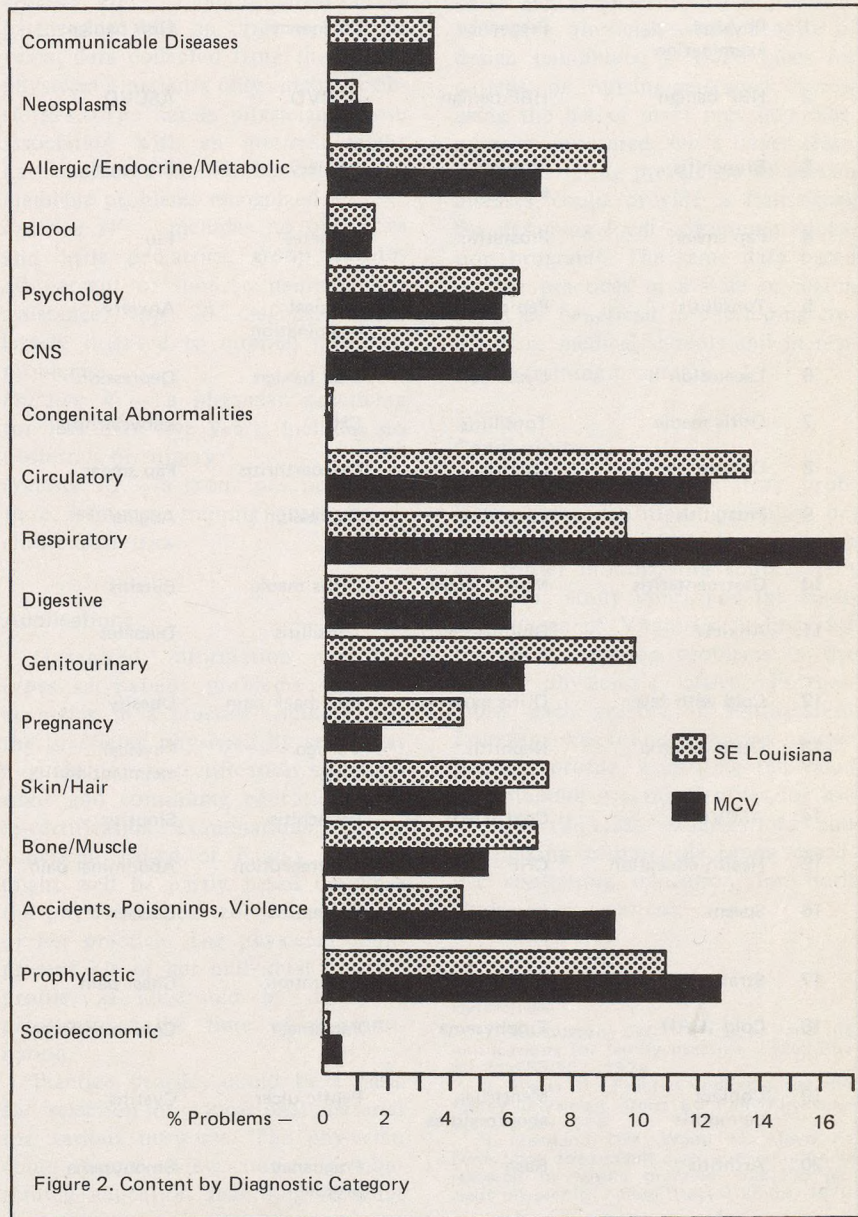


Figure 2. Content by Diagnostic Category

problems are preponderant in Virginia, and more frequent there than in Louisiana. However, had the Louisiana data been collected during the winter months, the incidence of respiratory problems would probably have been greater. Circulatory problems, prevalent in Louisiana, occurred more frequently there than in Virginia. The prevalence of these disorders might change in a 12-month

study.

In other categories, Virginia had more accidents, poisonings, violence, and prophylactic procedures handled in the office and fewer pregnancies, psychological disorders, and allergic, endocrine, and metabolic disorders. However, these differences cannot be projected over a 12-month period. Accidents either occur less frequently in Louisiana or are treated more

often in the Emergency Room than in the doctor's office. Only a study including all facilities offering patient services could address the question of which state has more accidents.

Admittedly, the volume of data in the Medical College of Virginia study far outweighs the 6,596 patient problems recorded in this study. Despite these limited data, the findings for high-frequency problems compare well

