ISSUES AND SUGGESTIONS IN THE STUDY OF HEALTH AND ILLNESS BEHAVIOR - A CONSULTANT'S REPORT

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Introduction.

This brief report is both a crystallization and a distillization of many issues raised this year in the attempt to design a health interview survey. As such, it will contain little that is unknown. The hope is that by putting many of these thoughts to paper, they will be of aide in the design of any future health interview survey.

The report is divided into three sections:
The first section emphasizes conceptualization, some of the issues that arise when we try to study the use of medical resources. The second section deals with operationalization and presents some alternative ways of collecting certain essential data. The third section is really an addendum, placed separately to emphasize the importance I place on studying 'self-medication' and 'self-treatment'.
The specific format is as follows:

I. ON CONCEPTUALIZING THE USE OF MEDICAL RESOURCE AND MEASURING MORBIDITY.

A. A brief commentary on the current emphases in studies of medical utilization.

B. Alternatives to the measurement of the criterion variable i.e. illness.

C. Epilogue.

II. PRELIMINARY INSTRUMENTS FOR A HEALTH INTERVIEW SURVEY.

A. Questionnaires on medical utilization.

B. Questionnaires on the epidemiology of bodily complaints.

C. Some methodological issues and suggestions in designing a health survey.

III. ON STUDYING SELF-MEDICATION AND SELF-TREATMENT;

A. Rationale and commentary.

B. Questionnaires on medicine use.

C. Annotated bibliography.

I ON CONCEPTUALIZING THE USE OF MEDICINE RESOURCE AND MEASURING MORBIDITY

A. A brief commentary on the current emphases in studies of medical utilization.

As I began to assemble and analyze the behavioral science literature on medical utilization, two things became apparent. Firstly, that there were already available several excellent analytic reviews (Stoeckle et al 1963, Kasl and Cobb 1966, Rosenstock, 1966; Mechanic 1968; McKinlay 1971) and secondly, that there was something awry about the direction and assumptions of all this work (including my own). It is to this latter concern that this paper is devoted.

Let us briefly review 'the state of the art'. One of the major new insights was achieved when very old data or data previously ignored began to be examined in a new light. As Mechanic (1959) simply put it:

> "... not all organically 'sick' people define themselves as ill and therefore often do not come under medical scrutiny - a fact which suggests that how people come to receive medical attention is itself a research problem."

There had prior to this insight been a long history of delay studies (reviewed in Blackwell, 1963, Kutner et al 1958) and of noting the discrepancy between lay and professional definitions (Starr 1955, Pratt et al 1957, Woodward 1951). New meaning was given to such observations as investigators began to speculate that doing something about one's state of health was a complex and analyzable phenomenon. Not only were the range of behaviors analytically separable into health, illness, and sick role behavior (see Kasl and Cobb 1966 for a general statement and the works of Baric 1969, Rosenstock 1966, Mechanic 1959, 1962, 1964, 1966, 1968 and Gordon 1966 for specifics) but also that any of these behaviors might be delineated into a series of stages (for seeing a doctor see the illustrative works of Suchman 1964, 1965a, b, and Zola 1964, 1971). In regard to seeking help, Freidson provides one of the earliest and still most trenchant descriptions:

> "Indeed, the whole process of seeking help involves a network of potential consultants, from the intimate and informal confines of the nuclear family through successively more select, distant authoritative laymen, until the 'professional' is reached. This network of consultants, which is part of the structure of the local lay community and which imposes form on the seeking of help, might be called the 'lay referral structure'. Taken together with the cultural understandings

involved in the process, we may speak of it as the 'lay referral system'."

.....

"... Insofar, as the idea of diagnostic authority is based on assumpted hereditary or divine 'gift' or intrinsically personal knowledge of one's 'own' health, necessary for effective treatment, professional authority is unlikely to be recognized at all. And, insofar as the cultural definitions of illness contradict those of professional culture, the referral process will not often lead to the professional practitioner. In turn, with an extended lay referral structure, lay definitions are supported by a variety of lay consultants, when the sick man looks about for help. Obviously, here the folk practitioner will be used by most, the professional practitioner being called for minor illnesses only, or, in illness considered critical, called only by the socially isolated deviate, and by the sick man desperately snatching at straws.

The opposite extreme of the indigenous extended system is found when the lay culture and the professional culture are much alike and when the lay referral system is truncated or there is none at all. Here, the prospective client is pretty much on his own, guided more or less by cultural understandings and his own experience, with few lay consultants to support or discourage his search for help. Since his knowledge and understandings are much like the physician's, he may take a great deal of time trying to treat himself, but nonetheless will go directly from self-treatment to a physician." (1960 pp. 377-378)

Justifying which piece of the help-seeking process to investigate created little difficulty, for so little had been previously documented that one could literally jump in anywhere and make an empirical contribution. Thus some focussed on the perception of symptoms (Apple, 1960 and Zola 1966) others on the readiness for action (Rosenstock 1966, Kegeles 1963, Hochbaum 1958) some on the expection and delineation of pathways (Freidson 1960, 1961, Gurin et al 1960, Mishler and Waxler 1963, Kadushin 1969) others on how pathways vary (Suchman 1964, 1965a, 1965b), some on the psychosocial determinants of general illness behavior (delaying - Kutner and Gordon 1961, or going - Mechanic and Volkart, 1961) and still others on the psychosocial determinants and meaning of specific illness behavior (Balint 1957, Zola 1964, 1971a). This work is still in its infancy and as the many investigators and reviews note there are still many important unanswered questions. It is how these unanswered questions are framed to which we now turn.

The proceedings of a very recent and impressive conference, now

dubbed colloquially the Boiling Springs Conference on Medical Education may serve as an illustration of this aforementioned framing of research. While the entire proceedings are filled with suggestions for interdisciplinary research, the most straightforward statement of the social science perspective occurs early on: (Behavioral Sciences and Medical Education, 1969, p. 11).

They (socially-oriented behavioral scientists) are trained to look at broader questions:

> "How is health or ill health perceived?
> How and when and why do people go to doctors?
> How do they find health care facilities?
> How do they get there?
> Do they really get the care they need?
> Do they accept it?
> Do they get satisfactory results?
> Quite aside from narrow biological concerns, what are the social, psychological, cultural and economic characteristics of patients that affect the kinds of health care they want or need?
> What sorts of instruments exist to measure the characteristics and qualities of medical students that might help to guide their career choices?
> What sorts of physicians are most effective in dealing with what sorts of patients?

Good questions all, and yet they represent a rather significant narrowing of focus. For while a critical attitude to the current practice and organization of medicine is implicit in the vast majority of such questions-studies, their wording and emphasis indicate a basic acceptance of the primacy of the institution of medicine. Put another way, it was usage of the doctor we were trying to understand and in some sense improve. For when we divide a population along the criteria of high or low doctor utilization we are implicitly saying there is some 'correct' 'appropriate' level of utilization and that 'correct' utilization consists of seeing a doctor. Freidson (1970a, b) has quite convincingly delineated how medicine came to such a dominating position, though there is some recent questioning as to how long this exclusivity will continue to be maintained (Zola and Miller, 1972). In any case, it is not unreasonable to assume that sociomedical investigators, creatures of the same culture as the public, also 'bought' medicine's claims. And to the degree they did, it may help explain how these investigators were consistently able to ignore another implication of their studies. For in justifying their focus on psychological, social, economic, ecological, etc., etc., factors in the utilization of, or decision to

seek medical aid, they often cited data to emphasize that not all the organically ill were under medical care. A few examples will illustrate how extensive the number of untreated were. One of the more conservative estimates of what is missed was stated by White at al (1961):

> "Data from medical-care studies in the United States and Great Britain suggest that in a population of 1,000 adults (16 years of age and over) in an average month 750 will experience an episode of illness and 250 of these will consult a physician..."

This means that the physician has no medical contact with two out of every three illness episodes. More intensive studies of select populations, the aged (Williamson et al, 1964), mothers with young children (Alpert et al, 1969; Kosa et al, 1965, 1967) and young college students (Zola, 1966), raise this figure to 9 out of 10 or higher. Nor can it be contended that such 'untreated by a physician' conditions are necessarily minor. Whether we take the results of an old study (Pearse and Crocker, 1938, 1949) or a newer one (US Chronic Disease Commission, 1957), the focussing on a minor medical problem, feet (Clarke, 1969), a potentially serious one, streptococcal pharyngitis (Goslings et al, 1963; Valkenburg et al, 1963) or a major one, diabetes (Butterfield, 1968), by either functional or clinical criteria an equal number if not a majority of such conditions are simply unseen and untreated by the 'available' medical services. Yet even this kind of medical evidence led investigators to phrase their research in some variation of the following:

> "We can now restate a more realistic empirical picture of illness episodes. Virtually every day of our lives we are subject to a vast array of bodily discomforts. Only an infinitesimal amount of these get to a physician. Neither the mere presence nor obviousness of symptoms, neither their medical seriousness or objective discomfort seems to differentiate those episodes which do and do not get professional treatment. In short, what then does convert a person to a patient? This then became a significant question and the search for an answer began." (Zola 1972)

And when answers indeed started to come in, the data was used to delineate how and who got stuck, delayed, perhaps even ignored or passed in their seeking of help. When the data was sufficiently detailed, the aforementioned stages (Suchman, 1964, 1965a,b) were documented. Yet somehow these stages, though it was empirically obvious that the majority of all people and illness episodes never reached the endpoint, i.e. the doctor, were viewed as way stations,

and inappropriate ones at that. To paraphrase another professional credo, there seems to have been the acceptance that 'he who has himself (or a friend, or a chiropractor or once an osteopath) for a physician has a fool for a doctor'. In this light it is not surprising that there have been few published studies of self-medication (Jefferys et al, 1960; Kessel and Shepherd, 1965; Knapp and Knapp, 1966) virtually none of the utilization of non-orthodox practitioners (Bender, 1965; Cassee, 1970) and the merest beginnings of how illness is managed without resort to medicine (Alpert et al, 1969). There is a history of looking at these issues not in Western industrial settings but amongst more 'backward', 'underdeveloped' nations (Cunningham, 1970; Harley, 1941; Kiev, 1968; Hughes, 1968). Further implying to me, that the practices themselves are perceived to be 'backward' and 'underveveloped'. Mechanic (1968) could justly and perhaps too calmly maintain:

> "We know very little about how people use their friends and aquaintances to cope with distress, and not much more about the use of a great variety of non-medical practitioners such as clergymen and lawyers, semi-medical persons such as druggists, and marginal practitioners such as chiropracters and faith healers."

This is the state of the art.

B. Alternatives to the measurement of the criterion variable i.e. illness.

This section is an attempt to apply a corrective to the bias outlined previously. Our goal is a simple one - to outline the various places and ways that 'illness' is measured, counted, and handled as well as some of the implications of any particular handling. To give perspective, we start with the most straightforward and 'objective' measures of illness and proceed through to the most subjective, giving less emphasis to more commonly documented indices and more to poorly articulated ones.

The Measures

I. The clinical-epidemiological field survey

- Clinical Exams
    - scars, residuals, lesions, autopsies for past history
- Laboratory Tests, Y-rays
    - physiological measures may be used which while themselves not the equivalent of disease may be designated as indicators prodromal signs, 'high risk' characteristics, etc.

II. The utilization of a medical facility, office, clinic, hospital

- Derived from medical records, hospital and surgical records (admission diagnosis or discharge diagnosis is sometimes an issue.)
- Use of the above facilities but in ways which do not necessarily lead to the recording of either the visit or the symptom.
    - consultations undertaken during the visit of someone else
    - telephone consultations
    - consultation with a very specialized medical service: psychiatrist, dentist, opthalmologist, dermatologist, gynecologist, etc.
    - check-ups

III. The utilization of 'other medical' personnel

- Use of non-medical (i.e. M.D.) 'specialists' - pediatrist, chiropedist, optometrist, midwives
- Use of allied personnel or paramedicals - office nurses, medics, public health nurses, physiotherapists, 'trainees'
- Use of pharmacists, chemists
- Use of 'marginal practitioners' - a list cannot be given for the alternatives vary greatly from society to society
    - from chiropractors, osteopaths, naturopaths in the West to hakims, diviners, injection doctors, ayurvedic healers in other parts of the world

- Use of personnel with no formal medical knowledge, but with some 'attributes and medical expertise'
    - social workers and the clergy and occasionally lawyers are often people to whom people bring their problems
    - people with attributed medical knowledge such as people who work in hospitals, clinics, doctors' offices
    - people with life experiential qualifications - from sheer age, to having suffered the disorder or known others who had
    - people associated with the current health food movement - the sales people, clerks, etc.

