

DEPARTMENT OF EPIDEMIOLOGY  
ANNUAL REPORT  
1981-1982

I. DEPARTMENT ORGANIZATION AND ADMINISTRATION.

The Department of Epidemiology is comprised of a multidisciplinary faculty offering professional training in six primary program areas: Cardiovascular Disease Epidemiology, Cancer Epidemiology, Environmental/Occupational Epidemiology, Health Services Research, Population Epidemiology and Psychosocial Epidemiology. Responsibility for coordination of each program area has been delegated to a Program Director or Co-Directors who specialize in the specific area. The Department's teaching programs are built upon a firm foundation of research activities. The Department is administered by the Chairman, assisted by the following committees and assemblies:

ACADEMICS

The Admissions Committee is made up of directors of programs within the department, or their representatives. The Admissions Committee screens all applications and evaluates the strengths and weaknesses of each, ranking the applicants who are acceptable in order of priority. The Committee submits its recommendation to the Department Chairman, who makes the final recommendation of admission to the Graduate School.

The Graduate Studies Committee (GSC) was re-established this past year in response to major concerns regarding the Doctoral Qualifying Examination and the Masters Comprehensive Examination, their respective content and validity, and the timing of the examinations in the students' curriculum. Other major issues considered this year by the GSC include interdepartmental joint degree programs, and the timely submission of doctoral dissertations. Recommendations developed by the GSC were presented to the full faculty, and formal policy statements have been adopted by the department on these issues.

The Full Faculty serve as a Promotions Committee to consider the promotion of students who are completing their masters work and wish to continue into the doctoral degree program. Student petitions to continue into the doctoral program are presented by the advisor. The advisor also provides a summary of the student's work so far in our program, and a recommendation regarding the student's potential and suitability for doctoral work. The Promotions Committee formally votes on the recommended action, and submits that decision to the Department Chairman for implementation.

Two Examination Committees were named this year to implement the new policy regarding the Doctoral Qualifying Examination and the Masters Comprehensive Examination, involving major format changes. The Chairmen of the committees rotate on an annual basis and are assisted by the Registrar and the department's Administrative Assistant. Additional input is provided by the Graduate Studies Committee and the Full Faculty.

#### APPOINTMENTS AND PROMOTIONS

The Recruitment Committee is responsible for the proper recruitment of EPA faculty and non-faculty employees in accordance with the University's policy for Affirmative Action and Equal Employment Opportunity. The Recruitment Committee is chaired by the department Chairman, and includes three permanent members, two faculty (one being the department's Equal Employment Opportunity Officer), and the Chairman's Administrative Assistant. "Floating" members of the committee include those faculty who would be supervisory to the position being recruited for.

The Full Professors serve in an advisory role to the Chairman. Meetings coincide with Full Faculty Meeting schedules. The Full Professors meet to discuss and review personnel actions including new appointments, renewals, and promotion reviews. The Full Professors are also consulted on other academic and administrative issues of importance.

#### GENERAL ADMINISTRATION

The Full Faculty meet regularly to discuss ongoing and proposed research projects, and to discuss academic and administrative issues. The meetings are generally open to students.

The Seminar Committee is chaired by a faculty member on an annual rotation basis. The Committee Chairman receives suggestions for speakers from all faculty and students, invites the speakers, and organizes the seminar schedule for the fall and spring semesters. Seminar activities are evaluated at the end of each semester by the entire faculty with participation from students.

The Department Chairman convenes a weekly Management Meeting to review support services and staffing for the department, and to discuss future plans. The meeting is attended by the department's administrative staff, and representatives from the research and secretarial staffs.

Support Staff

(as of July 1, 1982)

Joyce Allen	Registrar
Edward Bachmann	Director, Data Management Unit
Carol Beam	Assistant to the Chairman
Sandra Graves	Secretary
Sue Hartnett	Social Research Assistant
Donna Harto	Clerk-Typist
Jo Heiss	Research Associate
Phyllis Johnson	Administrative Secretary
Marilyn Knowles	Social Research Assistant
Violet Krall	Fiscal Manager
Lesa McPherson	Secretary
Veda Manley	Data Processing Coordinator
Sally Muller	Computer Programmer
Lynne Newlin	Social Research Assistant
Cass Parrish	Social Research Assistant
Deborah Quackenbush	Secretary
Virginia Reid	Secretary
Victor Rhodes	Computer Programmer
Betsy Seagroves	Secretary
Kathlene Seiple	Research Assistant (SPA)
Ann Sheldon	Clerk-Typist
Edward Siff	Social Research Assistant
Joanna Smith	Research Assistant
Patricia Taylor	Secretary
Jeanne Warner	Social Research Assistant
Darlène Watts	Secretary
Deborah Windham	Accounting Technician
Susanne Wolf	Reserach Associate
Sally Zimney	Secretary to the Chairman

Resignations\*

Deborah Dixon	Secretary
James Fletcher	Computer Services Manager
Sylvia Hubbard	Computer Programmer
Douglass MacIntyre	Computer Programmer
Patricia Thompson	Social Research Assistant
Rebecca Vanke	Secretary

\*Period covered: July 1, 1981 - June 30, 1982

## FEDERAL LEGISLATION EFFECTING OPERATIONS

Funding: The cutbacks in federally funded training grants and research grants caused the department some anxious moments this past year in covering support staff salaries and in planning for the upcoming year's funding for our students. However, barely adequate funding levels were maintained this year. We do anticipate difficulty in attracting students to our program considering the uncertainty of future levels of funding.

Because of the federal cutbacks, the department has experienced fierce competition for research support, resulting in the need for faculty to prepare three to four proposals in hopes of obtaining funding for one program. This year we have succeeded in generating new funds and hope to continue to do so.

## II. INSTRUCTIONAL PROGRAMS

### A. Courses and Curricula

#### 1. Major Changes During the Year:

New Course: "Behavioral Issues in Cardiovascular Disease Epidemiology" (an EPID 360 Research in EPID course). James, Haynes. First offered in Fall 1981, this course is designed to summarize current knowledge on the role of social and behavioral factors in coronary heart disease and hypertension.

EPID 370, "Clinical Epidemiology and Primary Care" was not offered this year because of problems of duplication and competition with other Health Services Research courses in the Department. In an effort to consolidate, Dr. Wagner and Dr. Hulka jointly offered EPID 231, "Epidemiologic Research in Personal Health Services."

#### 2. New Programs being Planned or Deletions Made, including Reasons for Adding or Dropping Programs.

Continuing Education: The Department of Epidemiology concentrated efforts in expanding activities in the continuing education area through developing and offering our own program. Our efforts were concentrated on the issue of "Chronic Disease: Prevention and Health Promotion." The 2-day conference was scheduled for May 14-15, 1982 at the Great Smokey Hilton in Asheville, NC. However, because of inadequate participant registration, the conference was cancelled. We are examining the problems experienced with this first offering, planning for better publicity lead-time, revising the format and content of the conference to better focus on a target audience, and selecting a place and time more conducive to satisfactory attendance. We expect to reschedule the conference for Spring 1983.

#### 3. Participation in Interdepartmental or Interinstitutional Programs.

The Department of Epidemiology continues to enjoy close collaborative associations with other departments, schools, and institutions through research and teaching efforts. Within our School, the Department of Epidemiology is involved extensively with the Occupational Health Studies Group, and the Lipid Research Clinics Program. Many of our research programs require the participation of a multidisciplinary faculty, some of whom are drawn from within the School. In addition,

our faculty are frequently called upon to lecture in courses offered through other School of Public Health departments.

The School of Medicine has been a natural associate on a number of research and teaching efforts. Of particular note are our involvement in the Geriatrics Program (Kaplan), the Robert Wood Johnson Clinical Scholars Program (Drs. Wagner, Ibrahim, and others), the Joint M.D/MPH Program, and the Family Medicine Faculty Fellowship Program. We have also participated in teaching programs of the Schools of Arts and Sciences, and Nursing.

Centers within the Division of Health Affairs, such as the Health Services Research Center, the Carolina Population Center and the Cancer Research Center, draw upon our faculty to provide epidemiological expertise required in the conduct of their research. The Cancer Research Center just this year established a formal Epidemiology Program and has named Dr. Barbara Hulka to head it. Many of our faculty are involved in projects sponsored through the Health Services Research Center, for which Dr. Wagner is Associate Director, and the Carolina Population Center has administered a number of programs sponsored by the WHO and AID for which Dr. Omran has played a leadership role.

Our faculty have continued to be involved in programs sponsored by other institutions through their participation in short courses, Summer Institutes, and seminar programs. Consultation activities on research programs of other institutions are common. We have increased our association with the Veterans Administration by collaborating on pilot research projects and developing training programs for physicians and health services researchers (Habib, Beresford).

## B. Enrollment.

### 1. Number of Graduate Students by:

a. <u>Degree</u>	<u>Fall 1981</u>	<u>Spring 1982</u>
Dr.P.H.	1	1
Ph.D.	37	35
M.P.H.	14	11
M.S.P.H.	7	7
b. <u>Race-Minority Status</u>		
Black Male	3	3
Black Female	3	3
White Male	25	22
White Female	18	16
Foreign Male	3	3
Foreign Female	4	4
Asian Male	2	2
American Indian Female	1	1
c. <u>In-State Residency</u>	24	26
d. <u>Out-of-State Residency</u>	28	21
e. <u>Foreign Students</u>	7	7

## 2. Number of Degrees Awarded:

	<u>Ph.D.</u>	<u>M.P.H.</u>	<u>M.S.P.H.</u>
August 1981	0	2	4
December 1981	4	2	4
May 1982	2	1	2

## 3. Comment on the Quality of Students.

The quality of students in the department continues to be excellent. A number of our students are accomplished professionals whose considerable publishing and presentation activities continue along with their studies in epidemiology. All students have demonstrated their academic and research ability before coming to the department. GRE quantitative scores are above the 80th percentile for those with advanced degrees and above the 65th percentile for those without.

## 4. Apparent Trends in Job Placement of Graduates.

Graduates in Epidemiology find varied career opportunities and are in great demand. The areas of Occupational and Cardiovascular Disease Epidemiology appear to be expanding and demand trained epidemiologists specialized in these areas. Generally our graduates have found positions in government, industry and academics, although they are meeting with greater difficulty in finding employment in the federal government.

## 5. Minority Student Enrollment Efforts.

The Admissions Committee of the Department in concert with interested faculty members and members of the Minority Student Organization, has made efforts to increase the number of completed applications from qualified minority applicants. Most of the activities at the pre-application stage have been directed towards interested undergraduate, graduate and professional students on the Chapel Hill campus. Inquiries or incomplete applications from qualified minority applicants have been vigorously pursued by letter or by telephone in an effort to complete the application. Individuals approved for admission have been referred to various faculty members and students for personal contact. We feel that these personal communications from faculty and students have contributed significantly to the progressive increases in both the number and academic credentials of minority members of our student body.

6. Significant Achievements of Majors.

## Successful Grant Applications for Student Research:

Abnormal Methionine Metabolism as a Risk Factor in Coronary Artery Disease. 7/1/81-6/30/82. American Heart Assoc. Grant-in-Aide, (David Freedmann).

Evaluation of Intrauterine Exposures and Gastro-schisis Occurrence. 11/1/81-4/30/82. University Research Council Grant, (Ibrahim, Raymond Greenberg).

Respiratory Disease in the Furniture Industry. 9/1/81-8/31/82. OSERC. (Shy, David Goldsmith).

Trial Assessing Chronotherapeutic Insulin Schedules. 7/1/81-6/30/83. NIAMDD New Investigator Award, (Maria Schmidt).

## Papers Presented:

McCann, M.F.: "Effects of Brest Feeding in IUD Performance." (with Cole, LP, Higgins, JE, & Waszak, CS) APHA, November 1981, Los Angeles.

