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**Insensitive Health Statistics and the Dilemma of the HSAs**

Reporting to the nation's scientists assembled at the annual meeting of the American Association for the Advancement of Science in Denver, Colorado last February, Harry P. Cain II, the federal administrator of the two-year old National Health Planning and Resources Development Act, revealed himself to be on the horns of a dilemma. Created under this Act, as most readers of this Journal are aware, are 200-odd Health Systems Agencies which span the United States. The goal of these agencies is to improve the health of residents of the areas served. To do this they are mandated to assemble data concerning the health status of the population served and the determinants of health status. According to Cain:

"The emphasis of improving the health of the residents is especially noteworthy and troublesome in light of the growing interest in determining more precisely the relationships between health and medical services, and health and other non-medical factors and the difficulties associated with measuring such phenomena."<sup>1</sup> (italics mine, J.E.)

The difficulties of measuring the health status of populations coupled with the easy availability of relatively insensitive mortality data have led some analysts to sweeping judgments as to the overall ineffectiveness of medical care.<sup>2-5</sup>

Health Systems Agencies are currently handicapped by the kind of health data that are available to them for the populations they serve. They can try to be more imaginative than heretofore in the use of mortality data, as Dorothy Rice has suggested.<sup>6</sup> They can also try to create synthetic estimates for local service areas by relating local demographics from census data to illness and disability data from the National Health Interview Survey. Neither of these two approaches is adequate to the task. Mortality data, no matter how imaginatively analyzed, tell us at most about the complete absence of health for one person in a hundred. For the remaining 99 per cent—that is, most of us—synthetic estimates of health status from national sample survey data assume that the correlations obtained nationally will obtain locally.

As if in anticipation of the current need, a clarion call for more sensitive health statistics was sounded by Moriyama a decade ago.<sup>7</sup>

Moriyama, then Director of the Office of Health Statistics Analysis of the National Center for Health Statistics, noted that the frequently cited increase in longevity in the United States since the turn of the century (from 47 years to 70 years) concealed a number of important facts. One of these, for example, was that since the turn of the century, increase in expectation of length of life for white males at age 65 was only 1.5 years. Most of the reduction in death rate had taken place during the first year of life. He noted that infant mortality rate "... has long been regarded as the most sensitive index of the level of living and of sanitary conditions." After analysis of trends, Moriyama concluded that "... the infant mortality rate is no longer a particularly useful indicator of the level of living and sanitary condition for a country like the United States"; and that for similar reasons "... mortality data for the other ages are no longer adequate as measures of 'health' of the population."<sup>7</sup>

Subsequently, the National Center for Health Statistics asked Maurice Backett and his group at Nottingham to begin to wrestle with the problem of "Health statistics sensitive to medical care variation." A report by Carlos Martini et al. from the Nottingham group revealed that indices constructed from traditional outcome measures, such

as infant mortality, were more sensitive to socioeconomic or environmental circumstances than to the amount and type of medical care provided or available.<sup>8</sup>

Toiling in the vineyards of health statistics, and captured by Moriyama's concern, a small band of sociomedical researchers has bent to the task of developing more sensitive measures of health status. Multidisciplinary teams composed of social scientists and medical scientists have, in the decade since Moriyama's appeal, started to produce a promising array of sociomedical health indicators.<sup>9</sup>

The results of an effort to develop and apply an index of health along sociomedical lines reported in this issue of the *Journal* by Sackett and his colleagues at McMaster University are therefore particularly welcome.<sup>10</sup> The McMaster group suggests prerequisites for a health index: It should encompass "social and emotional health and function as well as physical function," and also "good or even excellent function." An index should be applicable to free-living populations as well as those who are captive in medical care facilities; it should be sensitive enough "to detect important changes in health status or function"; it should be simple, acceptable and of reasonable cost; it should have high reproductibility; and be amenable to quantitative manipulation. In the McMaster study these prerequisites were met by "responses to a questionnaire, administered to an appropriate sample of citizens by lay-interviewers." The McMaster group has shown that such responses can be sensitive, biologically sensible, and clinically credible.

What the McMaster group has shown is that reported illness in interview surveys is verifiable by medical judgment. In other words, there are few false positives in interview-reported illness. This agrees with the findings of the studies sponsored by the Commission on Chronic Illness many years ago.<sup>11, 12</sup>

But what about false negatives? It has also been well documented that when chronic disease—such as hypertension, atherosclerosis, diabetes, and neoplasms—is asymptomatic and undiagnosed, thorough clinical examination will reveal substantial prevalence of chronic disease not amenable to self-report in interviews.<sup>11, 12</sup> To the extent that asymptomatic chronic disease requires medical attention interview self-reports will substantially underestimate needs for medical care. If the social goal is to meet people's needs for care, then interview self-reports alone will not provide the information necessary upon which to base estimates of a population's unmet needs. No sociomedical measures based on interview self-reports—no matter how sensitive—will suffice. To determine more adequately unmet needs for medical care (and for dental care, for that matter) medical (and dental) examinations are required.<sup>13-16</sup>

It may well be that in trying to improve the health of the populations served the reach of Health Systems Agencies may exceed their grasp. One should advise that their goal should be much more modest, i.e., that they should limit their objective to seeing to it that sick people get the health care that they need.

Newer sociomedical indicators bid fair to reflect and ex-

press more sensitively the health of populations and unmet needs for medical care than the conventional measures at hand. It should be possible for the National Center for Health Statistics, perhaps through the Cooperative Health Statistics System, to provide more meaningful and useful data about the health of populations served by planning and policy groups, such as Health Systems Agencies, and thereby help to resolve Harry Cain's dilemma.

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