IV. Withdrawal behavior

- Withdrawal from activity due to illness (commonly registered)
    - absence from work
    - absence from school
    - absence from military service
    - absence from other captive or compulsory activity (e.g. in a prison)
- Withdrawal from activity due to illness (not commonly registered)
    - done outside ordinary working, school, etc. hours (weekends, evenings)
    - done in a normally non-registered activity or context
        - 'house-wife'
        - child out of nursery or pre-school, 0-5 years
        - man in part-time, unskilled activity
        - man in full-time, independent, professional activity

V. Self-medication

- Use of ethical prescribed drugs where records of such purchase can be or are kept recorded, etc.
- Use of ethical prescribed drugs already bought or available for other purposes
- Use of 'patent' proprietary medicines
- Use of other 'medical' cures - folk or home remedies

VI. Subjective lay appraisal

- Self-appraisal
    - where the respondent answers either systematically or unsystematically about the state of his past or present health
        1. a list of diseases - did (do) you have....?
        2. a list of symptoms
            - either directly indicative of a specific disorder
            - or simply a list of common or serious symptoms
        3. open-ended
            - the respondent defines the state of his health by his own criteria
        4. illness-related behavior other than withdrawals or self-medications

- Other or proxy appraisal
  - for certain conditions and for certain limited periods of time
    1. informants may be able to report on a whole host of diseases or indicators

The immediate question is whether one measure is not somehow better than another. And the immediate answer is that it depends on what one wants to know. Thus the clinical-epidemiological field study will for most disorders provide the most accurate picture of the prevalence and incidence of a particular disease entity, but it may be entirely misleading data for the purposes of health planning based on 'unmet medical needs'. For what does it tell us if we can detect that a person has had a specific condition (either by autopsy, x-ray, or lab test or exam) if he has never sought treatment for it, and if indeed there is no evidence that he at least in his own mind has 'suffered' from it. Or take the opposite extreme where a person 'suffers' (i.e. subjective lay appraisal) but no organic-disease entity can be found. Eliminate for the moment that he is 'malingering'; what or how would his case be counted? Moreover, if we were trying to estimate demand in terms of health services or the economic-social losses to a society, on what basis could we consider such subjective appraisals irrelevant?

Now we can, a bit more systematically, speak of some essential strengths and weaknesses of each of these measures.

It is only within recent years that the clinical field study (I) has gained increasing importance. For the study of most entities such a large scale enterprise was regarded as an almost academic frill. As mentioned in the previous pages, there was no need to do such studies since it was long held that utilization figures represented a close enough approximation to the prevalence and incidence of most disorders. While more and more doubt has been cast on this position (from studies of arthritis, Cobb 1963, to studies of mental illness, Srole et al 1962), it was rarely questioned as to whether treated cases might not be representative of the disease under study. Thus Butterfield (1968) in his recent epidemiological study of diabetes was shocked not only at the number of untreated cases but at the fact that many of the untreated were so clinically different from the treated as to cast doubt on the current diagnostic criteria for diabetes.

To the degree that there is a fit between the clinical epidemio-

logical survey (I) and utilization data (II) it will tell us something about the degree of fit between medical and lay standards. At best both sets of data may give important clues for the study of etiology and the minimal demand to be placed on medical services. As far as general utilization data is concerned, it will tell who uses what (but not why - what the Doctor thinks is wrong and what the patient thinks is wrong may not coincide), and it will give some indications of what (and with what frequency) the lay population thinks the medical profession is able or willing to treat certain conditions.

In addition, there are a whole series of 'utilizations' which are either not counted or not given sufficient weight in understanding the whys and wherefores of medical usage. The first of these is medical consultation that takes place while the physician is essentially treating someone else. This usually takes the form of 'While we (usually family members) are here (i.e. at your office) I wonder if you would take a look....' or 'While you are here (at the home of patient), would you take a look at....' The latter apparently was quite common when 'house calls' were a major part of the doctor's activity. It is still true apparently in some settings and constitutes a great deal of the public health nursing job as well as of the new 'family health worker'. In the latter instances, the professional uses the presenting patient quite consciously as an entree to other problems in the family (Zola and Croog 1968). The second category, telephone conversations, while always considered a routine (though unrecorded) part of medical practice, has become for some practices institutionalized. Thus pediatricians in many locales set aside an hour or more in the morning to dispense advice and even drugs to the mothers of their patients. The full extensiveness of this practice is unknown but there is reported considerable benefit to getting ready answers to that most pressing series of questions: 'Should I keep - home from school or bring - into you or have you visit us?' The use of the telephone - at least as a preliminary treatment device - is also being explored in many settings from the Poison Control Information Centers to the Suicide Prevention Centers to the new 'hot lines'.

The third grouping, consultation with recognized medical specialists, is duly recorded, but some clinical observations as well as some unpublished data (Zola 1971) indicates that under the guise

of specialist consultation a great many other problems are handled. Thus in a long series of post-natal check-ups, it was found that the visit was used by the patient, (treated and unrecorded by the physician) for a whole host of essentially un-OB-GYN problems. This point becomes even more pertinent if we were to extend our definition of medical problems to include social and psychiatric, for here there is ample anecdotal material to document how often such problems either arise or are part of standard medical treatment (Balint 1957, Stoeckle et al 1964). Finally, we turn to the most neglected and thus least fully appreciated of medical consultations - the check-up. Here again we must rely on unpublished data (Zola 1971). Our claim is that except for required, pre-arranged check-ups, precious few patients arrive at the doctor's office merely for the annual physical. The preliminary analysis of our data indicates 1) that even for those who go for 'regular' check-ups, the timing is related to something that they 'do not regard as serious but is worth looking into, so why don't I get my check-up;' 2) that the check-up is a way of handling and presenting complaints which put the burden on the physician - we recorded many cases of pressing complaints which the patient did not verbalize if the physician during the course of the exam indicated that the appropriate body system is 'in good working order' 3) that the check-up for an individual is also a way of bringing up a complaint analogous to the aforementioned visitor consultation - 'Oh yes, by the way while I'm here I wonder if you think this is serious...' 4) that even when the check-up is pre-scheduled as a follow-up, one of the major differentiating features between those that do and do not keep these appointments is having a series of 'other' complaints which concern them. Needless to say none of the above four findings re check-ups are discernible in the medical records. And on the whole all of the medical encounters in the above series represent data which is 'uncounted' and thereby ignored in our understanding of ordinary medical visits.

There is really not much commentary to add to our listing of 'other medical' personnel (III). At the very least they represent a quite conscious going outside of the system. Their use is, however, so unsystematically documented that one can little more than speculate whether such use precedes, follows, or, as in some 'under-

developed' countries, parallels that of regular physicians. No doubt one of the more illuminating studies would be where the comparison is made between specialties treating similar problems, e.g. the oculist, optometrist, opthalmologist, - the pediatrist, chiropedist, as well as their changing relationship with the patient during the course of an illness (à la F. Davis, Passage Through Crisis).

The recording of withdrawals is essentially a way of inferring illness by a negative response - the absenting of the individual from some regular activity. As currently used, they are cited as indices of the economic loss to the society because of disease. Ironically, these most commonly registered absences represent both a capitalist as well as a sexist bias. The former is clear insofar as the activities whose absence we record are essentially occupationally-linked. On the other hand, if interference disability were what we were primarily interested in, then the list of activities should be expanded from the individual (not the medical or 'society's') point of view. Thus such a activity withdrawals would include many non-vocational activities (withdrawal from religious participation, social and leisure-time activities - from reading to sports to sexual relations). Interestingly enough in a secure economic system with heavy 'illness compensation' or health insurance schemes, it may be these kinds of activities which are most 'important' to the individual. There is a sexist bias on two levels - first there is the usual lack of recognition of income equivalence for the work of the housewife. Secondly, even where studies allow for the woman to absent herself from housework, it is easy to infer from the words of a respondent in Koos' study that some more subtle or different measure of interference might be required.

> "I wish I really knew what you meant about being sick. Sometimes I felt so bad I could curl up and die, but had to go on because the kids had to be taken care of and besides, we didn't have the money to spend for the doctor. How could I be sick? How do you know when you're sick, anyway? Some people can go to bed most anytime with anything, but most of us can't be sick, even when we need to be."

Finally, measures of withdrawal are best at supplying data about illness at its most general level - whether or not A was sick and how often, rather than what specifically he had. It is exceedingly difficult from such data to create rates for any but the most general category of specific diseases. For while such records may be replete

with diagnoses - the latter may reflect more 'acceptable diagnoses for the purpose of legitimizing withdrawal', than the primary diagnoses or even the major complaint of the respondent (Field 1957).

Self-medication (V) represents one of the least understood and yet most prevalent of medical actions. In this general area we are indeed in virgin territory. While there has been a continuing tradition of research into the patient's keeping to a prescribed regimen (Davis and Eichhorn 1963, Roth 1968) and occasional studies on physicians' prescribing patterns (Coleman et al 1966, Lee et al 1964, 1965, Martin 1957), there have been few systematic studies and even fewer publications of what the lay individual does to, and for, himself. An example of this is seen in the recent publications Annals' Home Medication and the Public Welfare (1969). For in this document despite the over 30 articles and panel discussions and a welter of references, they cite not a single published study of self-medication. Virtually all the data on which they base their conclusions is inferred from general statistics on drug sales and purchases. There have been many studies past and ongoing which include some data on the issue (Hassinger 1959, White et al 1967), but since the primary purpose of such studies was quite different, the relevant information was not indexed and is thus unavailable to all current methods of data retrieval. It is only within the last year or so that the Index Medicus has begun to classify studies under the rubric of self-medication, etc. Thus to most investigators (as judged by the references cited in their publications and research proposals) the literature is functionally non-existent. Moreover, the word 'published' should be emphasized for as seen in the recent pamphlet Without Prescription, (Office of Health Economics 1968) such data does exist and may well have for a considerable period of time. It is, however, reposing in the coffers of the marketing divisions of the pharmaceutical firms or in the files of market research firms which have specialized in drug research. The one exception to these comments is the study by Jefferys et al, (done in the 1950's but published in 1960) but it took over a decade for similar research to be done in the United Kingdom and even longer in the United States (Dunnell and Cartwright in press, Knapp 1968).

The reason for such a vacuum in this all-important area of medical care is not hard to understand. As elsewhere, in regard to

several other areas of sociomedical investigation (Zola 1966 & 1969), it is related to several hidden and inarticulated assumptions about the prevalence (how much of it exists) and the process (why it takes place) which tend to play down the existence of any 'real' issues to study. Here, however, there was additional overlay. For such phenomena - self-treatment as well as the use of 'quacks' or anyone who did not have an MD - was 'bad' in and of itself and therefore not worth investigating except to 'expose' it (though there are some quite informative and interesting exposees). Perhaps as seen today in regard to certain drug investigations (Efron 1967) there was the fear that to even investigate it systematically would give the phenomena some air of legitimacy or, at the very least, publicity and therefore unintentionally encourage the 'evil' practice.

A current reversal of both 'research policies' is due in part to the penetration of some long-standing observations: 1) that in no predictable future will there be in either the developed, the developing, or underdeveloped countries sufficiently qualified, by current standards, physicians to service adequately the populace; 2) that despite massive educational and legal efforts, people continue to self-medicate and go outside the orthodox medical services; 3) that perhaps such forms of doctoring do or can do 'some' good (Cargill 1967); 4) that for an increasing number of conditions the treatment of choice is the patient management and administration of a particular medical regimen. Regardless of these practical forces there are a number of other pushes (particularly in the self-medication area) such as the current 'scares' re drug abuse in general, and the more limited but equally dramatic area of adverse drug reactions (Goulston and Cooke 1968, Mintz, 1967, Moser, 1964). Both lead to a desire to learn more about how and why people use drugs. In the case of adverse drug reactions, the situation is even more complex, pharmacologically and sociologically. For here, too, an old reality is coming to the fore: it is not merely the effect of a single drug which is of major concern (for further laboratory testing with longer and more extensive field studies along this line is at least possible), but of incorrect and multiple dosage. For in today's society (at least in the U.S. and other nations are probably not that far 'behind'), people are not merely taking one drug for one disease, but 1) are not following the doctor's direction as to timing and dosage, 2) are using

drugs prescribed for other (or previous) conditions or even for other people, 3) are taking more than one ethical drug at a time (e.g. birth control pill and something else) for more than one condition (often though not necessarily prescribed by more than one physician), 4) are taking an ethical drug in combination with some non-prescription proprietary which by themselves are relatively innocuous but in combination lead to ???, and finally 5) are taking proprietary medicines which ordinarily are harmless but taken in excessive dosages or for extended periods of time or in certain combinations lead to ? (Goulston and Cooke 1968). Some countries (really the physicians and pharmaceutical firms of such countries) by their very prescribing patterns allow or unwittingly encourage such over-treatment. This is seen in the practice of prescribing and hence dispensing drugs in standard units or sizes which have only a limited relationship to the required regimen. Thus, even if a patient adheres rigidly to the regimen outlined by his physician, he will inevitably have some 'left-over' drugs.