Schmidt, MI: "Issues in the Design of Chronotherapeutic Trials: A Time-Shift Experiment in Insulin Treated Diabetics." (with Heiss, G., Davis, CE., Halperin, M., Wagner, EH, and Tyroler, HA) 3rd Annual Meeting of the Society for Clinical Trials. May 1982, Pittsburgh.

Strayhorn, G.: "Transcutaneous Electrical Nerve Stimulation and the Use of Postoperative Narcotic Analgesics." NAPCRG, 1982.

Waldman, GT.: "Methodological Issues in the Study of Cataracts and Radiation." SER Student Workshop, May 1982, Cincinatti.

## Publications, Papers in Press, Papers Submitted:

Daniels, SR., Greenberg, RS., Ibrahim, MA.: "Etiologic Research in Pediatric Epidemiology. J. Pediat. In press, 1982.

Daniels, SR., Greenberg, RS.: "Salicylate Use and Reye Syndrome: Scientific and Public Policy Uncertainties." Submitted.

Earp, JAL., Ory, MG., Strogatz, DS.: "The Effects of Family Involvement and Practitioner Home Visits on the Control of Hypertension. AJPH, In press, 1982.

Greenberg, R.S., Osterhout, SK.: "Seasonal Trends in Reported Poisonings." AJPH 72: 394-396, 1982.



Greenberg, RS., Osterhout, SK.: "Diurnal Trends in Reported Poisonings." Clin. Toxicol., In press, 1982.

Ibrahim, MA.; Greenberg, RS.: "Case-Control Studies." In: Textbook of Public Health. In preparation.

Lan, KKG., Halperin, M., Waldman, GT.: "Grouping and Linear Regression." J. Chron. Dis. 35(4): 245, 1982.

McCann, MF., Liskin, LS., Piotrow, PT., Pinehart, W., Fox, W.: "Breast Feeding, Fertility and Family Planning." Population Reports, Series J, #24, Nov.-Dec., 1981.

Schmidt, MI., Hadji-Georgopoulos, A., Rendell, M., et al.: The Dawn Phenomenon, an Early Morning Glucose Rise: Implications for Diabetic Intraday Blood Glucose Variation." Diabetes Care 4: 579-585, 1981.

Schmidt, MI.: "The Dawn Phenomenon." (Review). Infusion 1(5): 1-2, 1982.

Strayhorn, G.: "Symptomatic Accessory Navicular Bone." J. Fam. Pract., 1982.

Strogatz, DS., Earp, JAL.: "The Determinants of Dropping Out of Care Among Hypertensives Receiving a Behavioral Intervention. Med. Care. In press, 1982.

Wing, S., Aubert, R., Hansen, J., Hames, C., Slome, C., and Tyroler, HA.: "Isolated Systolic Hypertension in Evans Co.: I. Prevalence & Screening Considerations." J. Chron. Dis., In press, 1982.

Wing, S., and Manton, KG.: "The Contributions of Hypertension to Mortality in the U.S.: 1968, 1977." AJPH, In press, 1982.

Other Achievements:

McCann, Margaret: Chairman, Session on Breast Feeding and Family Planning, APHA, Los Angeles, Nov, 1981.

C. Teaching Load of Faculty

Fall Semester 1981:

<u>Instructor</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Total Enrolled</u>	<u>PHO</u>	<u>HU</u>	<u>EC</u>	<u>AS</u>	<u>GRO</u>	<u>MED</u>	<u>Other</u>	<u>Course Hours</u>
Becker	EPID 211	Determ. of Commun. Dis.	4	3						1	2
	EPID 394	Doctoral Dissertation	1	1							VAR
Checkoway	EPID 140	Problems in Epidemiology	1							1	VAR
	EPID 160	Principles of Epidemiology (Sec. 1; with others)	170	154		5		10		1	3
	EPID 360	Research in Epidemiology	1	1							VAR
	EPID 392	Major Paper	1	1							VAR
	EPID 394	Doctoral Dissertation	1	1							VAR
Fletcher, R.	EPID 140	Problems in Epidemiology	2	2							VAR
	EPID 360	Research in Epidemiology	2	2							VAR
	EPID 394	Doctoral Dissertation	1	1							VAR
Haynes	EPID 360	Research in Epidemiology (co-Instructor w/James)	6	5		1					VAR
Heiss	EPID 160	Principles of Epidemiology (Sec. 1; with others)	170	154		5		10		1	VAR
	EPID 256	Cardiovascular Dis. Epid (with others)	22	19		1		2			3
	EPID 360	Research in Epidemiology	1	1							VAR
	EPID 292	Major Paper	1	1							VAR
	EPID 394	Doctoral Dissertation	1	1							VAR

Fall Semester 1981, continued:

<u>Instructor</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Total Enrolled</u>	<u>PHO</u>	<u>HU</u>	<u>EC</u>	<u>AS</u>	<u>GRO</u>	<u>MED</u>	<u>Other</u>	<u>Course Hours</u>
Hulka	EPID 160	Principles of Epid. (Sec. 1; with others)	170	154		5		10		1	3
	EPID 321	Epd.Res.in Personal Hlth.Ser.	12	9		1		2			3
	EPID 360	Research in Epidemiology	1	1							VAR
	EPID 394	Doctoral Dissertation	2	2							VAR
Ibrahim	EPID 160	Principles of Epid. (Sec. 1; with others)	170	154		5		10		1	3
	EPID 168	Fundamentals of Epid. (Principal Instructor)	30	27		2	1				3
	EPID 394	Doctoral Dissertation	1	1							VAR
James	EPID 360	Research in Epidemiology (co-Instructor/Haynes)	6	5		1					3
	EPID 394	Doctoral Dissertation	1	1							VAR
Kaplan	EPID 360	Research in Epidemiology	7	7							VAR
	EPID 394	Doctoral Dissertation	2	2							VAR
Love	EPID 160	Principles of Epidemiology (Sec. 2; with others)	52	1	49		2				3
Omran	EPID 160	Principles of Epidemiology (Principal Instructor)	170	154		5		10		1	3
	EPID 161	Epid. in Pop. Dynamics	5	4						1	2
	EPID 234	Research Design	12	11						1	2
	EPID 257	Teaching Experience in Epid.	8	8							4
	EPID 394	Doctoral Dissertation	1	1							VAR

Fall Semester 1981, continued:

<u>Instructor</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Total Enrolled</u>	<u>PHO</u>	<u>HU</u>	<u>EC</u>	<u>AS</u>	<u>GRO</u>	<u>MED</u>	<u>Other</u>	<u>Course Hours</u>
Patrick	EPID 160	Principles of Epidemiology (Sec. 1; with others)	170	154		5		10		1	3
Rudnick	EPID 394	Doctoral Dissertation	1	1							VAR
Schoenbach	EPID 140	Problems in Epidemiology	1	1							VAR
	EPID 168	Fundamentals of Epid. (co-Instructor)	30	27		2	1				3
Shy	EPID 140	Problems in Epidemiology	1	1							VAR
	EPID 160	Principles of Epidemiology (Principal Instructor)	52	1	49		2				3
	EPID 276	Adv. Occup./Environ. Epid.	13	12		1					3
	EPID 394	Doctoral Dissertation	4	4							VAR
Tyroler	EPID 160	Principles of Epidemiology (Sec. 2; with others)	52	1	49		2				3
	EPID 256	Cardiovascular Dis. Epid. (Principal Instructor)	22	19		1		2			3
	EPID 360	Research in Epidemiology	2	2							VAR
	EPID 392	Major Paper	1	1							VAR
	EPID 394	Doctoral Dissertation	3	3							VAR
Wagner	EPID 160	Principles of Epidemiology (Sec. 1; with others)	170	154		5		10		1	3
	EPID 360	Research in Epidemiology	1	1							VAR
	EPID 394	Doctoral Dissertation	1	1							VAR
Williams	EPID 360	Research in Epidemiology	1	1						VAR	

Spring Semester 1982:

<u>Instructor</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Total Enrolled</u>	<u>PHO</u>	<u>HU</u>	<u>EC</u>	<u>AS</u>	<u>GRO</u>	<u>MED</u>	<u>Other</u>	<u>Course Hours</u>
Becker	Epid 394	Doctoral Dissertation	1	1							VAR
Checkoway	EPID 162	Envr./Occup. Health	52	33	7	2	1	5	1	3	3
	EPID 257	Teaching Experience in Epid.	2	2							4
	EPID 394	Doctoral Dissertation	1	1							VAR
Fletcher, R.	EPID 141	Problems in Epidemiology	1			1					VAR
	EPID 257	Teaching Experience in Epid	3	3							4
	EPID 361	Research in Epidemiology	3	3							VAR
	EPID 394	Doctoral Dissertation	1	1							VAR
Grimson	Epid 268	Advanced Methods in Epid. (with Schoenbach)	22	21			1				4
Heiss	EPID 266	Epidemiologic Investigation (Principal Instructor)	4	4							3
	EPID 392	Major Paper	1	1							VAR
	EPID 394	Doctoral Dissertation	2	2							VAR
Hulkà	EPID 233	Cancer Epid./Pathogenesis	15	13			1			1	3
	EPID 361	Research in Epidemiology	1	1							VAR
	EPID 392	Major Paper	1	1							VAR
	EPID 394	Doctoral Dissertation	3	3							VAR
Ibrahim	EPID 394	Doctoral Dissertation	1	1							VAR

Spring Semester 1982, Continued:

<u>Instructor</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Total Enrolled</u>	<u>PHO</u>	<u>HU</u>	<u>EC</u>	<u>AS</u>	<u>GRO</u>	<u>MED</u>	<u>Other</u>	<u>Course Hours</u>
James	EPID 250	Health Problems of Blk.Amer.	9	8				1			3
	EPID 361	Research in Epidemiology	1	1							VAR
	EPID 394	Doctoral Dissertation	1	1							VAR
Kaplan	EPID 264	Culture and Health	18	17				1			3
	EPID 361	Research in Epidemiology	7	6				1			VAR
	EPID 394	Doctoral Dissertation	4	4							VAR
Magruder-Habib	EPID 240	Epid Alcohol Use/Abuse	5	5							3
Omran	EPID 394	Doctoral Dissertation	1	1							VAR
Patrick	EPID 170	Epid Program Acceptance	12	11				1			3
Rudnick	EPID 394	Doctoral Dissertation	1	1							0
Schoenbach	EPID 141	Problems in Epid (HP/DP)	3	3							VAR
	EPID 268	Advanced Methods (w/Grimson)	22	21		1					4
Shy	EPID 141	Problems in Epidemiology	1	1							VAR
	EPID 361	Research in Epidemiology	1	1							VAR
	EPID 394	Doctoral Dissertation	4	4							VAR

Spring Semester, 1982, continued:

<u>Instructor</u>	<u>Course Number</u>	<u>Course Name</u>	<u>Total Enrolled</u>	<u>PHO</u>	<u>HU</u>	<u>EC</u>	<u>AS</u>	<u>GRO</u>	<u>MED</u>	<u>Other</u>	<u>Course Hours</u>
Tyroler	EPID 266	Epidemiologic Investigation (with others)	4	4							VAR
	EPID 392	Major Paper	1	1							VAR
	EPID 394	Doctoral Dissertation	3	3							VAR
Wagner	EPID 361	Research in Epidemiology	1	1							VAR
	EPID 394	Doctoral Dissertation	2	2							VAR
Wilcox	EPID 361	Research in Epidemiology	1	1							VAR
Williams	EPID 258	Women's Health: Epid. Anal.	6	4		1					3
	EPID 361	Research in Epidemiology	1	1						1	VAR

## III. Research Programs

A. Research Programs During the Year. (Including Training Grants).  
(Principal Investigator, co-invest.)CANCER EPIDEMIOLOGY