Table 3. Top 20 Diagnoses by Practice

	I	II	III	IV	V	VI
1	Physical examination	Pregnancy	Pregnancy	HBP benign	HBP benign	HBP benign
2	HBP benign	HBP benign	ASCVD	ASCVD	Cold (URI)	Physical examination
3	Bronchitis	Physical examination	Anxiety	Bronchitis	Cold with fever	Anxiety
4	Pap smear	Prostatitis	Diabetes	Flu	Physical examination	Diabetes
5	Tonsillitis	Pap smear	Physical examination	Anxiety	ASCVD	Obesity
6	Laceration	Diabetes	HBP benign	Depression	Arthritis	Pregnancy
7	Otitis media	Tonsillitis	CHF	Labyrinthitis	Bronchitis	Depression
8	Obesity	Cystitis	Osteoarthritis	Pap smear	Anxiety	Asthma
9	Prostatitis	Laceration	Depression	Angina	Gastroenteritis	Menstrual abnormalities
10	Gastroenteritis	Muscle spasm	Otitis media	Bursitis	Osteoarthritis	Rash
11	Anxiety	Rhinitis	Tonsillitis	Diabetes	Strain/sprain	Iron deficiency anemia
12	Cold with fever	Otitis externa	Low back pain	Obesity	Boil	ASCVD
13	Otitis externa	Nephritis	Vertigo	Physical examination	Contact dermatitis	Cold (URI)
14	ASCVD	Cold (URI)	Bronchitis	Sinusitis	Laceration	Otitis media
15	Health education	CHF	Contraception	Abdominal pain	Cellulitis	Vaginitis
16	Spasm	Low back pain	Dermatitis	Cancer	Cystitis	Impetigo
17	Strain	Otitis media	Laceration	Chest pain	Low back pain	CHF
18	Cold (URI)	Emphysema	Pap smear	Cold with fever	Angina	Tension headache
19	Contact dermatitis	Menstrual abnormalities	Peptic ulcer	Cystitis	Cancer	Osteoarthritis
20	Arthritis	Rash	Pregnancy problem	Emphysema	Cerebral ischemia	Abdominal pain

with those of the Virginia study, as presented in Tables 4 and 5. Four of the five diagnoses not in Virginia's top 20 are general categories (other genitourinary, other communicable disease, other respiratory, and other digestive) that were selected because a more specific diagnosis was not on the problem-analysis sheet. More specific diagnoses were absent because the number of diagnostic choices were reduced from 715 to 250.

Table 3 shows the differences that exist in family physician practices

Table 4. Top 20 Diagnoses — Louisiana and MCV Study

	Rank Order Louisiana	Rank Order MCV
Physical examination	1	1
Hypertension	2	2
Pregnancy	3	14
Anxiety	4	15
Diabetes	5	7
Other genitourinary	6	31
ASCVD	7	16
Bronchitis	8	5
Obesity	9	9
Otitis media	10	11
Depression	11	12
Laceration	12	3
Other communicable diseases	13	49
Tonsillitis	14	4
Pap smear	15	13
Congestive heart failure	16	19
Cold (URI)	17	8
Osteoarthritis	18	35
Other respiratory	19	22
Other digestive	20	51

across Louisiana. Each physician chooses his or her own style of practice according to interests. Obviously, differences occur if one physician includes obstetrics, general surgery, or pediatrics and another does not. Many physicians stress particular interests within their practices, such as treatment of obesity, arthritis, or emotional problems, and therefore attract more patients with these selected problems.

Pertinent information on the six practices is as follows:

Practice I — a group of two in practice ten and five years respectively; includes no obstetrics or surgery.

Practice II — active more than ten years; includes obstetrics and general surgery.

Practice III — a family physician in partnership with an internist for ten years; data collected from the family physician's patients only; includes obstetrics. (The family physician's close association with an internist might have increased the number of internal medicine problems recognized.)

Practice IV — includes no obstetrics and little pediatrics; group devotes 50 percent of time to neurosurgical assistance; top 20 diagnoses seem largely oriented to internal medicine problems.

Practice V — a physician practicing for less than five years; includes no obstetrics or surgery.

Practice VI — a group practice of 18 in a residency training program; includes obstetrics.

Applications

Organized information on the types of patient problems that are occurring in a practice could benefit the practicing physician by serving as a guide for re-certification examinations and continuing education. The re-certification examinations of the American Board of Family Practice might well be partly based on what the physician is currently doing in his or her practice. The physician could present his or her individual practice profile, as illustrated by these six practices, at the time of re-examination.

Practice profiles could be a basis for selection of educational material for various purposes. The physician could choose review courses for continuing education according to what

Table 5 Rank Order of Selected Problems

	Rank MCV	Rank SE Louisiana
Sprains and strains	6	37
Febrile cold (URI)	10	31
Vulvovaginitis/cervix	17	21
Abdominal pain without colic	18	36

he or she is encountering in practice. Also, the physician could acquire or design pamphlets or video tapes for patient or nursing-personnel review using the list of most prevalent diagnoses encountered. On a larger scale, data illustrating prevalence of certain diseases could provide a framework for designing local continuing education programs. The same data based on the practices in a state or region could be beneficial in developing curricula in medical schools and in residency training programs.

Conclusion

Although fewer respiratory problems were identified, probably because data were not collected during the winter months, this southeastern Louisiana study confirmed the Medical College of Virginia's findings for the most common problems in the family physician's office. Furthermore, each practice in southeastern Louisiana was found to have a unique practice profile, suggesting the value of obtaining practice profiles for use in re-certification examinations and for making informed decisions regarding continuing education for both physician and patient.

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