On the most general level, self-medication reflects the treatment of conditions which the individual or his immediate social circle thinks will not get better by themselves. They may also reflect conditions which he thinks are too minor (and occasionally too serious) for medical consultation, are out and out substitutes for medical consultations, or supplements to it. The data that does exist on this subject may be calming to the medical profession for it indicates that high self-medicators are also high doctor utilizers (Jefferys 1960).

Now we turn to Type VI measures - the softest, the most unreliable, and what some might contend are the most worthless of all - lay appraisals. First, let us examine the appraisal by others where data is obtained on A by asking B (see Cartwright 1957). There is little doubt that in some instances such recall will be the only data we are likely to get. This is especially true where we are trying to get a historical picture of phenomena which are no longer verifiable such as cases of certain types of mental illness, certain physical deformities, mental deficiency, etc. (e.g. Eaton and Weil 1955). It is virtually the only source of data we are likely to get on the very young essentially non-verbal children, where mothers will be the best reporters. Such 'other appraisals' can also be useful where the respondent himself is unable (what he cannot usually see or observe - from snoring or bodily odour

to bad breath to certain stages of decompensation) or unwilling (potential negative assessments of ego's interpersonal behavior - from assessments of sexual compatibility to disposition to some generally stigmatized medical conditions) to report them.

The most difficult data to assess is, of course, the individual's self-appraisal (e.g. his estimation of his health, etc.) or self-reporting (the symptoms he has experienced). It is, however, the most unreliable primarily because of how we collect it or ordinarily want to use it. It is most easily dismissed (and perhaps rightly) when it is used to directly reflect disease states, i.e. where the symptom which the respondent is asked to recall is directly diagnostic (e.g. pain radiating around the heart and up the left arm). It is also of questionable diagnostic use where the time and frequency dimension is clear to the doctor-diagnostician (frequent urination, persistent cough, severe pain, considerable loss of appetite, weight, etc.), but where these simply do not mean the same to the patient. Signs and symptoms are also subject to faulty recall: the longer the time period (over 24-48 hours), the greater the likelihood that it was not accompanied by an action (e.g. withdrawal from some activity), the less dramatic (coughing versus bleeding), the symptom, and the less frequently it occurs within the respondent's life space (he or others have it all the time versus rarely). One could list other criticisms, but let us now turn briefly to some of its strengths. Assuming one has solved, or more adequately than most, dealt with these methodological issues, at the very least it will provide a more adequate picture of the ills, sufferings, bodily discomforts that afflict mankind, for it will probably show a prevalence figure which will be staggering in dimension. It will thus be a baseline, a background for trying to understand (and perhaps change) an individual's ordinary response to physical trouble and a further appreciation that only an infinitesimal amount of this ever comes to the attention of orthodox medical authorities. The latter observation should have great implications for the future training and role of physicians, including some sharper delineation of what cannot or should not be the exclusive province of the physician. Such data will also provide some extraordinary insights cross-sectionally (for people and groups), and I would make the prediction that the most significant differences

(what they will be, I wish I knew) will be found between 1) the untreated conditions, 2) the self-treated ones, and 3) the ones where some external help is sought. Still another reason for collecting such data is its direct medical implications. As shown in one recent study (Reidenberg and Lowenthal 1968) which was attempting to discern the adverse effects of certain drugs, many of the supposed side effects were undistinguishable from the respondent's general bodily discomforts as well as the very illness for which they were being treated. As regards the latter, it is well to bear in mind Seyle's observation (1956) that diagnosis and the notion of clinical entity is based on a very small amount of characteristics peculiar to that disease and no other, and that by far the largest number of signs and symptoms of any disease are shared by a wide variety of disorders and physiological malfunctioning (J.B. Morris 1967 has some similar comments on the uses of epidemiology to delineate syndromes). Finally, such data should give a much better empirical base to our understanding the true nature of chronicity and should provide an infinitely better picture of the nature of delay (see Kutner and Gordon 1961).

There is, however, a final type of self-report which to my knowledge has never been systematically collected. For paralleling any list of symptoms should logically be a list of actions. While investigators are studying two types of 'patient' behavior - withdrawals and self-medication - there is at least from common-sense observation a whole series of other actions individuals take to cope with a symptom-problem: rest, stop what we are doing, exercise, get fresh air, eat something, analyze the reasons why we might be suffering from -. That we have ignored them intellectually (though not in daily living) probably reflects our verbalized evaluation of them as unefficacious. To date their study has been left more in the hands of psychologists (Bakan 1969) and those who, reflecting on the wisdom of the East, are beginning to reponder our ability to cure ourselves. This in itself is ironic since it has been literally generations since we have accepted aspects of the psychosomatic approach which emphasize how well we are able to harm ourselves.

C. Epilogue.

With so many 'illnesses' pressing on man, the traditional view of illness as being automatically 'bad' and therefore worthy of elimination is being challenged. Putting aside the social uses of illness labels (Foucalt 1965, Leifer 1969, Szasz 1960, Zola and Miller 1971), the title of Dubos' book, The Mirage of Health is finally being attended to. Thus Ratner (1962) has questioned our zeal in immunization and Jones (1960) has speculated in a similar vein about the so-called diseases of civilization, wondering if they represent a kind of

> "...balanced polymorphism: (since) such conditions as obesity, diabetes, hypocholesterolaemia and ischaemic heart disease are so frequent - and so often associated - because they represent the survival of genes that could withstand famine, and other privation, from times when such genes were advantageous to age and affluence (to times) when manifestly they are not."

There is also some limited evidence that at least in the psychic realm such symptoms as anxiety are not necessarily all 'bad', related as it may be to certain kinds of achievement and adaptational as it is under certain situations of acute crisis (Janis 1950). Perhaps in many senses of the word, 'to be ill' may at times be positively functional for the continued long-run good 'health' and performance for the individual and the group. It may ironically be 'treating' certain phenomena as basic disorders rather than as ephemeral or adaptive episodes which leads to their being maladaptive and dysfunctional for the individual and society. Hopefully our research orientation will provide a beginning answer to such issues. On the other hand, we are not merely calling for new research although that is surely needed, the import of our message is for a reorientation in perspective. For we hope that the expanded notion of medical behavior will help us see more clearly the growing roles of paramedicals and self-help groups in treatment and rehabilitation as well as the enormous amount of activities a population engages in to 'doctor' themselves - something that future medical care programs hopefully can build upon technically, educationally, and therapeutically.

In subsequent sections of this report we will outline some methodological issues to be dealt with in the study of any of the aforementioned 'alternatives' and will include several sample questionnaires.

Given the space devoted to it in this brief essay and the importance we feel due to this neglected area, we will have a special series of sections dealing with self-medication and self-treatment.

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II PRELIMINARY INSTRUMENTS FOR A HEALTH INTERVIEW SURVEY

Given the still early conceptualization of this study, the following instruments can only be seen as starting-points. They reflect ways of tapping some of the issues outlined in section I and might well be relevant or suggestive to the design of any health interview survey. It is selective in two ways:

1. the kinds of instruments provided are not readily available in the literature;
2. there are instruments specifically eliminated because they are being or have been, or are capable of being developed by other members of the H.I.S.-group. In particular, we refer to several 'whys' of medical utilization:
    1. General utilization - high versus low or non-use. E.Th. Cassee has been studying this problem and has already developed some instruments. P. Stroink has been examining some of the other instruments generally available.
    2. Specific timing - this is the 'why now' question to which I have given much attention. This kind of instrument and some of its necessary accompaniments are included in this report.
    3. What the respondent expects or wants out of the visit - though no one member of the H.I.S.-group has specifically been responsible for this, it has been a general thread through many of our discussions. Since I have no firm conviction as to which of a myriad of approaches would prove more fruitful, I offer no instruments.
    4. Which of several 'health practitioners' or actions an individual consults or takes - I have outlined some of these issues in this section, Part A, no. 4.

Pretesting and a detailed working out of the format have yet to be done.

This section (II) thus consists of the following parts:

A. Questionnaires on medical utilization.

1. Medical Resources;
2. Epidemiology of Recent Use;
3. On the timing of Medical Visits (MV);
4. On the reasons for Non+Medical Visits (NMV);

B. Questionnaires of the epidemiology of bodily complaints.

1. Past Medical History (PMH);
2. By Prevalent Conditions;
3. By Symptom-Check List;
4. By Health Diary;
5. By Action;

C. Some methodological issues and suggestions in designing a health survey.

A. Medical Utilization.

1. Medical Resources.

Do you have a personal doctor to whom you usually go?

Who is he?
What kind of Dr. is he?
What do you know about him?
Where is he located (practice, etc.)? How near you?
How do you get there?
Is he a member of a group practice?
How long has he been your doctor?

Do you have any others whom you consider your doctor?

Who is he?
What kind of Dr. is he?
What do you know about him? (training, affiliations)
Where is het located (practice)? How near you?
How do you get there?
When do you use ---------- rather than one mentioned as personal doctor.

Where or to whom would you go in an emergency?

(Examples of most recent use).

What is the nearest medical resource to you? Can you go there at any time? For anything?

(Examples of most recent use).

Are you covered by health insurance; member of sick fund?

(Give details).

Do other people in your family have a different doctor?

(Sequence of above questions is repeated).

(Some other relevant questions might be derived from the study by Jouke van der Zee of why people change physicians).

2. Epidemiology of Recent Use.

During the last two weeks did you see, consult, or speak to, or ask health questions or information about your health from:

1. Public health nurse - visiting nurse - health visitor
2. Nurse in doctor's office, clinic, or outpatient department apart from a visit to a doctor?
3. Chiropodist/podiotrist
4. Osteopath
5. Chiropractor, mesmerist, herb doctor, naturopath
6. Social or welfare worker
7. Optometrist/optician/oculist
8. Dentist
9. Any other medical specialist (specify)
10. Any other health worker
11. Pharmacist/apothecary
12. Droggist
13. A person/clerk working in an apotheke/droggerie
14. Any other person you consider informed re health
15. Anyone in your family, ... a friend

An alternative wording is as follows:

In the two weeks ending yesterday, did you talk to/or consult a medical doctor about your health - even by telephone?

> Where did this take place? Wat it a regularly scheduled visit, follow-up?
>
> What was it for?
>
> When was the appointment made? (If it appears that the idea of the follow-up was primarily in the patient's hands, then consider it a an appropriate "medical visit" worthy of investigation).

After ascertaining this recent use, this 'consult' might be further investigated as to the specific 'why' along the lines suggested in 3.

3. On the timing of Medical Visits. (MV)

1. For when you went the last time to the doctor or _____ what was the trouble, as best you can remember?

   (Probe - to get at specific symptoms not diagnosis).

   (IF PATIENT WENT FOR A PRE-SCHEDULED CHECK-UP VISIT OR FOR A PRE-SCHEDULED PREVENTION MEASURE ASK (EXAMPLE) - "DID YOU DISCUSS ANY OTHER SYMPTOMS WITH DOCTOR?"
   IF YES - GO ON, IF NO - GO BACK TO (1) AND ASK FOR ANOTHER TIME.)

2. What were the other symptoms you had at the same time?

   (PROBE - Anything else (Repeated several times).

3. Of all the symptoms you have mentioned, what was the most important?

4. Why was this the most important?

5. Can you recall what first brought these symptoms to your attention?

   Probes: a. Was it something about the symptom? If YES, what?
   b. Was it something someone said about the symptom? if YES, what?
   c. Was it something that the symptom affected? if YES, what?

6. What was the specific location of the symptom?

   Probe: for the location of the chief symptom, then for other symptoms if any.

7. How painful was the symptom?

   Probe: for painfulness of chief symptom, then for painfulness of other symptoms if any.

8. In addition to you telling me how painful the symptom was in your own words, would you please choose the description on this card which best describes the painfulness of the symptom.

   (HAND RESPONDENT CARD 1).

   (Be sure to get their "asides" as they hesitate or qualify their response.)

   - unbearable;
   - extremely severe;
   - not too bad;
   - insignificant;
   - none at all;

9. How noticeable was it to others?

10. How often have you had it in past? Have you gone to the doctor in the past for it?

11. Have you sought any other medical help for it or even spoken of it in the course of sseing someone for some other medical purpose?

    Have you spoken to any of these people about it? When? Why? What did they tell you?

    (HAND RESPONDENT CARD 2).