Breast Cancer and Estrogen Replacement Therapy. Concern over the possible effect of estrogen replacement therapy on the subsequent development of breast cancer prompted us to compare 199 postmenopausal breast cancer patients with 451 hospital controls and 852 community controls on their prior use of estrogens. Estrogen use did not increase the breast cancer risk for women with a surgical menopause. Among women with a natural menopause, estrogens administered by all routes were associated with breast cancer risks of 1.7 or 1.8. There was no coherent pattern of changing risks with varying durations of use, different daily dosages, years since first use of estrogen or years since most recent use. Excluding women whose usual estrogen was by injection, the risk estimates for oral estrogens were 1.3 (cases compared to community controls) and 1.2 (cases compared to hospital controls). These increases were not statistically significant. Use of injectable estrogens produced a four-fold increase in breast cancer risk among naturally postmenopausal women. (Hulka)

Protection Against Endometrial Carcinoma by Combination-Product Oral Contraceptives. Seventy-nine patients with endometrial carcinoma were compared with 203 control subjects regarding their use of combination-product oral contraceptives (OCs). Overall, 6.3% of patients and 15.3% of control subjects had used these products. The risk of endometrial cancer for users of OCs was less than half the risk for nonusers. Five years or more of use reduced the risk to a third. Recent users were strongly protected, whereas discontinuation resulted in risks returning to those of nonusers. Furthermore, OCs with predominantly progestational effects or intermediate formulations produced greater protection than those with predominantly estrogens. This pattern of results is biologically consistent with a protective effect of combination-product OCs against endometrial carcinoma. (Hulka)



Risk Factors for Cervical Cancer. Despite a long history of research into the epidemiology and biology of cervical carcinoma, a definitive statement about its probably causes still remains elusive. This review recognizes the population based data on high and low risk groups and summarizes the findings from numerous case-control studies which have explored the marital, sexual, and reproductive factors associated with cervical cancer. Although vigorously pursued, an increased risk from oral contraceptives has not been convincingly demonstrated. A variety of venerally transmitted organisms appear to be frequent cohabitants with cervical neoplastic cells. Herpes virus type 2 still remains the prime suspect in the complex pathogenesis of cervical neoplasia. Clinical findings, biological characteristics of the virus, serological studies and interactions of host cells and viral particles continue to stimulate the most intensive investigative efforts. (Hulka)

Training Grant in Cancer Epidemiology. The objective of this training program is to equip health professionals with epidemiologic and quantitative skills, such that upon completion of the program they may assume leadership roles in both cancer research and cancer control programs.

The various types of cancer, their causative factors and the methods used in developing and substantiating new etiologic hypotheses provide the model for study of cancer epidemiology. The focus for this program has three components: (1) To integrate knowledge from epidemiology, clinical practice and the basic sciences about specific types of cancer; (2) to synthesize information on the carcinogenic potential and mechanisms of action of known classes of carcinogens, exogenous and endogenous; (3) to emphasize those methods in epidemiology which are particularly relevant to the study of cancer and other chronic diseases. Students will be provided with this informational base and they will be assisted in developing research skills to formulate meaningful hypotheses and design feasible study which they themselves can execute. The approach will be to formulate an individualized curriculum for students who have the interest and potential to be innovative thinkers and thorough researchers. The intent is to produce cancer epidemiologists who can assume leadership roles in epidemiologic studies, and provide knowledge, consultative support to multidisciplinary cancer research with a primary focus in areas other than epidemiology. (Hulka, Ibrahim, Shy, Tyroler)

Other Cancer Research listed elsewhere:

Drinking Water Quality and Colon Cancer (Environmental: pg. 21), Epidemiologic Study of Cancer Risks in US Atomic Workers (Occupational: pg. 24), Mortality Study of Workers in the Florida Phosphate Industry (Occupational: pg. 24), Skin Effects of Chemical Exposure in Rubber Workers (Occupational: pg. 25).

#### CARDIOVASCULAR DISEASE EPIDEMIOLOGY

Cardiovascular Epidemiology and Statistics. This research training program provides course work leading to the degree of Doctor of Philosophy in either epidemiology or biostatistics by combining the strong, accredited academic curricula of both Departments with the population and clinical resources required for intensive research training in cardiovascular disease. Programs of study are designed to meet the needs, capabilities and interests of the individual trainees. In addition to offering core and supplementary courses leading to competency in the general disciplines of epidemiology and biostatistics, the Department of Epidemiology has developed a formal, two course sequence in Cardiovascular Disease Epidemiology, which is required for students funded by this grant. The course sequence is designed to elucidate the theoretical and methodological issues relevant to cardiovascular disease epidemiology, and to enable the students to develop research competency in this field. The program will maintain this focus, providing in addition to Ph.D. level training, provision for post-doctoral experience in cardiovascular disease research in both departments. Research training will continue to be accomplished through lectures, seminars, and directed research in specific areas crucial to the investigation of cardiovascular disease, such concerns as genetic analysis, clinical trials, laboratory standardization and quality control, data management systems, field studies, evaluation of nutrition data, and theoretical epidemiologic and biostatistics research continue to be relevant to the program. (Tyroler, Heiss, Ibrahim)

#### Community Surveillance in the Southeastern United States.

The purposes of this project are to monitor trends of incidence of fatal and non-fatal CHD and its relation to changing risk factors, through a system of prospective community surveillance. Such a system will take into account: current levels of cardiovascular disease and coronary heart disease mortality and declines in mortality since 1968; racial, ethnic, and socioeconomic variables; environmental exposures; adequacy of sample sizes for resolving critical questions of trends of incidence and their relation to trends of life styles, risk factors, and treatments; and standardization of methods of measurement.

Evidence of marked geographic variation in mortality attributed to coronary heart disease and cerebrovascular disease has been noted for more than 30 years in the southeast. The existence of a high mortality zone extending through the coastal plains, and an area of very low cardiovascular disease mortality, namely in the mountainous areas, has been identified. Since 1968, the southeast region of the US has shared in the general decline in cardiovascular disease mortality exhibited by the entire nation. Our analyses suggest that this decline has occurred among all adult age groups, for both men and women, and for whites and blacks. However, there is evidence of differences in the rate of decline among these demographic subgroups, with the greatest percent decline having occurred in the black female and the least in the white female. There also is the suggestive evidence, in analysis of trends within subregions of NC that the previously high-rate, coastal plains region, has experienced a lesser percent decline than the previously low-rate, mountain area.

The communities under study in North and South Carolina are biracial in composition, with a large proportion of black residents, and include both rural and urban communities. Two of the communities are located in the highest cardiovascular disease mortality region of the Nation, counties in the NC coastal plains with approximately equal numbers of black and white residents, and residents of the Columbia, South Carolina SMSA, with approximately one-quarter black residents. The third community is comprised of residents of North Carolina Appalachian mountain counties, a region of previously low cardiovascular disease mortality risk with predominantly white residents. (Tyroler, Becker, Haynes, Heiss)

Comprehensive Stroke Center Program. A study of hospitalized stroke outcomes in 15 counties of eastern North Carolina, this study is based on the evaluation of outcomes before and after the introduction of a Stroke Team in 20 community hospitals. The North Carolina program is participating with investigators in Oregon and New York in a national stroke study. (Becker)

Effects of Contraceptive Steroids on Blood Pressure. In a study of 990 women attending Family Planning Clinics in SE Georgia, the effect of oral contraceptives on blood pressure is under investigation. Current analyses reveal no increase in diastolic blood pressure among black women who use oral contraceptives as compared to black women who use other non-oral contraceptive forms of birth control. There is a slight increase in the risk of elevated diastolic blood pressure in white women using oral contraceptives, apparent only among white women 22 years of age or older. (Becker)

Evans County Cardiovascular Studies. The Evans County Study is a biracial epidemiologic study of cardiovascular disease in a total community. Initiated in 1960, attempts were made to enroll all of the residents over 40 years of age and a random sample of those between 15 and 39 years of age in a longitudinal study which would span two decades. The study was designed to test an observation made by a primary care physician in his practice, i.e., the rarity of manifestations of coronary heart disease (CHD) in black patients, particularly males, despite markedly elevated blood pressure levels. The major result of the study was the delineation of risk factors for CHD. Numerous publications, dissertations, and theses have resulted from analyses of data derived from this study. Current analyses are being conducted including studies of the relationship of total lipids, lipoprotein cholesterol and lipoprotein apoproteins to twenty year mortality. (Tyroler, Becker, Heiss).

Lipid Research Clinics Program (LRC Program). An international study of the epidemiology of lipoproteins and coronary heart disease involving prevalence, family studies, follow-up mortality studies and a large collaborative coronary prevention trial. Study results to date include population based distributions of lipids and lipoprotein-cholesterol fractions, and the use of ethnicity, education, occupation, and sex-hormone usage on the population levels of these parameters (publications in press). Examination of additional determinants of lipid and lipoprotein levels is currently underway (analysis stage). (Tyroler, Haynes, Heiss).

Pilot Evaluation Studies of High Blood Pressure Control. Household surveys combined with intervention trials are the basis for a study of hypertension and its treatment in a rural community. The household survey, completed in 1980, was designed to determine the prevalence of hypertension in the community, current knowledge, attitudes and beliefs about hypertension, and the hypertension medication practices of the population. Randomized intervention trials of moderate and severe hypertensives will be designed to measure efficacy of a variety of modalities which promote adherence to therapeutic regimens. Hypertension control programs in select churches and in two industrial sub-populations are also planned to test the effectiveness of methods of hypertension control in these settings. A second household survey will be conducted in 1983-84 to assess the impact for the various efforts of hypertension control in the community. Data from the original Prospect Hill Health Study will be used for control purposes. The Prospect Hill Health Study was an examination of hypertension and antihypertensive drug use with attention focussed upon side effects and interactions. Data was gathered by survey techniques from a rural central N.C. community. Analysis focused on hypertension prevalence, beliefs about hypertension and treatment patterns. A second survey will be conducted in Prospect Hill to determine time trends which cannot be attributed to systematic intervention efforts. (Ibrahim, James, Becker, Tyroler, Wagner, Williams).

Other Cardiovascular Disease Research listed elsewhere:

NC Firefighters Survey of Cardiovascular and Pulmonary Disease (Occupational: pg.25), Psychosocial Factors Related to the Risk and Control of High Blood Pressure Among Black Men (Psychosocial: pg. 27), Type A Behavior and Atherosclerosis in Men and Women (Psychosocial: pg. 27), Type A Behavior, Employment Status and Coronary Heart Disease in Women (Psychosocial: pg. 28).