    1. Public Health Nurse - visiting nurse - health visitor
    2. Nurse in doctor's office, clinic, or outpatient department
    3. Chiropodist/podiotrist
    4. Osteopath
    5. Chiropractor, mesmerist, herb doctor, naturopath
    6. Social or welfare worker
    7. Optometrist/optician/oculist
    8. Dentist
    9. Any other medical specialist (specify)
    10. Any other health worker
    11. Pharmacist/apothecary
    12. Droggist
    13. A person/clerk working in an apotheke or droggerie
    14. Any other person you consider informed re health

15. Anyone in your family, ... a friend

12. What did you think the symptoms might mean?

13. Did the symptoms affect anything you usually did?

(DO NOT LET RESPONDENT JUST SAY, WORK, HOUSEWORK, KIDS, ETC MAKE THEM DESCRIBE THE NATURE OF THIS INTERFERENCE WITH EXAMPLES. DO THEY MEAN ALL WORK OR JUST SOME ASPECTS? WHAT ARE THESE ASPECTS?)

14. What would you say bothered you most about your symptoms

15. Here is a list of items which people often say have bothered them most about their symptoms.

(HAND RESPONDENT CARD 3).

Please read the list through carefully. (WAIT).

Now, which bothered you most, (PLACE A IN APPROPRIATE SPACE).

Which bothered you next most, (PLACE B IN APPROPRIATE SPACE).

Which bothered you least, (PLACE C IN APPROPRIATE SPACE).

- that it was noticeable;
- that it might lead to something or mean something;
- that it hurt;
- that it upset others around me;
- that it prevented me from doing work;
- that it lasted on and on;
- that it meant others would have to help me;
- that it made me irritable and difficult to get along with;
- that it affected how I looked;
- that it made me miss or spoil some social occasion or meeting;

(This list should be revised according to the findings of E.Th. Cassee.)

16. Here is a list that I would like you to read and tell me which one best represents the influence that other people had on your going to the doctor or to _____.

(HAND RESPONDENT CARD 4).

Which one was most like the situation we are talking about?

1. Didn't speak to anyone about the symptoms.
2. Spoke to some people about the symptoms, but their opinions didn't matter to me.
3. People had some influence - they urged me to come.
4. People had great influence - they insisted I coma.

5. People had an overwhelming influence - they left me no choice. I had to come.

(FOR ANSWER TO 1 - ASK - Why didn't you speak to anyone? FOR ANSWER TO 2, 3, 4, 5, ASK - Who were the people involved? In what way were they particularly or not particularly influential?)

17. What would you say was finally the most important thing that made you go to the doctor? (or to _____).

18. a. I am going to hand you a list of things that many people state are the most important reasons they went to the doctor.

(HAND RESPONDENT CARD 5).

Read this list carefully. (WAIT).

Now for you what was the most important (PLACE A IN SPACE).

Now for you what was the next most important (PLACE B IN SPACE).

Now for you what was the third most important (PLACE C IN SPACE).

- you thought it might interfere with your work;
- the symptoms became worse;
- someone urged you to come;
- you now had the time;
- you became concerned about what the symptoms might mean;
- the symptoms changed;
- someone called it to your attention;
- it made it harder to socialize or be sociable;
- you couldn't do your work;
- you met someone who had the same or similar symptoms;
- the pain became too severe;
- the symptoms occurred again;
- you heard or read something;
- you now had the money;
- others around you became very upset and angry;
- your appearance changed;
- the symptoms were still there;
- someone insisted that you come;
- you couldn't stand all the fussing around you;
- it interfered with your leisure time activities;
- the symptoms were like something you'd had before;
- it prevented or spoiled some special event;

(This list should be revised according to the findings of E.Th. Cassee.)

19. In what way do you think the symptoms affected how you got along with people?

    Probe: Your family? Your friends? At work? etc.

20. How long did you have the symptoms before you actually went to see the doctor or _____?

    (UNLESS THEY WENT IMMEDIATELY ASK: Why did you wait so long?)

21. Here is a lost of things which people frequently say prevented them from going to a doctor or _____?

    (HAND RESPONDENT CARD 6).

    Read the list carefully (WAIT). Now,

    Which seems most appropriate in your case (PLACE A IN SPACE).

    Which seems next most appropriate in your case (PLACE B IN SPACE).

    Which was most certainly not a factor in your case (PLACE Z IN SPACE).

    - I thought it was nothing, not serious;
    - I was too busy - I couldn't take tome off from my work;
    - I didn't know where to go or whom to see;
    - I just didn't have the money;
    - I don't really like to go to doctors;
    - the symptoms kept coming and going;
    - others said it wasn't serious;
    - I thought it would clear up by itself;
    - I was afraid of what the doctor might tell me;
    - I thought it might just be nerves;
    - there was just no one to take care of things;
    - I had some medicine I was taking for it;
    - I was embarrassed or ashamed about it;
    - I really didn't think it was anything that could be helped;
    - Everyone seemed to have it, it didn't seem worth the trouble;
    - I didn't want the doctor to think I was a hypochondriac;
    - I had no idea what it was;
    - No one told me to go;

(This list should be revised according to the findings of E.Th. Cassee.)

22. What did you think the doctor or _____ would say about the symptoms?

23. What did he say?

24. How did you feel about what the doctor or _____ said?

4. On the reasons for Non-Medical Visits. (NMV)

As I have agreed in the opening sections of this report that one of the most important issues worth investigating is when an individual decides not to visit a physician but to handle his problem in some other way.

If this topic is agreed on for study, then an important theoretical matter must be settled a priori.

1. From the questions outlined in questionnaire A, 2, it is obvious that there are many people besides a physician that a person might 'consult'.

2. The other major differentiation is between handling the problem oneself or within the family and not seeking any outside 'medical help'.

Each of these foci would need questions on characteristics of different kinds of 'helpers' - what one might offer and another might not or negatively (since many decisions are made that way) in the sense of what dissatisfaction the person has with a particular 'practitioner'. Here again the data on why people change physicians (from Jouke van der Zee) might be very helpful.

The second differentiation could be an adaptation of questionnaire 3 (MV) along the following lines.

a. The opening question could be something like:

> For when you thought about going to the doctor but didn't go, what was the trouble, as best you can remember? How long were you disabled? What does disabled mean to you?
>
> (Probe - to get at specific symptoms not diagnosis.)
>
> or
>
> During this last two weeks were there any days when you were not able to carry on your normal daily activities because of illness, but did not see a doctor?

b. Questions 2-15 could remain the same as in the MV-questionnaire.

c. Questions 16-24 of the MV-questionnaire should be omitted and replaced with:

16. Even though you didn't go to the doctor, it is quite possible that other people might have tried to influence you to go. Here is a list that I would like you to read an tell me which one best represents how much other people tried to influence you to go to the doctor.

(HAND RESPONDENT CARD 4).

1. Didn't speak to anyone about the symptoms.
2. Spoke to some people about the symptoms, but no one suggested seeing the doctor.
3. Some people tried, but not very hard, to have me see a doctor.
4. Some people put quite a bit of pressure on me to see a doctor

(FOR ANSWER TO 1, ASK: Why didn't you speak to anyone?) FOR ANSWER TO 2, 3, 4, ASK: a. Who were the people involved? b. What did they say? c. Why didn't you take their advice?)

17. What would you say was finally the most important thing that prevented you from going to the doctor?

18. In what way do you think the symptoms affected how you got along with people?

(Probe - your family? Your friends? At work? etc.)

19. Here is a list of things which people frequently say prevented them from going to a doctor.

(HAND RESPONDENT CARD 6 - used in MV questionnaire).

Read the list carefully (WAIT).

Now, which seems most appropriate in your case (PLACE A IN SPACE).
Which seems next most appropriate in your case (PLACE B IN SPACE).
Which was most certainly not a factor in your case (PLACE Z IN SPACE).

20. What did you think the doctor would say about the symptoms?

B. Epidemiology of Bodily Complaints.

1. Past Medical History. (PMH)

This questionnaire while an attempt to get a detailed picture of an individual's medical history, can also be analyzed as a perceptual and reaction history; i.e. what he perceives to have been or is wrong with him and what has been his general response to such troubles. Used in the enclosed manner it constitutes nearly a study in itself.

If drugs were the specific focus of investigation, I would readapt the "what did you do" questions to reflect this concern, perhaps in the manner suggested for the drug study. Similarly, if the specific focus of investigation was on the possible human sources of aid, the questions should be similarly readapted.

What follows is a detailed outline of the ways of tapping this "medical history".

A. This section is devoted to the major medical contacts of operations, hospitalizations, injuries. Some time limitation should probably be set and a better adaptation for the 'child birth' situation worked out.

"In a study like ours, to understand the way you handle problems of health and illness, we naturally have to get some idea of your general medical and illness background - something like what doctors do when you go to a clinic or are admitted to a hospital."

Let's start with something that should be pretty clear in your mind:

1. Operations: Have you had any?

   (Take down anything respondent considers an operation. For each operation mentioned ask the following set of questions.)

   a. What was it for: (Be as specific as possible. For example, if the operation was for removal of a growth find out where it was located and if it was malignant.)

   b. How long were you aware of the condition before you sought medical attention?

   c. How long was it between the time you sought medical aid and the time the operation was performed?

   d. When was it done (approximate date and age at time):

   e. Where was it done (general hospital, clinic, doctor's office, at home, etc.):

   f. By whom (private doctor, hospital staff, nurse, etc.):

   g. What was the source of referral for the operation (private doctor, clinic, emergency ward, etc):

   h. Did any complications develop? (If yes, record detailed information later in appropriate category, i.e. pneumonia under chest trouble. If the complications resulted in a longer stay in a hospital record the complication under hospitalizations.):

2. Something else you probably remember are hospitalizations, other than those you just mentioned.

   Have you ever been hospitalized? (For each hospitalization ask the following set of questions.)

   a. For what condition were you hospitalized?

   b. When, approximately, and at what age were you hospitalized?

   c. Where (type of hospital):

   d. Who referred you to the hospital (private doctor, clinic, emergency ward):

   e. How long were you there?

   f. Were there any complications?

3. In addition to those things mentioned above were you ever hospitalized for pregnancies, miscarriages, any other pregnancy conditions (still birth, false labor). For ease in recall re pregnancies, start with most recent and work backwards.

   Were you ever hospitalized for mental illness?

   (If answer is yes to any of the above, record same information as for hospitalizations.)

4. Did you ever have any childbirths, miscarriages, or other pregnancy conditions for which you were not hospitalized?

   (Probe - Have you ever given birth outside of the hospital).

   If yes: a. what condition was it?

   b. when was it (date and age):

   c. where were you (home, school, work):

   d. what type of treatment, if any, did you receive at the time:

   e. who treated you at the time:

   f. were you treated for it later:

   How were you treated:
   Where were you treated:
   By whom:

5. Now, what about injuries?

   Have you ever been injured? (For each injury mentioned ask the following set of questions.)

   a. What was it: (Record both type of injury and location)

   b. When did it happen: (approximate date and age)

   c. How was it treated:

   d. Where was it treated:

   e. By whom was it treated:

   f. How long did you wait befor initially treating it:

   g. Why did you treat it then:

   h. If you saw a doctor, how long did you wait before you saw him:

   i. Why did you see a doctor then:

6. (When they exhsusted their memory about injuries ask the following set of questions. Ask about each type of injury separately.)

   Have you ever had any (other) broken bones:

   bad falls:

   bad cuts:

   bruises:

muscle strains:

burns:

(For any additional injuries mentioned ask the same set of questions as asked previously for injuries.)

7. Now this moght be more difficult: What about childhood diseases? (Get at any special circumstances they recall.)

Did you ever have: (Ask each disease separately.)

Measles: Anything else:

German measles:

Mumps:

Chicken pox:

Scarlet fever:

Whooping cough:

(For each disease they had ask the following:)

a. when did you have it:

b. how was it treated:

c. where was it treated (home, hospital):

d. by whom was it treated:

e. did any complications arise:

f. how do you know that you had _____? Do you remember or did your parents or some other relative tell you?

8. What about immunizations? (Take down anything they might consider as preventative immunizations.)

As a child did you ever have shots for:

Whooping cough:

Diptheria:

Small pox:

Tetanus:

German measles (gamma globulin):

Polio:

Flu:

Any other shots:

If yes, do you recall any reaction?

Any immunizations as an adult:

Again, how do you know? Do you remember or did your parents or some other relative tell you?

Have you ever travelled outside of this country? If so, did you have to get any shots, etc. Do you recall any 'reaction'.

9. Have you had or do you have any, what you would call, serious diseases?

   What?

   How do you know (how or who diagnosed it?)

   Are you currently under treatment? What is (or was) the treatment?