#### ENVIRONMENTAL EPIDEMIOLOGY

Assessment of Pollutant Exposure on Urban Populations: This study is administered through an Intergovernmental Personnel Act Agreement with the Environmental Protection Agency. The research is directed at the overall statistical methodology program of collecting and analyzing data related to pollutant exposure assessment on urban populations. Of major concern is the development and application of design and analysis methods for carbon monoxide data collected with personal exposure monitors by population subgroup while in defined microenvironments. (Love)

CHES Studies. CHES, an acronym for the Community Health and Environmental Surveillance System, is a national program which relates community health to changing environmental quality. The program seeks to evaluate existing environmental standards, to obtain health data for new standards, and to document health benefits of air pollution control. This program, originally contracted with EPA through the Institute for Environmental Studies, is now administered through this department. Health indicators studied included pulmonary function in school children, lower respiratory disease in children, acute respiratory disease incidence in families and chronic respiratory disease prevalence in adults. Analyses have been completed and manuscripts reporting the results are being submitted. (Shy, Love)

Drinking Water Quality and Colon Cancer. We are investigating the relationship of drinking water quality with cancer of the colon in North Carolina using the case-control approach. A matched series of living colon cancer cases and hospital controls is being compared for differences in quality of their drinking water and other environmental factors. A subsidy will determine whether past diet is a confounding factor. Sample size and methodology have been chosen to detect small differences in risk, and water quality indices have been constructed for periods 20 and 30 years in the past to account for the issue of latency. These indices, which are based on source, treatment, and prior use characteristics, provide a basis for establishing a gradient of carcinogenic exposure. With this information, estimates of risk for each exposure level will be obtained and comparisons between these will be made. Using

this rigorous approach, it will be possible to provide meaningful data on the importance of water borne carcinogens in the etiology of a leading cancer site. 750 cases and controls have been interviewed and more than 100 public water supply agencies in North Carolina were contacted. Data are now in the final stage of analysis. (Shy)

Environmental Epidemiology Training. This program's objective is to train doctoral level epidemiologists, motivated and competent to carry out research in environmental problems. The philosophy of the training program is to educate scientists sophisticated in the principles and perspectives of epidemiology and biostatistics, well trained in environmental sciences and biology, and with knowledge and a sensitive awareness of the contribution of the behavioral sciences. The program provides the capability to initiate meaningful epidemiologic inquiries. Working in a collaborative mode with the laboratory scientist, the trainee will also be capable of recommending the necessary laboratory experiments which should be conducted to refine or refute hypotheses. Ultimately, the interaction between the laboratory and human population studies is carried out by testing of hypotheses derived from each of the disciplines. (Tyroler, Ibrahim, Shy)

Screening, Recruitment, and Provision of Human Subjects for Physiological and Behavioral Studies. The Department of Epidemiology has been contracted by the Clinical Studies Division, Health Effects Research Laboratory of the Environmental Protection Agency to establish and operate a subject recruitment service, to recruit, screen, pretest, schedule, prepare and reimburse human subjects to participate in physiological and neurobehavioral research conducted by the EPA Laboratory at the campus facility. (Love)

#### HEALTH SERVICES RESEARCH

Geriatrics Program. This program has been implemented in conjunction with the School of Medicine, and is interested in promoting functional capacity, successful aging, and the primary prevention of major ailments of the elderly, as well as the care of the elderly. (Kaplan)

Evaluation of Rural Primary Health Care Programs. Faculty members in the Department of Epidemiology, in conjunction with the UNC Health Services Research Center, are conducting a national evaluation of different models of rural primary care delivery. The study, which is supported by the Robert Wood Johnson Foundation, is tied to household survey research being conducted by the Department of Health, Education, and Welfare. Information helpful in health policy formation is being developed by establishing relationships between the characteristics of services in each type of model and the degree of the model's success in meeting specific social

and health goals. The study is examining such outcome variables as service cost, service accessibility, consumer perceptions of care and practice stability, as well as several health indicators. (Wagner)

Incidence of Severe Trauma and Burns in North Carolina. The North Carolina Trauma and Burn Study is a record review of current severe injury in the State. All trauma and burn patients entering the Emergency Department of 24 selected hospitals with Trauma Scores of 14 or less are eligible for the Study, including deaths. The 12 major hospitals (Level I and II) are in the Study plus a random selection of community hospitals (Level II-III and III) that have 24-hour emergency service, stratified by Health Service Areas in order to represent the entire State.

A two-page questionnaire will be completed on each eligible patient, providing demographic and descriptive information. For burns, an additional one-page description of the percent of the body involved in second and third degree burns will be completed. At the time of discharge, or one-month from admission, whichever comes first, three questions will be answered: an estimate of the disability, place of disposition and presence of complications with risk of life and/or risk of prolonged hospitalization. No patient contact is necessary; occasionally the field staff (all Emergency Department nurses) may need to contact ED personnel who cared for the patient to clarify notes. The physician who cared for the patient will be asked one question regarding potential use of air transport.

The Study will cover one year, with sampling of weeks of observation to provide approximately 2000 cases of trauma in all, with approximately 300-400 cases in each Health Service Area. (Becker)

The Organization, Utilization and Assessment of Primary Medical Care. A collaborative study conducted in Fort Wayne, Indiana with the American Academy of Family Physicians assessed the relative effectiveness of various systems for delivering primary medical care. Two research strategies were used: a household survey which determined the factors which influence entry into the health care system and an indicator case model which measured the impact of medical care on patients who have entered the system. The entire community of primary care physicians and their patients in Fort Wayne participated in the case model portion of the study which looked at four indicator conditions: pregnancy, infancy, diabetes mellitus and congestive heart failure. Methods of assessment were developed for various care and care components of medical care including utilization, cost and convenience, physician performance, communication, patient compliance, physician awareness of patient concerns, patient attitudes toward physicians and functional, symptomatic, and disease status outcomes of care. (Wagner)

OCCUPATIONAL EPIDEMIOLOGY

Cooperative Health Hazard Evaluation Program. The Occupational Safety and Health Act of 1970 places on the National Institute for Occupational Safety and Health (NIOSH) the responsibility to conduct health hazard evaluations upon valid request by an employer and/or employees.

This is the second year of a two-year demonstration program of health hazard evaluations performed by the Occupational Health Studies Group of the School of Public Health. In the first year, health hazard evaluations involving a heat set fabric molding operation, a printing process, an aircraft fuel cell manufacturing operation, a university office building, and an analytic chemistry laboratory, have been assigned to the UNC research group by NIOSH. Some eight to ten additional assignments of a similar nature are expected in the coming year. An evaluation of the two-year program by the University and NIOSH will be done in the concluding months of the second year. (Checkoway, Shy)

Epidemiologic Study of Cancer Risks in US Atomic Workers.

The main objective of this study is to identify the long term effects of low-dose occupational radiation exposures to determine whether occupational radiation exposure standards have allowed the accumulation of detrimental effects of radiation. Sponsored by the US Department of Energy, this study is being conducted in collaboration with the Oak Ridge Associated Universities (Oak Ridge, Tennessee) with other participating faculty from the Departments of Biostatistics and Environmental Sciences and Engineering. This research design involves mortality studies of large cohorts of workers employed in nuclear facilities and also case-control studies designed to determine the effect of confounding variables, including sources of medical radiation and chemical carcinogens. (Shy, Ibrahim, Tyroler)

Mortality Study of Workers in the Florida Phosphate Industry.

This is a retrospective cohort mortality study of approximately 25,000 employees in the phosphate industry in Florida. This industry manufactures fertilizers and component materials such as phosphoric acid. The original concern in the industry was an apparent excess of lung cancer mortality, presumed to be related to ionizing radiation exposure.

The mortality patterns of industry workers will be compared with those of the US and Florida populations for the years 1950-78. Excesses from cause-specific mortality will be examined in relation to work experience and estimated exposures to chemicals and ionizing radiation. No results are available at this time. (Checkoway, Shy)



NC Firefighters Survey of Cardiovascular and Pulmonary Disease. A respiratory and cardiovascular disease symptom questionnaire is being administered to NC firemen. The objective is to relate prevalence rates to the extent of firefighting exposures. Data is being analyzed. (Checkoway).

Respiratory Disease in the Furniture Industry. This pilot study investigates the relationship between occupational exposure to wood dust and the prevalence of chronic respiratory diseases among male furniture workers. The project employs a cross-sectional study design comparing workers exposed to dust with a control group exposed to finishes and another exposed to neither. It is hypothesized that the exposure to hardwood dusts of less than  $5 \mu$  from the sanding operation will be associated with reduced lung function and an increase in respiratory symptoms as measured by a modified MRC questionnaire. Measures of lung impairment will be obtained by analyzing the changes in spirometry readings over a work shift. Baseline pulmonary function among workers exposed to wood dust will be compared to nonexposed workers, adjusting for age, height, race, smoking, prior employment in hazardous jobs, alcohol use, medical history, atopic status, and hobbies. Environmental samples will be collected in order to quantify individual and area exposures to wood dust and to solvents used in finishings. Stratified, multivariate regression analysis will be employed to control for confounding and to look for interaction. (Shy).

Skin Effects of Chemical Exposure in Rubber Workers. Recent evidence indicates that certain groups of rubber manufacturing workers are at risk for squamous cell skin cancer compared to the industry as a whole. It is known that raw materials containing carcinogenic polycyclic aromatic hydrocarbons (PAH's) are used in rubber manufacturing. These include oils, carbon black, waxes, and solvents. A case-control study is underway drawing on data from two rubber companies to look for an association between squamous cell carcinoma and exposure to PAH's. The cases are 68 male rubber workers who were located from the tumor registries of the Akron, Ohio hospitals. There are two control series drawn from cohorts of rubber workers that have been developed by the OHSG. A first series of four controls are matched on race, sex, and age. A second series of four controls are matched on race, sex, age, and time in the industry. Identification of jobs with PAH exposure is made by means of an industrial hygiene survey and company records. This information will be linked to individual workers by means of their personnel files. Each employee will receive a rating of his PAH exposure. Data analysis will consider both the level of exposure and the number of years of exposure. Additional analysis will look for an association between: 1) skin cancer and length of employment in the industry using the first control series only; and 2) skin cancer and work areas where PAH's cannot be implicated. If such associations are found, attempts will be made to suggest causal exposures. (Hulka).

POPULATION EPIDEMIOLOGY

Relative Merits of Family Planning and Development in Reducing Fertility. In this research project, the contribution of development and family planning to the direct and immediate reduction of fertility is assessed. A statistical analysis of demographic and social data being collected in 15 countries throughout the world will test the significance of the interaction between mortality, fertility, socio-economic development indicators, and family planning. (Omran).

An Epidemiologic Case For Family Planning in Africa. Using African demographic and health parameters, this study is examining the health risks associated with unplanned fertility, teenage pregnancy, pregnancy after 35, short birth intervals, and multiparity. The project will clarify the basis for a health rationale in favor of family planning in both Moslem and Christian countries. (Omran).

Taiwan: Family Planning and Health; This project will emphasize the impact of family composition on the intelligence of children. (Omran).

An Atlas on the Health and Demography of Islamic Countries is currently being prepared. (Omran).

Epidemiologic Transition: North Carolina, the U.S. and Several Foreign Countries. Population dynamics and health factors in various communities were described and analyzed in this study. Data collected on infant mortality, life expectancy, fertility, mortality, and causes of death in populations were used to identify communities as either classical, accelerated, or delayed models of epidemiologic transition. The classical model has been found to be representative of the West, the accelerated model is typically observed in Japan and Eastern Europe, and the delayed model encompasses most of the lesser developed countries. (Omran).