After this open-ended question, the respondent might be asked the same question with the accompanying list.

Acne
Anemia
Arthritis
Asthma
Bronchitis
Bursitis
Cancer or Tumor
Chronic back trouble
Constipation
Cirrhoses of the Liver
Dermatitis
Diabetes
Diarrhea
Eczema
Epilepsy or seizure(fits)
Ear trouble (hard of hearing)
Eye trouble
Goiter
German Measles
Hardering of the arteries
Heart disease or heart trouble
Hay fever
Hemorrhoids (piles)
Hernia (rupture)
Hypertension
Gall bladder trouble
Indigestion (frequent)
Liver trouble
Appendicitis
Malaria
Mental Illness
Nervousness
Nervous breakdown
Prostate trouble
Polio
Paralysis of extremities
Overweight
Rheumatic fever
Rheumatism
Sinus trouble
Stomach trouble
Slipped disc
Whip lash
Skin trouble
TB
Ulcers
Underweight
Varicose Veins
Measles
Whooping cough
Mumps
Influenza, Flu, virus
Pregnancy
Miscarriage
Broken bones, fractures, sprains
Stroke
Difficulty getting around due to
Accident or fall

B. This section would be followed by a specific focussing on bodily parts and functioning. Following the National Health Survey, a limited time reference is preferable. Thus each bodily part or function would be elicited as follows:

   In the last two weeks:

   Have you had any trouble with _____?

   How did you treat it?

   Was this the only thing you did?

   How long did you wait before you _____?

   Did you ask anyone's advice? What was it?

Did what you did help? How?

Did you consult a physician? Any other outsider (non-family member)?

PLUS

Have you ever had this before? How often? When?

How do you generally treat it?

Any difference with present episode?

PLUS

Where appropriate, i.e. for a 'general' function, e.g. eyesight, hearing etc. or for a chronic disease, ask when 'it' was last checked.

The body systems and functions to be tapped might include:

1. ... trouble with your eyesight, eye infections, eye sores, eye disease.
2. ... trouble with your hearing, ear infection, ear aches, draining.
3. Any trouble with your neck - goiter, enlarged thyroid.
4. Any trouble with your throat - tonsilitis, strep throat, laryngitis, swallowing, talking, speaking.
5. Any trouble with migraine headaches, with non-migraine, with your head in any way.
6. Any general trouble with your stomach - ulcers, gastritis, appendicitis, colitis, gall bladder, indigestion, poor appetite, belching, gas, sick to stomach, constipation, piles, hemmorhoide, diarrhea.
7. Any urinary or bladder trouble? - frequent urination, burning, urinary tract infections, incontinence.
8. Any kidney trouble?
9. Any chest trouble? - bronchitis, emphysema, pneumonia, tuberculosis, pleurisy, frequent colds, sinus trouble, coughs, chest congestion, difficulty in breathing, smokers' cough.
10. Do you have any allergies? - hives, hay fever, asthma, drugs you cannot take, things you can't eat, touch, etc.
11. Any heart trouble? - high blood pressure, low blood pressure, pains around the chest and heart, palpitations, rapid heart beats, shortness of breath.
12. Any blood disorders? - anemia, leukemia, trouble with bleeding.

13. Any joint trouble? - arthritis, bursitis, rheumatism, stiff joints, swellings, numbness.

14. Any trouble with fingers, hands, arms, toes, feet, legs, varicose veins?

15. Any skin trouble? - oily, dry, rashes, poison ivy, acne, eczema, dermatitis, impetigo, warts, boils, carbuncles.

16. Any trouble with weight? What is your normal weight? What is your ideal weight?

17. Any trouble of a metabolic nature? - diabetes, thyroid, gout, vitamin deficiency, malnutrition.

18. (For females) Any trouble with your breasts, difficulty in development.

    Did you nurse? Any difficulty in lactation?

19. Menstrual and sexual:

    a. When did you start menstruating?

    b. Any trouble with your "periods"?

    c. Are they regular?

    d. How long do they last?

    e. Do you have cramps?

    f. Any trouble with - staining, discharge, infections, gonorrhea, syphillis?

    g. Any trouble getting pregnant?

    h. Any difficulty with sexual relations or functioning?

    i. Any pain with intercourse?

20. Do you have any problem with drinking?

21. Any trouble with nerves? If yes, specify type of trouble. How often? How treated, where, when and by whom?

22. Any trouble with sleeping? Insomnia, bad dreams?

23. Any trouble with your teeth? (Ask items below.)

caries-cavities	toothaches
abscesses, infections	pyorrhea
bad breath	bad taste in mouth
trouble with dentures	trouble with wisdom teeth
anything else?	

24. Do you consider that you have any physical deformities or handicaps? If yes, specify types of trouble, how treated, where, when, and by whom.

25. Are there any other diseases or conditions you can think of what we haven't mentioned?
    If yes, specify type of disease or condition, how treated, where, when, and by whom.

26. Now let's go briefly into your family's health.
    (Ask the list of questions below about each person.)

father

mother

sisters

brothers

grandparents

a. Is he (she) living?

b. If yes, how old is he?

c. If dead, how old at the time of death? How recently did he die? Of what did he die? How long did he have it?

d. Did he have any major problems of illnesses?

e. Did you ever have to help and care for him? If yes, for what, what did you do for him?

27. Does anything run in your family? If yes, what? Why do you think this is? Who had it?

2. By Prevalent Conditions.

A brief 'quickie" method which will give some idea of propensity to seek aid and the general ways of handling "illness", and some idea of the fit with the existing system of medical services can be derived as follows:

1. A brief survey of 2-3 of the larger purveyors of medical services plus some interviewing with local health practitioners and respondents should be undertaken to yield the following:

   2 highly prevalent conditions with a high but not certain probability of leading to seek medical help;

   2 highly prevalent condtions with a low but not certain improbability of leading to seek medical help.

2. Because of the prevalence we will then make the assumption that the probability of the population experiencing two or more of these conditions is very high thus making their responses to the following questions somewhat meaningful.

   a. When did this last happen?

   b. What did you do first? And then? etc. (If they indicated that they 'waited', they must be probed to see if they did anything while they waited.)

   c. For each action or reaction - Why did you do that? Did you speak to anyone about it? How long did you wait before you tried something else?

   d. If they did seek some outside help - ask why this type or person and if they went alone or were accompanied.

   e. If they did not seek some outside help, ask when in the course of such a condition they would.

f. What causes this_____?

g. Why do some people get this_____ instead of others?

h. Are there some things (or people) who can better treat this than others? What? Why?

3. By Symptom-Check List.

The same questions, probes, and time period would be used for these symptoms as for the lengthy list of bodily parts and functions. The advantage of the following list is that it is a "quickie", tapping several of the most common symptoms in the western world.

The one caution is that when the respondent hedges in talking of his general response i.e. "it depends", he must be probed extensively to delineate on what it depends.

1. headaches
2. temperature ('fever')
3. overtiredness, fatigue, lack of energy
4. cough
5. nerves
6. cold
7. stomach upset, indigestion
8. not looking well
9. pain

If, however, a more standard one is desired, the one developed by R. Andersen, O.W. Anderson, and B. Smedby (Perception of and Response to to Symptoms of Illness in Sweden and the United States, Medical Care, 6, Jan.-Feb. 1968, 18-30) could be useful.

1. Cough any time during the day or night which lasted for three weeks.
2. Sudden feelings of weakness or faintness.
3. Feeling tired for weeks at a time for no special reason.
4. Frequent headaches.
5. Diarrhea (loose bowel movement) for 4 or 5 days.
6. Shortness of breath even after light work.
7. Waking up with stiff or aching joints or muscles.
8. Pain or swelling in any joint during the day.
9. Frequent backaches.
10. Unexplained loss of more than 10 pounds.
11. Repeated pains in or near the heart.
12. Repeated indigestion or upset stomach.

13. Sore throat or running nose with a fever as high as 100^{o} F for at least 2 days.
14. Abdomenal pains (pain in the belly or gut) for at least a couple of days.
15. Any infections, irritations or pains in the eyes or ears.

4. By Health Diary.

To have a respondent keep a diary it must be as simple as possible for him or her to fill out with it either collected weekly or mailed in weekly in a pre-paid envelope. Ideally the time period covered should be four weeks. Some time sampling might be used so that the diary need not be kept every day.

The diary could be either 'closed' or 'open'. 'Closed'would mean that at the end of each day he would answer if he had any of the conditions on a list like in questionnaire B, 3. 'Open' would mean he is simply asked "Today did you have any bodily complaints, symptoms, disturbances, anything or anytime that you did not feel so well or that something bothered you - no matter if it was only momentary."

Regardless of method, we would want to know:

1. Details of 'problem'.
2. Where you were or doing when it happened.
3. The time of day.
4. Its duration.
5. What you did.
6. Why?
7. Did it help?

An important methodological detail is whether you want him to record 'symptoms' at end of day, as close to the occurence as possible, or some time sampling e.g. he's asked to record how he felt upon awakening, at noon, 3 pm, at end of day, etc.

5. By Action.

This method is implied in all 'withdrawal' or similar actions outlined in Section I, Part B.

It is also implied in our emphasis on medical self-treatment (the taking of medicines etc.).

We also feel from clinical observations and data that even during the course of a single day people take certain actions in response to certain 'bodily discomforts'.

Moreover, they can or may more easily report such 'actions' than the complaints themselves. In other words, people can report that during a specified time period they did 'lay down', 'rested', 'changed their physical position', 'slowed down' or 'stopped what they were doing', 'exercised', etc. We feel this is real if only because such actions constitute so much of a physicians standard advice for a whole range of problems i.e. he tells the patient "to take it easy", "slow down", "take a vacation", "rest", "change jobs", etc.

I have no specific suggestion as to a list though the method could follow that outlined in B, 3 and 4 with "actions" substituted for "symptoms".

In short I think its an issue worth pondering.

C. Some Methodological Issues and Suggestions in Designing a Health Survey.

The following is an unsystematic attempt to list some problems that any H.I.S.-survey will encounter on entering the field. Most of them have been raised at one time or another during various H.I.S. meeting or in discussions with one or more Institute staff. It is in no sense complete but will hopefully be the start of a much-thumbed loose-leaf notebook to which the readers will continually add changes, additions, and corrections from their own experience.

1. On preliminary Surveys.

More than in most investigations, several of the approaches suggested here need a good deal of preliminary work. I am not referring to the usual stage of pretesting which must go on in any case but rather preliminary surveys to find out who in any given society are the "medical" and "non-medical" practitioners; in the case of self-medication, the analogy would be a list of "available treatments", or concerning the epidemiology of bodily complaints - what are some of the most prevalent conditions or symptoms. Such work is essential where the focus is on users, for in questions of users it should probably be assumed that they have used the particular practitioner (e.g., when in the last ... have you seen a mesmerist, herb doctor, naturopath. For what? etc., etc.), rather than leaving it an open question. The reason is that, while in most countries the official government has been unsuccessful in squelching such practices, they have been successful in communicating that they are

considered illegal, disreputable, oldfashioned, perhaps even harmful. Thus, whether it be from fear of punishment or ridicule, the user may be rather reluctant to admit such usage and therefore procedures have to be introduces to make such an admission less threatening, etc. and matter-of-fact (see Cassee 1970, 1973). The same issue is seen in the questioning of users about home and folk remedies.

2. On Contextual Information.

It is becoming increasingly clear that any study of utilization is meaningless without knowing something not only about the disease patterns in the society but also the nature, location, accessibility, intake policy, etc. of existing facilities. The shorthand question for the minimal limits of context may be stated as follows: if I did not have data on X, would the other data be meaningless, impossible of interpretation, etc.?

3. On Behaviour.

On many health interview surveys there is altogether too much emphasis on the study of attitudes as predictors/indicators of future behaviour. Until shown otherwise, the best starting point is to assume that the best predictor of future behaviour is past behaviour. Thus, to study what X will do in the future, first try and find behavioural analogues in his present or past behaviour. A second reason for this approach is that most attitude scales and even the conceptions underlying them are so value- and culture-laden, that the investigator spends much of his time trying to reinterpret his findings in the light of his native context. Attitudes, values, etc. become more relevant and of interest when: a. we are interested in cognitive-ideational functioning per se;

b. we are interested primarily in deep underlying bases of behaviour (a case should always be made as to why we are - to what end will such knowledge serve us);

c. when there are no behavioural analogues or where they exist they are so infrequent, that we need some "as if" questions;

d. when the material we want cannot be gotten by simply asking the respondent - it is somehow inaccessi-

ble or too threatening to him - and therefore it is necessary to resort to more "projective" (in the psychological sense) techniques.