PSYCHOSOCIAL EPIDEMIOLOGY

Psychosocial Factors Related to the Risk and Control of High Blood Pressure Among Black Men. This is a study of the influence of psychosocial factors on mean blood pressure levels (and on hypertension related health behaviors) on a probability sample of 132 black men (ages 17-60) residing in a rural, poor, eastern North Carolina town. Data collection was preceded by an eight week participant-observation study of men in the area. The community survey was conducted from November 1980 to February 1981. Several papers based on this work have been submitted for publication and others are being written. The central focus of this work is the contribution that "John Henryism" (a measure of perceived control over the environment) makes to 1) predicting mean blood pressures of black men, and 2) explaining differences among them in hypertension-related health behaviors. This research is supported by a grant from the Robert Wood Johnson Foundation and an NHLBI Research Career Development Award. Future studies of John Henryism and risk of cardiovascular disease among white, women, and non-working class black populations are planned. (James)

Ponape Study of Health Consequences of Rapid Cultural Change. This project involved the development of a Gutterman-type scale of individual modernity among Ponapeans. This measure is associated with deleterious health indices, such as elevated blood pressure and blood lipids, and obesity, particularly among males in the most modern zone of Ponape. (Patrick)

Type A Behavior and Atherosclerosis in Men and Women. Previous research from the Framingham Heart Study has demonstrated an increased risk of coronary heart disease among men and women exhibiting Type A behavior, as measured by a short ten-item questionnaire on time urgency and competitiveness. The Framingham Type A behavior was most strongly associated with coronary diagnoses in which angina pectoris symptoms were present. This research project is designed to determine whether or not these associations reflect actual coronary atherosclerosis in the presence of anginal pain. Since 1978, approximately 300 women and 700 men who underwent angiography at the Duke University Hospital were administered the Framingham Type A scale along with several other psychosocial questionnaires. The association of the Framingham scale with the severity of arteriographically documented atherosclerosis will be examined in both men and women employed in a variety of occupational settings. In addition, the validity of the Framingham questionnaire for assessing Type A behavior as compared to the Friedman-Roseman Structured Interview will be examined, along with its potential uses in clinical practice and research. (Haynes)

Type A Behavior, Employment Status, and Coronary-Heart Disease in Women. The objective of this research is to determine the relationship of employment status and employment-related behaviors, such as Type A behavior to the development of coronary heart disease (CHD) in women residing in the southeastern U.S. The effect of employment, particularly employment in white-collar and clerical jobs, will be examined in two prospective studies. Extensive sociological data collected on 1121 women in the Evans County Cardiovascular Study will be used to relate employment status to 15-year mortality rates from CHD. In addition, CHD incidence and mortality rates between 1975-1980 will be computed for 340,000 women residing in three communities in North and South Carolina, as part of a national pilot study for community surveillance of cardiovascular disease. The validity of using questionnaire and interview methods in assessing Type A behavior in women will be examined using voice analysis of interviews given to Framingham cohort women and to women in the Duke Angiography study. The relationship of various measures of Type A behavior to angiographically diagnosed coronary disease will then be examined among women in the Duke study, according to occupational status. (Haynes)

The Social Psychological Aspects of a Controlled Clinical Trial to see the Mortality/Morbidity Effectiveness of Behavior Modification on Type A Behavior in Post-MI Patients. In collaboration with the Harold Brunn Institute of Cardiology, Mt. Zion Hospital, San Francisco, California. A group at Stanford University is also involved. (Kaplan)

#### OTHER RESEARCH PROGRAMS

Clinical Evaluation of Licensed Multiple Puncture Devices for the Administration of Tuberculin. Under a subcontract with the University of Kentucky, six devices for the delivery of tuberculin skin tests are being compared to the standard Montoux test in populations in four sites: North Dakota, Michigan, Kentucky, and Texas. Field work in complete and analysis is in progress. (Becker)

Evaluation of Intrauterine Exposures and Gastroschisis Occurrence. Gastroschisis is a rare congenital defect of the abdominal wall in humans. The cause of this anomaly is unknown, but the embryology is consistent with an intrauterine insult. In July and August of 1981, an unusual number of gastroschisis cases occurred in central North Carolina. The spatial and temporal similarities of these cases suggest a shared environmental exposure (e.g., intrauterine infection of chemical agent). The purpose of this investigation is to evaluate possible intrauterine exposures associated with gastroschisis. The ultimate goal is to develop a causal model for development of prevention strategies. (Ibrahim)

Trial Assessing Chronotherapeutic Insulin Schedules.

This study seeks to improve intraday blood glucose variation. The rationale is based on the previous knowledge that type I diabetics exhibit a rhythm in blood glucose characterized by a rise in blood glucose level that becomes evident from about 5:00 to 8:00 AM, and continues after breakfast until about 9:00 to 10:00 AM. This period of glucose rise is also characterized by a diminished insulin sensitivity, as demonstrated by studies with the artificial pancreas. If more insulin can be provided during this period of diminished insulin sensitivity, the rise in glucose may be attenuated or even avoided, and, consequently, the post-breakfast blood glucose peak may also be decreased. As this postprandial peak has been consistently reported to be the daily blood glucose maximum, range (maximum minus minimum blood glucose), a measure of intraday diabetic instability, may be expected to be attenuated. The main hypotheses to be tested are: (1) Treatments will attenuate the fasting ascending glucose excursion (FAGE); (2) Treatments will decrease the post-breakfast blood glucose peak; and (3) Treatments will minimize range of glycemic excursions. (Schmidt, Heiss, Tyroler)

III. B. Research and Training Funds Received During the Year.  
 [Title, Source; Termination Date, (Principal Investigators)]

Abnormal Methionine Metabolism as a Risk Factor in Coronary Artery Disease. American Heart Association; 06-30-82. (Tyroler, Freedmann)\*

Cancer Epidemiology Training. National Cancer Institute; 08-31-83. (Hulka)

Cancer Risk Among Atomic Workers. Oak Ridge Associated Universities; 09-30-82. (Shy)

Capitation Funds. Public Health Service, Bureau of Health Manpower; 09-30-82.

Cardiovascular and Pulmonary Disease in N.C. Firemen. NIH Division of Research Resources; 06-01-82. (Checkoway)

Cardiovascular Epidemiology and Statistics. National Heart, Lung and Blood Institute; 06-30-83. (Tyroler)

Clinical Environmental Research Support Services. Environmental Protection Agency; 02-12-83. (Love/Muller).

Community Surveillance in the Southeastern United States. National Heart, Lung and Blood Institute; 02-28-84. (Tyroler)

Drinking Water Quality and Colon Cancer. National Institute for Environmental Health Sciences; 01-31-83. (Shy)

Environmental Epidemiology. National Institute for Environmental Health Sciences; 06-30-83. (Tyroler)

Evaluation of Intrauterine Exposures and Gastroschisis Occurrence. University Research Council; 11-10-83. (Ibrahim, Greenberg)\*

Family Formation and Family Health. World Health Organization; [on-going]. (Omran)

Follow-up Study of Hypertensives in a Rural Community. NIH Division of Research Resources; 11-30-81. (Wagner)

Follow-up Study of the Wake County Fertility, Family Planning and Health Opinion Survey. NIH Division of Research Resources; 03-31-82. (Omran)

Incidence and Severity of Trauma and Burns in North Carolina. N.C. Department of Human Resources; 10-31-82. (Becker)

Pilot Evaluation Studies of High Blood Pressure Control.  
National Heart, Lung and Blood Institute; 05-31-84.  
(Ibrahim)

Psychosocial Factors and Blood Pressure Variability among  
Black Men. Biomedical Research Support; 08-31-82. (James)

Respiratory Disease in the Furniture Industry. Institute  
of Occupational Safety and Health; 02-28-83. (Shy,  
Goldsmith)\*

Social/Work Roles and Health Indicators in Women. Univer-  
sity Faculty Research Grant/University Research Council;  
11-10-83. (Williams)

Trial Assessing Chronotherapeutic Insulin Schedules.  
National Institute of Arthritis, Metabolism and Digestive  
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\*Student grants for doctoral work.

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Abdel R. Omran

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Omran, AR: Reassessment of the Prospects for Fertility Decline in Egypt: Is Development a Pre-requisite? Chapel Hill, North Carolina, Carolina Population Center, 1981, a monograph.

Omran, AR: The Epidemiologic Transition: Theory. International Encyclopedia of Population. New York, London: Collier MacMillan Publishers, Spring 1982.

Omran, AR: Epidemiologic Transition: United States. International Encyclopedia of Population. New York, London, Collier MacMillan Publishers, Spring 1982.

Omran, AR: Every Arab Country Needs a Population Policy. People 9(1): 5-6, January 1982.

Victor J. Schoenbach

Wagner, EH, Beery, W, Schoenbach, VJ, Graham, RM: An Assessment of Health Hazard/Health Risk Appraisal. American Journal of Public Health 72(4): 347-352, 1982.

Beery, WL, Schoenbach, VJ, Wagner, EH, et al: Description, Analysis, and Assessment of Health Hazard/Health Risk Appraisal Programs: Final Report. Contract No. 233-79-2008 NCHSR Health Services Research Center, University of North Carolina, Chapel Hill, 1981.

DeFriese, GH, Beery, WL, Schoenbach, VJ, Wagner, EH: The Health Care Practitioner and Personal Health Risk Assessment. Mobius 1(2), 1981.

Carl M. Shy

Shy, CM: Health Consequences of Alternative Energy Systems. Chapter 6, pp.79-99, in Social and Political Perspectives on Energy Policy. KM Gentemann (Ed.), New York, Praeger, 1981.

Love, GJ, Lan, S, Shy, CM, Struba, RJ: Incidence and Severity of Acute Respiratory Illness in Families Exposed to Different Levels of Air Pollution, New York Metropolitan Area, 1971-1972. Arch Env Hlth 36: 66-74, 1981.

Gordon, JE, Shy, CM: Agricultural Chemical Use and Congenital Cleft Lip and/or Palate. Arch Env Hlth 36: 213-220, 1981.

Winn, EM, Blot, WJ, Shy, CM, et al.: Snuff Dipping and Oral Cancer Among Women in the Southern United States. NEJM 304: 745-749, 1981.

Shy, CM: Epidemiologic Principles and Methods for Occupational Health Studies. Chapter 5, pp. 1-94, in Occupational Respiratory Disease Report, Vol. I. JA Merchant, BA Boehlecke (Eds.), Morgantown, West Virginia, Appalachian Laboratory for Occupational Safety and Health, National Institute for Occupational Safety and Health, 1981.

Lan, S, Shy, CM: Effect of Air Pollution on Chronic Respiratory Disease in the New York City Metropolitan Area, 1972. Environ Health Persp 42: 203-214, 1981.

Love, GJ, Lan, SP, Shy, CM: Acute Respiratory Illness in Families Exposed to Nitrogen Dioxide Ambient Air Pollution in Chattanooga, Tennessee. Arch Env Hlth 36(2): 75-80, 1982.

Love, GJ, Lan, SP, Shy, CM: A Study of Acute Respiratory Disease in Families Exposed to Different Levels of Air Pollution in the Great Salt Lake Basin, Utah, 1971-1972 and 1972-1973. Environ Health Persp 44: 165-174, 1982.

#### Cecil Slome

Slome, C, Brogan, D, Eyres, S, Lednar, W: Basic Epidemiological Methods and Biostatistics: A Workbook. Wadsworth, Inc., Florence, Kentucky, 1981.

Weitzman, S, Wagner, GS, Heiss, G, Haney, TL, and Slome, C: Myocardial Infarction Site and Mortality in Diabetics. Diabetes Care 5: 31-35, 1982.

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H.A. Tyroler

Report of a Study by the Committee for a Planning Study for an Ongoing Study of Costs of Environment-Related Health Effects (Member: HA Tyroler), Institute of Medicine, National Academy Press, Washington, DC, January 1981.

Medalie, JH, Tyroler, HA, Heiss, G: High Density Lipoprotein Cholesterol and Ischemic Heart Disease. Prevention and Rehabilitation of Heart Disease, Chapter 2, pp. 18-47, 1981.

Checkoway, H, Smith, AH, McMichael, AJ, Jones, FS, Monson, RR, Tyroler, HA: A Case-Control Study of Bladder Cancer in the United States Rubber and Tyre Industry. British Journal of Industrial Medicine 38: 240-246, 1981.

Lippel, K, Tyroler, HA, Eder, H, Grotto, A Jr, Vohouny, G: Relationship of Hypertriglyceridemia to Atherosclerosis. Arteriosclerosis 1(6): 406-417, 1981.

Tyroler, HA, Schonfeld, G, Heiss, G, and Hames, CG: Population Correlates of HDL Apolipoproteins. Proceedings of the International Symposium on Lipoproteins and Coronary Atherosclerosis, held in Lugano, Switzerland, October 1-3, 1981. Nosedá, G, Fragiaco, C, Fumagalli, R, and Paoletti, R (Eds.). Elsevier Biomedical Press, Amsterdam, The Netherlands. LIPOPROTEINS AND CORONARY ATHEROSCLEROSIS, 1982.

Williams, OD, Rywik, SL, Tyroler, HA, et al.: The US-Polish Pilot Study. USA-Poland Symposium - Ischemic Heart Disease, Bethesda, Maryland, March 10, 1981. NIH Publication No. 82-1273.

Edward H. Wagner

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Wagner, EH: The North Karelia Project: What it Tells Us About the Prevention of Cardiovascular Disease. AJPH 72: 51-53, 1982.

Watkins, LO, Wagner, EH: Nurse Practitioner and Physician Adherence to Standing Orders Criteria for Consultation or Referral. AJPH 72: 22-29, 1982.

Zwicke, DL, Donahue, JF, Wagner, EH: The Use of Emergency Department Observation Unit in the Treatment of Acute Asthma. Ann Emerg Med 11: 77-83, 1982.

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Carolyn A. Williams

Williams, CA: The Nurse-Practitioner Role and Primary Care Research. Chapter 25 in The Nursing Profession: A Time to Speak. Chaska, N (Ed.), New York, McGraw-Hill, 1982.

Williams, CA: Primary Care and the Cost Dilemma: A Case for Nurse Practitioners. In Child Health Policy in an Age of Fiscal Austerity: Critique of the Select Panel Report. Haskins, R (Ed.), Norwood, New Jersey, Ablex Publishing Company, 1982.

Williams, CA: Nursing Leadership in Community Health: A Neglected Issue. Chapter in Current Trends and Issues in Nursing. McCloskey, JC and Grace, HK (Eds.), Boston, MA, Blackwell Scientific Publications, Inc., 1981.

D. Papers Presented by the Faculty.

Caroline Becker

Howard, G, Toole, JF, Becker, C, McElroy, K, Feibel, J, Springer, C, Yatsu, FM, Coull, BM, and Walker, MD: "Survivorship of Strokes: Regional Stroke Survey". Presented at the American Association of Neurology Meeting, Spring 1982.

MacMillan, J, Becker, C, Koch, GG, and Stokes, M: "An Application of Weighted Least Squares Methods to the Analysis of Measurement Process Components of Variability in an Observational Study". Presented at the American Statistical Association Meeting, Detroit, Michigan, Spring 1981.

Suzanne G. Haynes

Haynes, SG: "Women, Clerical Work, and Coronary Heart Disease: Prospective Studies from the Framingham Study". Presented at the NIOSH Conference on Occupational Health Issues Affecting Clerical/Secretarial Personnel. July 21-24, 1981, Cincinnati, Ohio.

Haynes, SG: "The Effect of Employment, Family, and Job Stress in Coronary Heart Disease Patterns in Women". Presented at the Johns Hopkins University School of Hygiene and Public Health Department of Epidemiology Symposium on The Changing Risk of Disease in Women: An Epidemiologic Approach. October 22-23, 1981, Baltimore, Maryland.

Haynes, SG: "Women, Work, and Coronary Heart Disease: Results from the Framingham Ten-Year Follow-up Study". Presented at:

- a. Society for Epidemiologic Research, Snowbird, Utah, June 1981
- b. Netherlands Heart Association Press Conference, April 2, 1982, Holland
- c. III National Conference on Emotional Stress and Cardiovascular Disease, April 30, 1982, Myrtle Beach, South Carolina
- d. Regional Conference on High Blood Pressure Control, May 3, 1982, Baltimore, Maryland

Anderson, JJB, Haigh, NZ, Hosking, JR, Haynes, SG: "Dietary Influences on Body Fata as Measured by Quetelet and Ponderal Indices: Results from the Lipid Research Clinics (LRC) Program Prevalence Study. XII International Congress of Nutrition, August 1981.

Prewitt, E, Haynes, SG, Waldman, G, Glueck, C, Kwiterovich, P, Tyroler, H: "Black-White Differences in Nutrient Intake and Lipoproteins in the Lipid Research Clinics (LRC) Program Prevalence Study". XII International Congress of Nutrition, August 1981.

Dennis, B, Haynes, SG, Waldman, G, Haskell, W: "Socioeconomic Status and Nutrient Intake Among North American White Adults in the Lipid Research Clinics Program". XII International Congress of Nutrition, August 1981.

Haynes, SG, Dennis, B, Waldman, G: "Socioeconomic Status and Nutrient Intake; Results from the Lipid Research Clinics Study". 109th Annual Meeting of the American Public Health Association, November 1981.

Eaker, ED, Haynes, SG, Feinleib, M: "Spouse Behavior and Coronary Heart Disease: Results from the Framingham Heart Study". 109th Annual Meeting of the American Public Health Association, November 1981.

Haynes, SG, Eaker, ED, Feinlieb, M: "Spouse Behavior and Coronary Heart Disease: Results from a 10-year Follow-up Study in Framingham". 22nd Annual Conference on Cardiovascular Disease Epidemiology, San Antonio, Texas, March 5, 1982.

Waldman, G, Haynes, SG, Dennis, B, Haskell, W: "Socioeconomic Status and Nutrient Intake: Results from the Lipid Research Clinics (LRC) Program Prevalence Study". Society for Epidemiologic Research, June 1981.

Gerardo Heiss

Bush, T, Cowan, L, Heiss, Wallace, RB, Van Natta, P, Hoover, J: "The Relationship Between Lipids and Lipoproteins and Type of Hysterectomy in White Women: Results from the Lipid Research Clinics (LRC) Program". Presented at the 54th Scientific Sessions of the American Heart Association, Dallas, Texas, November 1981.

Haskell, WL, Criqui, MH, Heiss, G: "Heart Rate Response to Treadmill Exercise in the General Population: The Lipid Research Clinics Prevalence Survey". Presented at the 54th Scientific Sessions of the American Heart Association, Dallas, Texas, November 1981.

Rifkind, BM, Heiss, G, Tyroler, HA, Williams, OD: "The Epidemiology of HDL". Presented at the Fourth International Congress on Atherosclerosis and Cardiovascular Diseases, Bologna, Italy, November 1981.



Criqui, MH, Haskell, WL, Heiss, G, Tyroler, HA: "Multivariate Predictors of Systolic Blood Pressure Response to Treadmill Exercise: The Lipid Research Clinics Prevalence Study". Presented at the 22nd Annual Conference on Cardiovascular Disease Epidemiology, American Heart Association, San Antonio, Texas, March 1982.

Green, MS, Heiss, G, McClish, D, Tyroler, HA, Rifkind, B, Davis, CE, Barrett-Connor, E, Jacobs, D: "Lipoprotein Ratios as Discriminators Between Cases and Non-Cases of CHD; The Lipid Research Clinics Prevalence Study". Presented at the 22nd Annual Conference on Cardiovascular Disease Epidemiology, American Heart Association, San Antonio, Texas, March 1982.

Freedman, DS, Popio, K, Kredick, NM, Heiss, G: "Abnormal Methionine Metabolism and Coronary Artery Disease". Presented at the 15th Meeting of the Society for Epidemiologic Research, Cincinnati, Ohio, June 1982.

Criqui, M, Cowan, LD, Tyroler, HA, Bangdiwala, S, Heiss, G, Wallace, RB, Davis, CE: "Cigarette Smoking, Alcohol Consumption and Coronary, Cardiovascular, and All Cause Mortality in Men and Women: Preliminary Results from the Lipid Research Clinics Follow-up Study". Presented at the 15th Meeting of the Society for Epidemiologic Research, Cincinnati, Ohio, June 1982.

Barbara S. Hulka

Hulka, BS: "Estrogens and Endometrial Cancer". Johns Hopkins University, Baltimore, Maryland, Symposium on The Changing Risk of Disease in Women: An Epidemiologic Approach. October 22-23, 1981.

Hulka, BS: "Risks and Benefits of Estrogen Replacement Therapy". Menopausal Teaching Day on "Controversies in the Management of Menopause", NY State Department of Health, Albany, New York, November 18-19, 1981.

Hulka, BS: "Estrogens and Cancer". Eastern Carolina University Medical School, Greenville, North Carolina, March 17, 1982.

Hulka, BS: "Menopausal Estrogens: Risks and Benefits". Cancer Research Center, University Women's Group, April 17, 1982.

Hulka, BS: "Noncompliance Effects on the Design and Analysis of Clinical Trials". INSERM/NIH/WHO Colloquium on Advances in Diabetes Epidemiology, Abbaye de Fontevraud, France, May 3-7, 1982.

Hulka, BS: "What are the Relationships Between Diet and Breast Cancer". UNC Department of Nutrition meeting on Dietary Excesses and Health/Disease Implications. Chapel Hill, NC, May 17-19, 1982.

Michel A. Ibrahim

Cutchin, LM and Ibrahim, MA: "Incorporation of High Blood Pressure Control Programs in a Medical Practice: The Edgecombe County High Blood Pressure Project." Presented at the National Conference on High Blood Pressure Control, NY, NY, May 3-5, 1981.

Ibrahim, MA: "Tobacco and Health Effects: The Epidemiologist's View." Presented at the Edgecombe County Program on Tobacco Perspectives, Tarboro, NC, October 21, 1981. Sponsored by the North Carolina Humanities Committee and National Endowment for Humanities.

Abdel Omran

Omran, A.: "Interrelations between Maternal and Neonatal Health and Family Planning: Conceptualization of the Theme." Paper presented as Keynote Address at the First International Congress on Maternal and Neonatal Health, November 2-7, 1981, Manila, Philippines.

Victor J. Schoenbach

Beery, W, Schoenbach, VJ, Wagner, EH, Graham, RM: "Description and Assessment of Health Risk Appraisal Programs." Presented at the Annual Meeting of the American Public Health Association, Los Angeles, California, November 1981.

Carl M. Shy

Shy, CM: "Epidemiologic Issues in Occupational Mortality and Morbidity Studies of Department of Energy Contract Facilities." Presented at the Radiation Epidemiology Contractors workshop, Rockville, MD, April 13, 1982.

Shy, CM: "Air Pollution and Lung Cancer." Presented at the Annual Meeting of the Society for Preventive Oncology, Bethesda, MD, Marcy 26, 1982.

Shy, CM: "Research Objectives and University Collaboration in the Health and Mortality Study of Department of Energy Contract Facilities." Presented to the U.S. House of Representatives Committee on Science and Technology, Subcommittee on Investigations and Oversight, Washington, DC, May 19, 1982.

H.A. Tyroler

Tyroler, HA: "Multi-Center Clinical Trials on Atherosclerosis Prevention". Presented at the International Symposium on Advances in Hyperlipoproteinemias, Mexico City, July 2-3, 1981.

Tyroler, HA: "Population Correlates of HDL Apolipoproteins". Presented at the International Symposium on Lipoproteins and Coronary Atherosclerosis, Lugano, Switzerland, October 1-3, 1981.

Tyroler, HA: "Serum Cholesterol Levels and Cancer Mortality: Evans County 20 Year Follow-Up Study." Presented at the American Oil Chemists' Society Symposium on Dietary Fats and Health, Chicago, Illinois, December 6-11, 1981.

Tyroler, HA: "Benefits of Blood Pressure Reductions". Presented at the Options and Controversies in Coronary Artery Disease Symposium, Pinehurst, North Carolina, April 5-7, 1982.

Tyroler, HA: "Serum Cholesterol and Cancer Mortality in White Males: Social Class Effects; Evans County 20 Year Follow-Up Study". Presented at the 6th International Symposium on Atherosclerosis - Hypocholesterolemia - A Risk Factor, West Berlin, June 13-17, 1982.

Edward H. Wagner

Beery, WL, Wagner, EH, Schoenbach, VJ, and Graham, RM: "Description, Analysis, and Assessment of Health Hazard/Health Risk Appraisal (HHA/HRA) Programs". Presented at the Annual Meeting of the Society of Prospective Medicine, Tucson, Arizona, October 30, 1980.

Beery, WL, and Wagner, EH: "Health Risk Appraisal Study: Preliminary Findings". Presented at the National Center for Health Services Research Seminar Series, Hyattsville, Maryland, December 1980.