Professor Manfred Pflanz of Hannover is currently planning a conference to deal with some of the issues in transposing data and questionnaires from one country to another.

4. On the Concept of Time.

Many of the questions in Western health surveys, are time-specific. It is not that this is a meaningless question, it is just that many people cannot answer it - watches and calendars are not part of their everday equipment. Thus they can date events, but their diurnal and annual cyclys are likely to be quite general. This will also be true for age, where certain cultures report their age as a year older than by Western standards since he is the age of his current year. This whole issue becomes even more complicated when we ask 'futuristic' questions. Thus one has to have somewhat of a future time orientation as well as a non-deteministic view of life, to answer meaningfully any question which asks "what would you do if...".

At one time we might have thought this issue only relevant to Oriental or African comparisons, but increasingly we are confronted with the fact that certain Western cultures differ on these dimensions as well (Hall, 1959). Moreover, we are finding that even within cultures such variables as age, sex, social class, and religious affiliation affect an individual's concept of time as well as time orientation. Thus what occurred "recently", "long ago", etc. has very important connotations and variations. To be concrete wherever possible do not use adverbial time modifiers, e.g. "frequently", "often", "rarely" etc. Substitute wherever possible a specific time referent. Also there is no universal "safe" period for recall of health related events - each should be decided on its own merits (Feldman, 1960, 1966). Thus major operations are possible to ask almost for a lifetime, hospitalizations for only a period of several years, doctor visit a year to several weeks, childhood diseases (i.e. asked of an adult about himself) very inaccurate varying with the age he is likely to have had it, diseases and disorders and symptoms in general can be recalled for four to two weeks, medicines for the last 48 hours. Even these are really "guesstimates" based partly on experience mixed with data. They really reflect issues that should be dealt with during the design of a questionnaire.

5. On Interviewing.

In all countries, a problem of which we have to be aware is the elitist nature of our interviewers. For example, given their dress, education and language facility, there is likely to be considerable social distance between them and the average respondent. This can have positive aspects in their ability to get subjects, and elicit information, but because of this "distance" and the attitudes that go with it, I would place greater reliance on their data-gathering in factual, non-threatening areas than in subjective, more taboo topics. The latter concern may be deepened by their general reluctance to probe the respondents (i.e. on their own). For some sensitive research areas, greater thought might be given to using less well-trained interviewers but once more closely matched to the respondents, be it on important social characteristics of sex, age, marital status, social class, religion etc. (See National Center for Health Statistics May 1971 Document.)

6. On Respondents and what they can tell you about others.

Taking the long-range point of view, where we are looking at general patterns of health-illness behaviour, the biggest pay off may well be in the maternal and child health behaviour. In most cultures she is the health manager and she certainly is exercising the kind of influence on future generations which is likely to affect the "epidemiology of bodily discomforts". The use of proxy informants has been discussed elsewhere. The point to be added is a hierarchy of responses re reliability and validity of the health-illness behaviour of others. Ego is best able to tell about himself. Assuming ego is a woman - mother - she is next best about very young children , next older children out of the house, next others who live with her (sister or parents) and last about her husband, particularly if he works away from the home. (See Cartwright 1957, 1959, for detailed discussion of this issues Douglas and Blomfield 1956 for longitudinal data and Napier et al 1972 for specific inaccuracies on cause of death and morbidity reports.) Aside from the problems of inaccuracy, I would also argue against the collection of total family data (i.e. on all children, or all people living in a household) on any sample under 10.000 (one of your statisticians could work out a more exact size). For in reading countless surveys, I am convinced that almost all bave been unable to adequately control for family size and birth order. For the controls that have been done show an extreme naivete about family dynamics e.g. it makes

a great difference not merely whether someone is the oldest or youngest but oldest girl or oldest boy, similarly for youngest, and sex ratio is also enormously important i.e. to be the only boy or girl in a family of mostly girls or boys. And finally age discrepancy, where there is say an 5-10 year gap between children then a particular child may functionally have been raised as the "only", the "oldest" or the "youngest" child. None of these problems are irresolvable but require much working out beforehand. My general recommendation would be apriori to focus on some particular child or limited number of children.

7. On Assessing Morbidity.

As a general background, providing some important issues that should be dealt with in any understanding of need and demand etc. I strongly recommend reading Logan 1964 a,b and Office of Health Economics 1971.

The primary aim of the H.I.S. is to be relevant for the better organization of medical facilities. As such it must deal with at least 3 relevant "medical" issues: a. seriousness
b. delay
c. classifying and counting morbidity

a. The issue of "seriousness" of a particular problem should be measured and analyzed into its component parts. Here are some suggestions from the "medical" perspective.

Seriousness of prognosis:

Probable death

Major disability

Minor disability

Insignificant disability

No disability

Urgency of treatment:

Immediately

Urgent within 1-2 days

Not urgent but promptness indicated (a week to a month)

Early therapy helpful but not presently necessary

Condition should be watched and checked periodically (semi-anually or anually)

Time not important in terms of inauguration of therapy or progress of disorder on the basis of current knowledge

Optimal effect of known treatment:

Eradication, cure

Arrested

Amerliorated

Outcome not effective

The above three scales should only be understood as examples of the issue.

b. Physicians are always classifying patients and diseases as to the period of delay. Some excellent reviews on the topic are available: Blackwell 1963 and Kutner et al 1958. Unfortunately all health education campaigns are based on what doctors think patients should do and not on what patients do. The only study I am aware of that has collected normative data on 'delay' from the patient's point of view is Kutner and Gordon 1961. Such data is I believe essential if we wish to change or influence behaviour. To give you some idea of what such data might look like, I have put together the following table from their unpublished data. Particularly important analytically, is the emphasis on clusters of symptoms and syndromes and not merely specific symptoms. This also more closely approximated the reality of disease (Selye 1956, Reidenberg and Lowenthal 1968.)

Table of delay from patients point of view

Unpublished Data from Kutner and Gordon, 1961.

Symptom, Symptom cluster	Delay Time in days Median	Range	Q1 →	Q2 →	Q3 →	Q4
Chills	1	0-25	0	0	2	2
sore that doesn't heal	45	10-1075	10	17	45	90
Acute, non-chronic cough	1	0-45	0	0	2	3
Anal lump + rectal bleeding	25	0-315	0	17	25	45
Difficulty with breathing	6	0-45	0	2	45	45
Lump	45	0-2555	0	2	25	947
Swellings (edema)	2	0-947	0	2	2	10
Impairment of some (Symptom) function	10	0-45	2	2	10	45
" + Aches and pains	17	1-90	1	10	17	45
Bleeding-rectal	45	0-2555	0	10	45	947
Trouble with urination	25	3-2555	3	10	45	1095
Discomfort-alimentary	10	0-1095	2	10	2	90
* " + Indiges'n, Difficulty swallowing	45	0-1075	0	0	45	225
Chronic cough	45	2-2555	2	10	45	150
" + Fever	10	0-150	0	2	10	90
" + Pain in chest, stomach	10	0-1525	0	4	10	150
Rash, itch	10	0-1075	0	2	10	25
Indigestion, Difficulty swallowing	45	1-150	1	6	17	45
* " + Pain in chest, stomach	25	2-1825	2	10	90	547
" + Feeling of dizziness	10	0-547	0	3	10	90
" + Feeling tired	17	1-2555	1	1	90	90
Bleeding-vaginal	90	2-947	2	25	45	150
" + Pain in chest, stomach	150	17-1075	17	45	150	225
Fever + Sore throat, running nose	1	0-90	0	0	2	25
Fever + Aches and pains	1	0-2	0	0	1	1
"Not up to par" + Feeling of dizziness	4	4-947	4	10	45	947
Diarrhea or constipation	45	0-1075	0	25	225	947
" + Pain in chest, stomach	45	0-1825	0	10	45	947
Sore throat, running nose	3	0-1825	0	4	10	947
Backache	10	0-2555	0	1	45	1095
Discomfort (not ache or pain)	25	2-1825	2	10	17	225
Headache	10	0-1825	0	10	17	90
Aches, pains in joints, muscles	17	0-2555	0	10	45	947
Pain in chest, stomach	1	0-2555	0	1	10	45

Q = Quartiles

*Read as follows: "Discomfort, alimentary + Indiges., diffic. swallowing" similarly, "Pain in chest, stomach," etc.

c. It is not enough to merely arrive at a definitive diagnosis of what a perticular respondent has, though Cartwright 1959 has indicated that even this is not as easy as it seems. Wherever possible, the respondent should be asked about a particular disease state in several ways: by symptom, by condition, by treatment. This is not merely to get more complete epidemiological data but the discrepancies are themselves significant i.e. whether he acknowledges that he has the symptoms but not the disease. Where we are relying on self-reports, the data currently indicate that the more detailed the questioning and the more frquently done (Kosa et al 1967) the more extensive will be the "morbidity" discovered. Finally it might well be worth thinking about how one would classify such data once one has it.
Again the aim of the study might suggest certain pertinent data. For instance Moore 1971 suggests the following classification as an aid to health planning:

1. Patients who are considered to have a transistory condition and are expected to recover with outpatient care.
2. Patients who are expected to recover with short-term general hospital care.
3. Patients who have a chronic condition but are not disabled and are expected to be contained through outpatient care.
4. Patients who have a chronic condition and are expected to be contained by hospitalization.
5. Patients who are expected to require long-term care.
6. Patients who are impaired but can be contained without hospitalization.
7. Persons who become patients for correction of impairments.

This scale is obviously most concerned with hospital utilization but similar ratings could be made if we were concerned with rehabilitation (e.g. patients who need to be in a special institution for rehabilitation, who need to live in a special institution, who can live in adapted circumstances) or chronic care (e.g. need to be checked semi-annually, need regular nursing care, can be cared for by family) or even 'self-treatment' (e.g. doctor must give treatment, nurse can, family member can, the individual alone, etc.).

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Office of Health Economics, Prospects in Health, No. 37, June 1971.

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III. ON STUDYING SELF-MEDICATION AND SELF-TREATMENT

A. Rationale and Commentary.

As stated in Section I, pages 12-14, of this report, self-treatment and self-medication is a little understood and even less studied topic. It is, however, becoming readily apparent that it is probably the most common "medical action" taken by the general population to maintain or improve their health, to prevent specific symptoms and general conditions, and to relieve and cure existing symptoms and conditions. The extent of this phenomenon is seen by two recent investigations (Dunnell and Cartwright in press and White et al 1967) which report that in the United States and the United Kingdom, some 50 to 80 % of the adult population has used one or more 'medicines' within the last 24 to 36 hours. Whether this should be controlled, encouraged, or merely acknowledged cannot begin to be intelligently discussed until we have some detailed data (Cargill 1967).

Since one has to start somewhere, the problem can be broken down into research phases. At the very least we should attempt to collect data on the epidemiology of 'medicine' use. To this end, I have outlined three questionnaires in Part B containing what I judge to be some of the minimal essential descriptive data.

Since I envision this as only the start let me also outline some of the other relevant studies that should eventually be undertaken.

1. Studies of the dispenser of drugs.

   a. Studies of Dispensers Prescribing Patterns

      - usually such investigations (Lee et al 1965, Martin 1957) are done on doctors but there is no reason why they could not be extended with appropriate modifications to any dispenser from chemist to grocery to "droguerie" to discount house.

      - as with the drug user study, the most fruitful approach is to focus on the dispensing that took place within a specified period of time. For the doctor this dispensing means prescriptions and sample drugs, for the chemist ethical drugs and proprietary medicines.

- as with the drug user study, it is important to know the context, thus all the conditions, transactions in which a prescription or dispensing transaction could have taken place.

- some basic data:

  age and sex of patient

  diagnosis and prescribed treatments for each (dosage, amount, instructions)

  old episode or new one

  intent of each of the treatments

  patient's major complaint

b. Study of the Dispenser's Instructional Patterns

- on the specific drugs, treatment that they either prescribe or dispense:

  . what patients ordinarily ask or are concerned about

  . what they ordinarily tell them

  . as in the C.R.B. Joyce study on doctors, one must be wary of textbook answers and so it is most fruitful to do rather limited studies of actual cases and then compare:

    what the doctor thinks he told the patient

    what the patient thinks the doctor told him

    with what was actually said

2. Some Specialized Studies (can be done separately or in combination with more basic drug studies).

a. The Study of Diffusion of Drug Information.

- some replications of the Coleman et al (1966) work on how doctors learn about drugs.

- a similar study could well be mounted on how lay respondents learn about drugs or new medical procedures, since we contend that more medical prescribing than we are aware of is stimulated by the patient.

b. The Whole Issue of Drug Saliency and Knowledge.

- as measured by certain current tests of brand and slogan awareness.