Zwicke, DL, Donohue, JF, and Wagner, EH: "Use of Emergency Department Observation Unit in the Treatment of Acute Asthma". Paper presented to the University Association for Emergency Medicine, San Antonio, Texas, April 1981.

Beery, WL, Schoenbach, VJ, Wagner, EH, and Graham, RM: "Description and Assessment of Health Risk Appraisal Programs". Presented to American Public Health Association, Los Angeles, California, November 1981.

Gardner, LT, Wagner, EH, Tyroler, HA, Hames, C: "Diabetes and Hypertension Synergism in the Evans County Study Population". Presented to 22nd Conference on Cardiovascular Disease Epidemiology, San Antonio, Texas, March 1982.

Carolyn A. Williams

Williams, CA: "Community Health and Community Health Nursing: Current Dilemmas and Future Potentials". Keynote paper presented at the Virginia C. Phillips Community Health Day Conference sponsored by the Department of Health and Environmental Control; The Schools of Public Health and Nursing, University of South Carolina; South Carolina Nurses' Association, and the South Carolina Public Health Association, October 5, 1981, Columbia, South Carolina.

Williams, CA: "Community Health Nursing Practice and Research: A Perspective". Paper presented at the Division of Community Health Nursing (ANA) luncheon held at the meeting of the American Public Health Association, Biltmore Hotel, Los Angeles, California, November 4, 1981.

Williams, CA: "Ethics in Health Policy and Policy-Making for Ethics: A Perspective". A paper presented at the Conference on Encounter with Ethics: Dilemmas and Directions in Nursing, sponsored by the John L. and Helen Kellogg National Center for Excellence in Nursing and Rush-Presbyterian-St. Luke's Medical Center, Chicago, Illinois, March 4-5, 1982.

Williams, CA: "Community Health Nursing Practice and Policy-Making: A Perspective". Paper presented at the Leadership Institute Program in Public Health Nursing, University of Minnesota, School of Public Health, Minneapolis, Minnesota, June 20, 1982.

Williams, CA: "Nurse Practitioners: Efficacy, Barriers to Practice, and Action Alternatives". Background paper for the National Conference on "State Action to Improve Child Health", Washington, D.C., May 3-5, 1982.

#### E. Equipment Obtained During the Year.

The Department purchased 3 Telray 100 Computer Terminals for communication with the University Computation Center, and TUCC; and which are also compatible with the new VAX Computer Facility owned and operated by the School of Public Health. These terminals provide access to computing and word-processing operations vital to the research projects.

IV. PUBLIC SERVICE

A. List of activities by faculty member participating and/or name of program.

Caroline Becker

Department Activities:

Grader, Doctoral Qualifying Examination  
Grader, Masters Comprehensive Examination

School of Public Health Activities:

Member, Administrative Board of the School of Public Health, September 1978-August 1983.  
Member, SPH Institutional Review Board on Research Involving Human Subjects, 1979-1982.

Greater University Activities:

Elected Secretary-Treasurer, Elisha Mitchell Scientific Society, April 1979-  
Member, Board of UNC-CH Faculty Club, 1979-1982.  
President, Association for Women Faculty, 1981-1982.

Activities at the State Level:

Lecturer in Neurology, Bowman-Gray School of Medicine, 1980-  
Consultant, American Heart Association, North Carolina Affiliate, in various research projects and standing committees.  
Alternate Treasurer, American Heart Association, North Carolina Affiliate, 1982-  
President, Board of Home Health Agency of Chapel Hill, Inc., 1979-1982.

Activities at the National Level:

Member, the Johns Hopkins University National Alumni Schools Committee, 1979-  
Coordinator, Joint Center for Disease Control/Association of Schools of Public Health Epidemic Field Investigations, 1980-  
Secretary-Treasurer, Delta Omega Society, 1981-  
Invited Participant, 13th Princeton Conference, Williamsburg, February 28-March 2, 1982.

Harvey Checkoway

Short Courses:

Occupational Safety and Health Education Resource Center, Short course on Epidemiology at the Summer Institute, Boone, North Carolina, July 1981.

Department Activities:

Member, Admissions Committee  
Grader, Doctoral Qualifying Examination

Greater University Activities:

Consultation with the Department of Medicine, Pulmonary Division, on research project of cystic fibrosis biological markers.

Suzanne Haynes

Department Activities:

Grader, Doctoral Qualifying Examination

Activities at the National Level:

Member, Biometry and Epidemiology Contract Review Committee, National Cancer Institute  
Fellow, Nominating Committee, and Executive Committee Member, Council of Epidemiology, American Heart Association.  
Fellow, Academy of Behavioral Medicine  
Fellow, American College of Epidemiology  
Member, Advisory Committee, Western Center for Behavioral and Preventive Medicine.

Activities at the International Level:

Special guest of the Netherlands Heart Association to lead off their Heart Fund Drive, April 1982.

Gerardo Heiss

Department Activities:

Chairman, Doctoral Qualifying Examination Committee  
Member, Graduate Studies Committee

School of Public Health Activities:

Participant, Nutrition Update Conference: "Dietary Excesses and Health/Disease Implications", Chapel Hill, May 19, 1982.

Activities at the National Level:

Member, Data Review Board of the Ultrasound B-Scan Assessment Program, NIH Devices and Technology Branch.

Member, Lipid Research Clinics Program Committees: Prevalence Study Executive Committee, Epidemiology Committee, Cardiovascular Liason Group.

Activities at the International Level:

Member, Lipid Research Clinics Jerusalem Steering Committee.

Barbara S. Hulka

Department Activities:

Chairperson, Graduate Studies Committee  
Grader, Doctoral Qualifying Examination

School of Public Health Activities:

Member, Search Committee for the Dean of the School of Public Health  
Chairperson, Appointments and Promotions Committee

Greater University Activities:

Head of the Epidemiology Program, UNC Cancer Research Center

Activities at the National Level:

Chairman, Epidemiology and Disease Control Study Section of the National Institutes of Health

Member of the Board of Scientific Counselors to the National Cancer Institute, Division of Resources, Centers and Community Activities

Member, National Academy of Sciences Committee on Epidemiology and Veterans Follow-Up Studies

Member, National Academy of Sciences, Institute of Medicine Committee on Toxic Shock Syndrome

Reviewer, Cancer Control and Research Programs of the National Cancer Institute

Member, Health Services Research, editorial board

Member, Advisory Committee, Environmental Trends Initiative of the Hospital Research and Educational Trust.

Michel A. Ibrahim

Greater University Activities:

Member, Administrative Board, UNC School of Medicine  
Member, Occupational Health Studies Group Policy Board  
Member, UNC Health Services Research Center Policy Board

Activities at the State Level:

Member, Board of Directors, North Carolina Heart Association  
Chairman, Medical and Community Program Committee, American  
Heart Association, North Carolina Affiliate, 1981-  
President-Elect, American Heart Association, North Carolina  
Affiliate, 1982-

Activities at the National Level:

Consultant, National Cancer Institute  
Consultant, National Institute on Aging  
Consultant, National Heart, Lung, and Blood Institute  
Consultant, National Institute of Child Health and Human  
Development  
Consultant, National Institute on Alcohol Abuse and  
Alcoholism  
Chairman, Policy Committee for the Five Hypertension  
Demonstration Projects, NHLBI, 1981-  
Editorial Consultant, Journal of Chronic Diseases  
Chairman, Editorial Board, American Journal of Public Health  
Member, Editorial Advisory Board, Family Medicine Review  
Member, American College of Epidemiology Board of Directors

Activities at the International Level:

Member, U.S.-Egypt Joint Working Group on Health  
Cooperation, DHEW Development of Health Services  
Subcommittee  
Consultant, WHO, Ben Gurion University, Beer Sheva, Israel  
Member, International Epidemiological Association  
Exchange Program Representative and Consultant, University  
of Rostock, East Germany

Sherman A. James

Department Activities:

Departmental Seminar: "John Henryism and Blood Pressure  
Differences Among Black Men", November 18, 1981  
Member, Graduate Studies Committee

Greater University Activities:

Member, Committee on Faculty Welfare  
Member, Committee on Status of Black Faculty

Activities at the National Level:

Member, Editorial Board, Medical Care  
Member, Epidemiology Study Section, NIMH



Berton H. Kaplan

Department Activities:

Member, Graduate Studies Committee  
Grader, Doctoral Qualifying Examination

Greater University Activities:

Chairman, Committee on Seminars and Lectures for the  
Aging Program  
Member, University Committee on Established Lectures

Activities at the National Level:

Grants Advisor to the William T. Grant Foundation  
Editorial Board, Journal of Human Stress, Journal of  
Behavioral Medicine, Family Medicine Review  
Reviewer, American Journal of Epidemiology,  
Social Forces

Abdel Omran

Department Activities:

Director, Population Program

School of Public Health Activities:

Member, International Health Committee

Greater University Activities:

Member, Population Policy Board, Population Center  
Member, Training Program Committee, Carolina Population  
Center

Activities at the National Level:

Guest lecturer at the University of Chicago Workshop in  
collaboration with the Community and Family Study  
Center, July 1981

Activities at the International Level:

Director, WHO Collaborative Center for Epidemiologic  
Studies in Human Reproduction  
Consultant, World Bank, UNFPA, IFRP, WHO  
Member, Scientific Committee, IFRP  
Member, Scientific Council, International Association  
for Maternal and Neonatal Health (IAMANEH)  
Secretary General, Muslim Scholars Congress on Population,  
Health and Development

Victor Schoenbach

Department Activities:

Consultant, Graduate Studies Committee  
Member, Search Committee for Computer Coordinator  
Chairman, Master Comprehensive Examination Committee  
Continuing Education Course Planning

School of Public Health Activities:

Ad Hoc Committee on Departmental Computer Resources  
Educational Computing Funds Committee

Activities at the National Level:

Consultant, Health Promotion/Disease Prevention Program,  
W.K. Kellogg Foundation (through Health Services Research  
Center)

Carl M. Shy

Short Courses:

Occupational Epidemiology. Presented at Winter Program in  
Occupational Health, sponsored by the UNC Occupational  
Safety and Health Educational Resource Center, February  
1982, Daytona Beach, Florida  
Seminar on Epidemiology and the Occupational Physician.  
Sponsored by the American Occupational Medicine  
Association, Wilmington, Delaware, March 8-10, 1982

Department Activities:

Member, Admissions Committee  
Chairman, Seminar Series Committee  
Grader, Doctoral Qualifying Examination

School of Public Health Activities:

Member, Central Coordinating Committee

Activities at the National Level:

(See presentation to U.S. Congress listed with Presentations)

H.A. Tyroler

Short Courses:

American Occupational Medical Association-National Heart,  
Lung & Blood Institute short course in Occupational  
Epidemiology  
Minnesota Summer Institute, Cardiovascular Disease Epidemiology  
New York University, Epidemiology of Ischemic Heart Disease

Department Activities:

Member, Admissions Committee  
Grader, Doctoral Qualifying Examination

School of Public Health Activities:

Chairman, McGavran Awards Committee  
Member, Occupational Safety and Health Educational  
Resource Center Planning and Executive Committee

Activities at the State Level:

Member, High Blood Pressure Committee, North Carolina  
Heart Association  
North Carolina 2000, Commission on the Future of North  
Carolina

Activities at the National Level:

National Academy of Science; Member, Institute of Medicine;  
Member, Committee on Planning Study for an Ongoing Study  
of Costs of Environment-Related Health Effects  
Consultant, National Heart, Lung, and Blood Institute,  
Department of HHS for Lipid Research Clinics Program,  
Hypertension Detection and Follow-up Program, Multiple  
Risk Factors Intervention Trials  
Vice-Chairman, American Heart Association, Council on  
Epidemiology

Activities at the International Level:

Steering Committee Member, Arteriosclerosis  
US - USSR  
US - Israel  
US - Poland  
US - Germany  
Consultant, World Health Organization - International  
Agency on Research of Cancer

Edward H. Wagner

Department Activities:

Chairman, Admissions Committee  
Grader, Doctoral Qualifying Examination

School of Public Health Activities:

Member, Committee to Review the Reappointment of the Chairman,  
Department of Biostatistics, UNC, 1981

Greater University Activities:

Member, Committee to Review the Reappointment, Chairman,  
Department of Social & Administrative Medicine, School  
of Medicine, UNC, 1981  
Member, Clinical Affiliation Committee, Department of  
Medicine, UNC, 1981-1982  
Member, Curriculum Task Force on the Transition, School of  
Medicine, 1981-

Carolyn A. Williams

Department Activities:

Member, Admissions Committee  
Grader, Doctoral Qualifying Examination

School of Public Health Activities:

Traineeship Committee, School of Public Health

Activities at the National Level:

Commissioner, (1980-1982), President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Medicine, Washington, D.C. Appointed by President Carter  
Chairperson, (1980-1981) Vice-Chairperson (1978-1980), Member (1976-present), Commission on Nursing Research, American Nurses Association  
President-Elect, Member, Governing Council, American Academy of Nursing (1981-1983)  
Member, Workgroup on Research, Nursing Study, Institute of Medicine, Washington, D.C., March 1982  
Member, Advisory Committee of the Medical Practice Research and Development Program, The Robert Wood Johnson Foundation, 1982  
Member, Publications Board, American Public Health Association, 1977-1984

B. Anticipated Goals or Increases in Public Service Programs in the Future.

A primary function of the faculty of this department is public service from the local to the international level. We expect to continue expanding our current services in response to the public's need for consultations and technical assistance in the health care field. We have increased our emphasis on service activities and consultations in the areas of rural health and occupational epidemiology among North Carolina residents, and we will continue in those efforts. National and international activities will continue as we maintain and promote our national reputation as a leader in the field of epidemiology. We expect to continue offering the quality public service which has resulted in the recognition of our faculty on the national level.

## V. FACULTY

## A. List of Faculty

## 1. Full-Time (\*Joint Appointment: Epidemiology=Secondary)

Caroline Becker, M.D.  
Associate Professor

Harvey Checkoway, Ph.D.  
Research Assistant Professor

John T. Fulton, D.D.S.  
Professor Emeritus

Suzanne G. Haynes, Ph.D.  
Research Assistant Professor

Gerardo Heiss, M.D., Ph.D.  
Research Associate Professor

Barbara S. Hulka, M.D., M.P.H.  
Professor

Michel A. Ibrahim, M.D., Ph.D.  
Professor and Chairman

Sherman A. James, Ph.D.  
Associate Professor

Berton H. Kaplan, Ph.D.  
Professor

\*David G. Kleinbaum, Ph.D.  
Associate Professor (of Biostatistics)

Abdel R. Omran, M.D., D.P.H., M.P.H.  
Professor

Ralph C. Patrick, Jr., Ph.D.  
Associate Professor

Victor J. Schoenbach, Ph.D.  
Research Assistant Professor

\*Cecil G. Sheps, M.D., M.P.H.  
Professor (of Social and Administrative Medicine)

Carl M. Shy, M.D., Dr.P.H.  
Professor  
(and Professor, Environ. Sciences & Engineering)

Herman A. Tyroler, M.D.  
Alumni Distinguished Professor

\*Edward H. Wagner, M.D., M.P.H.  
Associate Professor (of Medicine)

Carolyn A. Williams, Ph.D.  
Associate Professor  
(& Associate Professor, School of Medicine)

## 2. Part-Time

Gory J. Love, D.Sc., M.P.H.  
Research Associate Professor

## 3. Visiting

Shirley A.A. Beresford, Ph.D.  
Visiting Assistant Professor (4/1/82-6/30/82)

Siman-Tov Halfon, M.D., M.P.H.  
Visiting Scientist (10/1/81-9/30/82)

## V. A. 4. Adjunct, Clinical, and Other Part-Time Appointments.

Dragana A. Andjelkovich, M.D., MPH.

Adjunct Associate Professor

Joan Cornoni-Huntley, Ph.D.

Adjunct Associate Professor

Lawrence M. Cutchin, M.D.

Clinical Associate Professor

\*Gordon DeFrieze, Ph.D.

Clinical Associate Professor

(Associate Professor, Social & Administrative Medicine)

\*Robert J. Fletcher, M.D.

Clinical Associate Professor

(Associate Professor, Medicine)

\*Suzanne W. Fletcher, M.D.

Clinical Associate Professor

(Associate Professor, Medicine)

H. Hugh Fudenberg, M.D.

Adjunct Professor

Stephen H. Gehlbach, M.D., M.P.H.

Adjunct Assistant Professor

Curtis G. Hames, M.D.

Clinical Professor

Carl G. Hayes, Ph.D.

Adjunct Associate Professor

Siegfried H. Heyden, M.D., Ph.D.

Adjunct Professor

\*John Higginson, M.D.

Research Professor

(and Research Professor, Pathology)

Michael D. Hogan, Ph.D.

Adjunct Assistant Professor

Clarence C. Lushbaugh, M.D.

Adjunct Professor

J. Newton MacCormack, M.D., M.P.H.

Adjunct Associate Professor

Kathrine (Magruder)-Habib, Ph.D.

Adjunct Assistant Professor

\*Eugene S. Mayer, M.D., M.P.H.

Adjunct Associate Professor

(Professor, Family Medicine)

\*Melinda S. Meade, Ph.D.

Adjunct Associate Professor

(Associate Professor, Geography)

George R. Parkerson, M.D., MPH

Adjunct Assistant Professor

\*Samuel M. Putnam, M.D.

Adjunct Assistant Professor

(Assistant Professor of Medicine)

Walter J. Rogan, M.D., MPH

Adjunct Assistant Professor

Seth A. Rudnick, M.D.

Adjunct Assistant Professor

## V. A. 4. (continued)

\*David S. Siscovick, M.D.  
Clinical Assistant Professor  
(Assistant Professor, Medicine)

Allan H. Smith, M.D.  
Adjunct Associate Professor

\*Michael R. Swift, M.D.  
Clinical Professor  
(Professor, Medicine)

Allen J. Wilcox, M.D., Ph.D.  
Adjunct Assistant Professor

\*Joint appointment: Epidemiology=Secondary.

## B. Changes During the Year

## 1. Additions.

Siman-Tov Halfon, M.D., Visiting Scientist  
John Higginson, M.D., Research Professor  
Cecil G. Sheps, M.D., Professor  
David S. Siscovick, M.D., Clinical Assistant Professor

## 2. Promotions.

Carolyn A. Williams, Ph.D., Associate Professor

## 3. Leaves.

David G. Kleinbaum, Ph.D., Associate Professor (BIOS).  
to Institut Medis, GSF, Ingolstadter Landstrasse 1,  
West Germany (Munich). 1/82-7/82.

## 4. Losses.

Steven B. Blum, Ph.D., Adjunct Assistant Professor  
Non-renewal 6/30/82.

Stephen N. Brown, M.D., MPH., Adjunct Associate  
Professor, Non-renewal 12/31/81.

Michael J. Moser, M.D., MPH, Adjunct Assistant  
Professor, Non-renewal 6/30/82

Cecil Slome, M.B.Ch.B., D.P.H., Professor  
Deceased 7/23/81.

Fredric J. Romm, M.D., MPH, Adjunct Assistant  
Professor, Resigned 8/3/81

Robert J. Struba, Ph.D., Adjunct Assistant Professor  
Non-renewal 9/30/81

Gregg S. Wilkinson, Ph.D., Adjunct Assistant Professor  
Non-renewal 12/31/81

V. B. 5. Miscellaneous Changes

Dragana A. Andjelkovich, M.D., MPH.

From: Research Associate Professor (Resigned 9/30/81)  
 To: Adjunct Associate Professor 10/1/81.

Seth A. Rudnick, M.D.

From: Assistant Professor of Medicine & Epid.  
 (Resignation: 9/30/81)  
 To: Adjunct Assistant Professor (EPID) 10/1/81.

Allan H. Smith, M.D.

From: Adjunct Assistant Professor  
 To: Adjunct Associate Professor  
 (Previous reporting incorrect)

C. Proposed Additions to Faculty.

1. Number: 7

2. Ranks	3. Specialization			
	CVD (2)	HSR (2)	Clin. (2)	Pop.(1)
Visiting Assistant Professor	(Wilcosky*) (Duncan*)			
Clinical Instructor			(Sandler**)	
Clinical Assistant Professor			(Retchin**)	
Adjunct Assistant Professor		(Beresford*)		(Higgins*)
Adjunct Associate Professor		(Patrick,D**)		

\*effective July 1, 1982  
 \*\*effective August 1, 1982

CVD = Cardiovascular Dis.  
 HSR = Health Services Res.  
 Clin. = Clinical Epid.  
 Pop. = Population Epid.



D. Special Achievements of Faculty.

Suzanne G. Haynes

Recipient, 5-year American Heart Association Established Investigator Award, 1982-1987. "Type A Behavior, Employment Status, and Coronary Heart Disease."

Who's Who of American Women, 13th Edition.

American Men and Women of Science, Physical & Biological Sciences, 15th Edition.

Michel A. Ibrahim

President-Elect (1982) North Carolina Affiliate of the American Heart Association.

Sherman A. James

Recipient, 5-year NHLBI Research Career Development Award, 1982-1987. "Psychosocial Factors Related to the Risk and Control of High Blood Pressure Among Black Men."

Recipient, Fellowship to the 1st Advanced Seminar in Cardiovascular Disease Prevention and Control. Helsinki, Finland, (7/23/82-8/6/82).

Who's Who in South and Southwest. (1982).

Personalities of the South (1982).

Berton H. Kaplan

McGavran Award for Excellence in Teaching, 1982.

Abdel R. Omran

Who's Who in America (1982).

Who's Who of Intellectuals (1982).

Men and Women of Distinction (1982).

Who's Who in the South and Southwest (1982).

American Men and Women of Science (1982).

E. Special Assignments of Faculty.

Barbara S. Hulka

Chairman, Epidemiology and Disease Control Study Section, National Institutes of Health.

Abdel R. Omran

External Examiner, King Abdelaziz University, Saudi Arabia; at the request of the Saudi Arabian Mission, Houston Education Center, June 1982.

VI. SPECIAL PLANS, PROBLEMS, DEPARTMENTAL DISTINCTIONS, DEVELOPING TRENDS, AND OTHER MATTERS OF IMPORTANCE.

The Department continues to enjoy its National and International reputation as one of the leading institutions in the field of Epidemiology. We can only admit a small fraction of the large number of applicants to our graduate program. A high percentage of those offered admission accept our offer. Unfortunately, because of the cutbacks in the federally funded training grants, we can no longer assure incoming students of financial support; therefore we anticipate some difficulty in attracting students to our program and that the acceptance rate will decline because of the lack of funds.

The Department has been very successful this year in further expanding the Cardiovascular Disease Epidemiology Program with the addition of a number of new grants. We were awarded an exciting new contract to initiate pilot studies for community surveillance of cardiovascular diseases in the South East U.S. This program, under the leadership of Drs. H.A. Tyroler and Suzanne Haynes, could lead to our department becoming the Southeast arm of the NHLBI for surveillance of cardiovascular diseases. In addition, Drs. James and Haynes were both awarded 5-year investigatorship grants for studies of cardiovascular diseases and psychosocial factors.

We will continue to concentrate on improving our continuing education activity, and plan to offer an annual conference on specific issues of chronic disease and health promotion/disease prevention. In addition, we are making preliminary plans for formalizing a program in International Studies, particularly in the Population field which is already international in scope.