- as measured by a drug knowledge scale.

c. The Use and Focussing on Particular Drugs (common or uncommon) when we feel we already have a good fix on the general epidemiology.

- for some specific interest:

- the use, knowledge, etc. of psychoactive drugs, birth control pills, etc.

- by "respondent" determination.

  - an analysis of the drug he uses most frequently

  - an analysis of the drug he deems most important

d. The Correlation or Association of General Drug Utilization with a series of "preventive" measures, tests, or precautions.

- immunization, vaccinations
- hearing test, eye test, dental check-up
- check-up - the annual physical
- specialized tests - TB, diabetes, EKG

- For females -- breast check (self-administered)
  -- Ob-Gyn check-up, pap smear
  -- Ante-natal and post-natal visits
  -- Birth control pills and other devices

- The giving up of or cutting down on
  -- alcohol
  -- smoking
  -- certain special foods (high cholesterol)
  -- dieting

- The doing and use of
  -- exercise
  -- seat belts

- Specific health knowledge, not in general but about himself
  -- blood type
  -- height, weight, eyesight
  -- childhood diseases
  -- medical utilization within a specified period
  -- similarly hospitalizations

- With current "preventive" behavior and medical utilization
  -- polio
  -- flu shots

- With futuristic actions.
    - what kinds of drugs -- conditions would you be willing to take medication for
- Certain selected attitudinal dimensions such as views of
    - responsibility
    - changeability of self and the future
    - fatalism
    - personal vulnerability

3. The Grey Area Studies of Self-Medication.

This is in many ways the most confusing and perhaps fascinating of all the kinds of studies to be done. It is certainly the area which is the most dynamic and changing and, by its very vagueness, may be the one which lends itself most readily to fruitful work in developing nations. The 'grey area studies' involve the residual 'messy' areas of the standard drug utilization study. In surveying some two dozen studies, there was remarkable overlap and agreement in what constitutes a drug or medication. The major difference re core items was primarily in the degree of specification (stomach trouble, remedies versus drugs for diarrhea; for constipation; for indigestion). Where these studies differed most was in the degree to which they tapped items which were not strictly drugs and medicines. Given the problems that each of these studies had in analyzing and interpreting such data, they are probably better omitted from general drug studies unless some specific effort will be made to tap them all. Thus the kinds of 'grey area medications' to be studied include:

1. The appendages, bandaids, medicines and first aid equipment, trusses, belts.
2. "Medical treatments" -- sunray lamps, massages, steam baths, backrubs.
3. The home and folk (herbal) remedies.
4. Medical Equipment -- heating pads and bottles, ice packs, thermometers, vaporizers.
5. The devices/aids -- eyeglasses, hearing aids, false teeth, canes, braces.
6. The medicated products -- toothpaste with, soap with, hair tonic.
7. The special health foods, including those for thinning and special diets.
8. Products with antiseptic features including the ones used for personal hygiene.

9. Finally and most open-endedly, any practice which one might engage in to maintain, improve his health or prevent certain conditions from recurring or occurring.

While of interest in and of themselves, all of the aforementioned studies should form part of the baseline for our present and future preventive programmes. It will at very least give us data to build on by telling us what behaviors people are actually willing to do and why, and enable us generally to understand the context and conditions of such "preventive" behavior (Baric, 1969, Rosenstock, 1966).

Before any study is undertaken, however, every effort should be made to contact Professors Jessen and Gadourek at the University of Groningen who have, to my knowledge, undertaken the only Dutch population-based study of 'medicine use'.

Leo Baric, "Recognition of the "at-risk" role". International Journal of Health Education, 12 (1969) 2-12.

David Cargill, "Self-Treatment as an Alternative to Rationing of Medical Care". Lancet (June 24, 1967) 1377-1378.

James Coleman, Elihu Katz, Herbert Menzel. Medical Innovation: A Diffusion Study, Indianapolis: Bobbs-Merril, 1966.

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J.P. Martin, Social Aspects of Prescribing, London: Heinemann, 1957.

Irwin Rosenstock, "Why People Use Health Services", Milbank Memorial Fund Quarterly 44(July 1966) 94-127.

Kerr White, Dragana Andjelkovic, R.J.C. Pearson, John H. Mabry, Alan Ross and O.K. Sagen, "International Comparisons of Medical Car e Utilization", New England Journal of Medicine 277 (7 Sept. 1967) 516-522.

B. Three Questionnaires on the Use of "Medicines".

1. Epidemiology of Medicine Use - brief questionnaire.

Medications taken within the last two days.

Since the time you woke up yesterday, (get it) and now (note it) have you taken any medicines, drugs?

1. Have you taken any drugs, medicines, tablets, pills, within the last two days?

   What was it? (Specify as to size, concentration, form, dosage, how often taken.)

   For what did you take it? Do you take it regularly?

   If for a specific condition, etc, how long after _____ started, occurred, did you take it?

   If not immediately, why did you wait?

   Did it help?

   Did someone tell you to take it?

   How did you learn about _____? Books, magazines, T.V. advertisements, word of mouth?

   Was it a prescribed or patent medicine (the interviewer may already know this but if not get brand name, etc.)?

   By whom was it prescribed?

   Approximately how long had you had "it" in the house. (When approximately did you purchase it?)

   Where did you purchase it? Who purchased it?

2. Have you used any salves, ointments, lotions, cough drops, syrups, laxatives, nasal sprays within the last two days?

   (Repeat the previous sequence of probes where appropriate.)

3. Have you taken, used any vitamins or other medical substitutes within the last two days?

   (Repeat the previous sequence of probes where appropriate.)

4. Have you taken any birth control pills within the last two days?

   (Repeat the previous sequence of probes where appropriate.)

5. Have you taken or done anything else which you consider medical or medicinal which I haven't asked within the last two days?

   Probe for home remedies. (Repeat rest of sequence wher appropriate.)

6. Is there anything which you do take regularly, often and or at special times etc. (get them to give the time details) but which you did not in the last two days?

   (Repeat rest of sequence where appropriate.)

   (Be sure and learn why they did not take this particular drug etc. in the last two days.)

7. How generally have you felt the last two days. Any symptoms, episodes, etc.?

   (If not already mentioned, get what they did and immediately shift into the sequence.)

In this connection some symptom check-list might be used.

We are particularly interested in knowing if there were any symptoms, conditions, etc. which you had or experienced yesterday but which you never treat or which you thought of treating but did not.

2. Epidemiology of Medicine Use - Check-List.

During the last two days have you taken or used any of these sorts of medicines or pills at all?

laxatives or suppositories
health salts
indigestion remedies, antacide
constipation
diarrhea
throat or cough medicines
sweets or syrups, drops, lozenges
aspirin or ther pain relieving powers
anti-depressants
sedatives or sleeping pills
tranquilizers
antiseptics, gargles, or mouth washes
skin ointments, salves
eye lotions or ointments
embrocation or ointment to rub in
medicine or pills to help stop

inhalants or things to sniff up your nose
corn pads or anything for the feet and athletes' feet
tonics or syrups - stimulants, dexadrine, No-Doz
vitamin tablets
medicinal foods
cold tablets
disinfectants
anti-histamines, allergies, hay fever
hemorrhoidal preparations
slimming aids
travel sickness aids
contraceptive pills or either birth control pills

The questions in A could be asked of each affirmative response

3. Epidemiology of Medicine - The Measurement of Resources.

1. Medications purchased within the last two weeks.

   A similar set of questions, a form to be left with respondent then followed up with a brief interview. If possible, one might ask to see the medicines for ease in recording.

2. Listing of available available drugs and medicines - available to the respondent.

   Likely storage places: medicine cabinet, kitchen, by the bedside, in one's purse or pocket.

   1. Item
   2. Prescription or Patent
   3. Approximate date purchased
   4. If a renewal, approximate date of the original purchase
   5. Dosage
   6. Amount remaining
   7. When last uses, for what

III C ANNOTATED BIBLIOGRAPHY ON SELF-MEDICATION AND SELF-TREATMENT

As indicated in Section I, Part B, the literature on self-medication is scattered and until recently not listed as a relevant "medical topic". As such this bibliography can represent only the merest beginnings, I would greatly appreciate any additional references, if possible annotated especially if they are not in English.

1. Some General Works and References

BARBER, BERNARD: Drugs and Society
New York: Russell Sage Foundation 1967

Perhaps the first general treatise with chapters on the discovery and testing process, the communication of drug information, the problems of professional specialists, social problems resulting from the use of narcotics. Most interesting is his concluding chapter - a "functionalist" analysis of the varying uses of drugs.

BAUER, W.W.: Potions, Remedies, and Old Wives' tales
Garden City, New York: Doubleday, 1969

A long and occasionally amusing history of folk medicine and the origins of many superstitions and beliefs on the efficacy of certain medicines and practices. Not an explanation of the whys and wherefores.

BLAKE, John B. (Editor):Safeguarding The Public - Historical Aspects of Medicinal Drug Control Baltimore:Johns Hopkins Press 1970

Good introductory history of selected aspects of drug control in Europe and the U.S. containing material not available elsewhere on American Medical Association policies.

BURACK, RICHARD: The New Handbook of Prescription Drugs
New York: Ballantine, 1970

A general compendium of useful information on prescription drugs in the U.S.A. - some listing of ascribed "benefits", general usage, and dosage, use by selected population groups, comparative pricing by brand and by generic category.

CLAPP, RAYMOND F.: Study of Drug Purchase Problems and Policies
Welfare Research Report 2- March 1966
Washington D.C. - U.S. Department of Health Education and Welfare

An analysis of the differential pricing of medicines with a recommendation to U.S. goverment to limit payment of "public-funds" to those described by generic name. He also traces some of the implications of such a policy.

Division of Medical Sciences, National Research Council:
Drug Efficacy Study - Final Report to the Commissioner of Food and Drugs, Food and Drug Administration
Washington, D.C. - National Academy of Sciences 1969

A most damning and yet I expect little publicized report of a most eminent series of committees created to evaluate the efficacy of all drugs on the U.S. market between 1938-1962. Though they rated only 7% as ineffective, they were generally appalled at the quality of existing evidence, even of those drugs they rated as 'effective' and were quite generally critical of current labelling and 'claim' procedures.

GRIFFENHAGEN, GEORGE B. (Editor): Handbook of non-prescription drugs
Washington, D.C.: American Pharmaceutical Association 1971 Edition.

An invaluable guide - updated every two years - containing text,

tables, charts, and references about 'patent medicines' which are readily available and purchaseable at drug stores, groceries, supermarkets etc. The latest edition has 31 chapters from analgesics to diarrhea remedies to sleep aids to vitamins.

HARRIS, RICHARD: The real voice
New York: MacMillan, 1964

A documentary account of Senator Kefauvers investigation of the drug industry and the vicissitudes of the 1962 law to protect the consumer - the endless debates, political maneuvers, compromises, and the impact of the thalidomide expose.

MINTZ, MORTON: By prescription only
Boston: Beacon, 1967

The first and most popular 'expose' of the drug industry in the U.S.

MOSER, ROBERT H.: Diseases of medical progress
Springfield, Illinois: C.C. Thomas, 1964.

A continually updated account of many iatragenic diseases and some of the detailed side effects of many modern therapies.

PAULING, LINUS: Vitamin C and the common cold
San Francisco: W.H. Freeman, 1970

Brief readable book addressed to the general public by a Nobel Prize Winner, telling and presenting evidence how they can self-medicate themselves with a safe regime of vitamin C and thus both greatly reduce their chances of catching cold and at the same time, improving their general health.

TURNER, JAMES S.: The chemical Feast
New York: Grossman, 1970

A Ralph Nader Study Group Report - a devastating critique of the U.S. Food and Drug Administration, its witting and occasionally unwitting deception of consumers. He speculates on the uncomfortable close and occasional business relations between members of the FDA and the industry it is supposed to regulate.

YOUNG, JAMES HARVEY: The medical Meesiahs - a social history of Health Quackery in twentieth century America
Princeton, New Jersey: Princeton University Press, 1967

Sequel to Toadstool Millionaires. Here he focuses heavily on attempts to control 'quackery', the difficult struggle to pass legislation to protect the consumer (the 1906 LAW) analyzed within the context of American traditions and institutions.

YOUNG, JAMES HARVEY: The Toadstool Millionaires - a social history of patent medicines in America before Federal Regulation
Princeton, New Jersey: Princeton University Press, 1961

He traces the development of pattern medicine promotion and relates it to broader trends in health, education, journalism and analyzes the paradox of its continuing survival during the immense progress of scientific medicine.

2. Prescibing patterns

BALINT, MICHAEL; HUNT, JOHN; JOYCE, DICK; MARINKER, MARSHALL; WOODCOCK, JASPER: Treatment or diagnosis - a study of repeat prescriptions in general practice
London: Tavistok, 1970

A most significant study of 1000 patients from 10 general practices. At least 18% have been receiving the same prescription and little else for more than six months. Much of the book is devoted to a discussion of physician characteristics and the dynamics of the doctor - patient relationship which might contribute to this status quo.

COLEMAN, JAMES S.; KATZ, ELIHU; MENZEL, HERBERT: Medical innovation: a diffusion study
Indianapolis: Bobbs-Merrill, 1966

A most detailed study of the dynamics of prescribing. Taking advantage of the introduction of a new drug, they examine the pattern of its acceptance among a group of physicians. They point out the differential predominance of various influences at different times during the process of 'acceptance' - particularly the importance of professional colleagues and friendship ties.

DOWLING, HARRY F.: "How do practicing physicians use new drugs?"
Journal of the American Medical Association 185 (July 27, 1963) pp. 87-90

Essentially an editorial against the overzealousness of physicians to prescribe 'new' drugs. He claims that many do it instead of diagnosing and from a series or irrational fears including "being behind the times", displeasing patients, and malpractice suits.

LEE, J.A.H., DRAPER, P.A., and WEATHERALL, M.: "Primary medical care: Prescribing in three English towns"
Milbank Memorial Fund Quarterly XLIII (April 1965) pp. 285-290

They attribute most of the variation between practices to the context in which he works and little to the training which he has received.

LENNARD, HENRY L.; EPSTEIN, LEON J.; BERNSTEIN, ARNOLD; RANSOM, DONALD C.
"Hazards implicit in prescribing psycho-active drugs"
Science 169 (July 31, 1970) pp. 438-441

A most provocative case is made against the 'wholesale' use of psycho-active drugs for handling behavioral and social problems. They note that where behavior is concerned, much of the attributed 'drug specificity' is created by a labelling process. They also emphasize the added difficulty in dealing with behavioral side effects as well as the 'underlying problem'.

MARTIN, J.P.: Social aspects of prescribing
London: Heinemann, 1957

Early study of physician patterns emphasizing socio-demographic characteristics and training.

STOLLEY, PAUL; BECKER, MARSHALL H.; LASAGNA, LOUIS; McEVILLA, JOSEPH D.; SLOANE, LOIS M.: "The relationship between physician characteristics and prescribing appropriateness"
Medical Care X (Jan.-Feb 1972) pp. 17-28

"Better prescibers" judged to be younger, with post-grad training, 'hurried' practices, more cosmopolitan, modern, psychosocially oriented; read much and are generally critical!

3. Self-treatment and self-medication - general issues

ANNALS of the New York Academy of Sciences 120 (14 July 1969) pp. 807-1024 (special issue entitled "Home medication and the public welfare"

Over 30 separate articles covering socio-economic and medical aspects of home- (i.e. self-)medication. It emphasizes, however, historic, legal and economic factor, contains only indirect data (i.e. based on reported sales) and offers little insight as the why of its frequency or persistence.

BARIC, LEO: "Recognition of the 'at-risk' role"
International Journal of Health Education 12 (1969) pp. 2-12

A most useful conceptualization calling attention to the separate role attributes of people concerned with preventive behavior.

BEZINNING op perspectief en begrenzing van de zelfmedicatie
's-Gravenhage: Stichting Voorlichtingscentrum Farmaceutische Industrie, 1969

Proceedings of a conference indicating at very least the pharmaceutical industry's awareness of the growing volume of self-medication and the need to understand it.

CARGILL, DAVID: "Self-treatment as an alternative to rationing of medical care"
Lancet (June 24, 1967) pp. 1377-1378

This brief article has called forth a storm of protest from the medical profession because of his advocacy of a greater role for self-treatment within general medical therapy.

CONSUMPTION of drugs
World Health Organization: EURO Document 3102, 1970

A follow-up to the 1968 Conference (Engel and Siderius), this time focussing on more specific issues such as definitions, future research.

DUKES, M.N.G.: Patent medicines and autotherapy in society
Den Haag, Holland: Drukkerij Pasmans, 1963

By far the best general treatise on self-medication, tracing its historical development and persistence in contemporary society. He then goes on to discuss some major problems: proper medical scope, retail sales and promotion and the 'borderland' area of medicaments.

ENGEL, A., and SIDERIUS, P.: The consumption of drugs
World Health Organization: EURO Document 3101, 1968

A general report on the consumption of drugs as derived from reported sales in six European countries.

OFFICE of Health Economics: Without prescription - a study of the role of self-medication
London: OHE, 1968

The best available 'state of the art' paper not only summarizing most of the available literature but also outlining some of the

sociomedical implications of self-medication.

ROSENSTOCK, IRWIN: "Why people use health services"
Milbank Memorial Fund Quarterly 44 (July 1966) pp. 94-127

Here is the most detailed explanation of his model of preventive behavior, outlining the supporting evidence and detailing the development of his model (i.e. the factors of awareness, seriousness of consequence, possibility of solution). While not on self-medication per se it presents the best available social-psychological approach to the understanding of such behavior.

4. Self-treatment and self-medication data

DUNNELL, KAREN, and CARTWRIGHT, ANN: Medicine takers, prescribers and hoarders
In press, 1972

The most extensive study to date, with material presented separately for children and adults. Over ½ of the adults had taken some medicine in the previous 24 hours. Consistently interesting reporting of the nature and frequency of self-medication and its variation by a number of socio-demographic variables.

HASSINGER, EDWARD W., and McNAMARA, ROBERT: Family health practices among open-country people in South Missouri Country
Research Bulletin 699, series in Rural health no. 12, Agricultural experiment station, College of Agriculture, University of Missouri, Columbia, Missouri

Significant most in a historical sense in that they noted that their respondents did self-medicate to a considerable extent.

JEFFERYS, MARGOT; BROTHERSTON, J.H.F.; CARTWRIGHT, ANN: "Consumption of medicines on a working-class housing estate"
British Journal of Preventive and Social Medicine 14 (1960) pp. 64-76

The first extensive study! About a ¼ of the sample had taken prescribed medicines in a 4-week period, and about 2/3 had taken a non-prescribed one. Consumption higher among women than men. Self-medication not an alternative to physician consultation.

KESSEL, NEIL, and SHEPHERD, MICHAEL: "The health and attitudes of people who seldom consult a doctor"
Medical care 3 (1965) pp. 6-10

More than 4/5 of all respondents did at one time or other 'self-medicate'. Those who were 10-year 'non-attenders' did, however, do it considerably less (i.e. 25%).

LADER, SUSAN: "A survey of the incidence of self-medication"
Practitioner 194 (Jan. 1965) pp. 132-136

The incidence of self-medication in a hospital population during the previous year was found to be 80%, the amount of both self-medication and prescribed medication was higher in women than in men.

NATIONAL Center for Health statistics: Cost and acquisition of prescribed and non-prescribed medicines, Series 10, no 33
Washington, D.C.: U.S. department of Health, Education and Welfare, 1966

Data from U.S. National Health Survey 1964-1965: acquisition of prescribed medicines within the past two weeks seemed to increase with age, education, number of chronic conditions, and being of the 'white' race.

RONEY, JAMES G., and HALL, M.L.: Medication practices in a community
Menlo Park, California: Stanford Research Institute, 1966

Of 86 households, 61 had purchased medications in last few weeks. Of particular interest is the amount of medicines 'on hand' -

an average of thirty per household, some for as long as 20 years. As with all other studies most common uses were respiratory, central nervous system, gastro-intestinal and general systemic problems.

THOMPSON, DOUGLAS; HABER, RICHARD W.; GERSON, STEPHEN: "A study of medications kept on hand by college students"
Journal of the American College Health Association 16 (April 1968) pp. 386-387

86% of the students surveyed had medications on hand that they had obtained without professional supervision; 19% had prescribed or physician-advised medications on hand which they had used in the past or used periodically for chronic conditions; 39% occasionally give medication to others.

WADSWORTH, M.E.J.; BUTTERFIELD, W.J.H., and BLANEY, R.: Health and sickness: the choice of treatment
London: Tavistok, 1971

Based on a community study of over 2000 respondents it is apparent that the most common response to a series of five prevalent medical conditions occurring in the last two weeks is to self-medicate, varying by condition from 20 to 50%.

WHITE, KERR; ANJELKOVIC, DRAGANA; PEARSON, R.J.C.; MABRY, JOHN; ROSS, ALAN; SAGAN, O.K.: "International comparisons of medical care utilization"
New England Journal of Medicine 277 (Sept. 7 1967) pp. 516-522

In a comparison between 3 cities in the United Kingdom, Yugoslavia, and the United States, they report that within the last two days 38%, 19%, and 48% of the respondents had used a medical drug.

5. Unpublished data held by private agencies

This is, I am sure, an underestimate of such organizations as well as the extent of such data. It is primarily the result of one relatively brief visit (10 days) to one country - England.

Audits of Great Britain - (A.J. Wicken Esq., Director of Health Surveys Unit), Audit House, Eastcole, Ruislip, Middlesex.

- Produces regular reports about consumer income and expenditure with major section on pharmaceuticals.

European Research Consultants Ltd.(Marketing), 125 Pall Mall, London S.W.1.

- Produces regular reports about consumer income and expenditure with major section on pharmaceuticals.

Market Investigations Ltd. (K.M.H. Coleman, Director), 1 and 2 Berners Street, London, WIP 3AG.

- Do extensive prescribing as well as consumer surveys - one recently on self-medication, and produces a quarterly statistical analysis relating the prescription of drugs by a sample of NHS physicians to patient's general diagnosis, treatment and background.

Office of Health Economics (George Teeling-Smith, Director),162 Regent Street, London W1.

- Financially supported by the pharmaceutical industry, they convene conferences, commission general reports and occasionally a study, all of it on health problems, much of it on drug usage. It also is a kind of clearing on research and information requests on behalf of the pharmaceutical industry.

National Opinion Polls Ltd., Buchanan House, 26 Holborn, London E.C.1.

- Carried out an exclusive Home-medication survey no. P1470 for Aspro-Nicholas Products Ltd. in November 1965. The results are available but not published.

A.C. Neilson Company Ltd. (C.J. Wallis, Associate Director), Neilson House, Headington, Oxford.

- Its prime audience is the pharmaceutical industry whom it provides with inventories of drug purchases and comparisons with other consumer goods. It also publishes a yearly bulletin on the topic. It has from time to time done direct consumer studies.

Proprietary Association of Great Britain (W.H. Hollis, Director), Southampton Row, London.

- Is a kind of clearing-house for "the patent medicine" industry, safeguarding their interests, exercising certain kinds of control re advertising, labelling, etc. It also occasionally publishes or commissions general reports on self-medication, etc.

6. On-going studies

The following investigators are conducting studies on self-medication or have data on that topic in their more general research.

Edgar F. Borgatta, principal investigator; study on Drug use.
Department of Sociology, University of Wisconsin, Madison, Wisconsin.

Drs Jessen and I. Gadourek; study on Medicine use.
Department of Sociology, University of Groningen, Groningen, Netherlands.

David A. Knapp, principal investigator; "Self-medication and community health".
College of Pharmacy, University of Maryland, Baltimore, Maryland.

John Kosa, director; "Medical care in low income families".
Medical care research unit, Family health care program, 83 Francis Street, Boston, Mass.

Theodor J. Litman, principal investigator; "Family health care study".
College of Medical sciences, School of Public Health, University of Minnesota, Minneapolis, Minnesota.

Alice H. Murphee, principal investigator; "Self-treatment practices in a rural county".
Division of Behavioral sciences, Department of Psychiatry, University of Florida, College of Medicine, Gainesville, Florida.

Aaron J. Spector, director; "Study of correlates of abnormal cervical cytology".
Institute for survey research, Temple University, Philadelphia, Pennsylvania.

Charles Westoff, principal investigator; "Study of contraceptive pill users".
Department of Sociology, Princeton University, Princeton, New Jersey.

Irving Kenneth Zola, principal investigator; "Psychosocial and cultural factors in seeking medical aid".
Department of Sociology, Brandeis University, Waltham, Mass.

7. Other relevant literature

Without annotating it, much empirical, methodological and theoretical relevance can be found in the many papers appearing both on the compliance of patients with medical regiments

MILTON S. DAVIS: "Variations in patients' compliance with doctors' advice"
American Journal of Public Health 58 (1968) pp. 274-288

and with attempts to discern the extent of psycho-active or psychotropic drug use

HUGH J. PARRY; MITCHELL B. BALTER; IRA H. CISIN: "Primary levels of underreporting psychotropic drug use"
Public Opinion Quarterly 34 (Winter 1970-1971) pp. 582-592.
(Several other papers from this project are currently in press).