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## QUALITY ANALYSIS AND QUALITY CONTROL

**E**LSEWHERE in this issue Dr. J. E. Newell and his colleagues of the Committee on Quality Control of the Canadian Association of Pathologists have outlined for the members of their Society the minimal requirements for an acceptable program of quality control in clinical chemistry.

The report, aside from its immediate practical significance for those who have accepted the responsibility for supervising the operation of medical laboratories, has very wide implications for all medical practitioners. In the report Dr. Newell and the members of his Committee take note of a development which is destined to add new and unfamiliar dimensions to the "lab. report". In this communication the Committee gives its support to a movement in the medical community directed toward establishing methods which can be used for the continuous objective assessment of the quality of medical practice.

It has long been realized in industry, and more recently has been recognized in certain fields of medicine, that quality of performance is accessible to analysis. It now appears to be only a matter of time until objective methods for analyzing quality are instituted in every medical laboratory.

Analysis of quality will logically be followed by control of quality in the laboratory. Routine laboratory methods will be re-examined and refined, and eventually standardized. Laboratory personnel at all levels of responsibility will be required to meet and to maintain defined standards of performance. The concept of the "normal value" will be re-examined, and ranges of laboratory values will be developed for each test which will have clearly recognized positive or negative diagnostic implications in relation to specific clinical settings.

Ultimately, clinicians will come to expect that each laboratory report will provide or draw upon the following separate kinds of information:

1. The result of a test in quantitative or qualitative terms, as provided at present.
2. A quantitative or qualitative estimate, based on objective evidence, of the extent to which the result of the test may be in error.
3. An indication, based on the analysis of accumulated experience, of the confidence with which the particular laboratory result can be relied upon to confirm or disprove the existence of specific chemical, physiological or structural derangements in the patient under investigation.

As part of the laboratory service, consultation is made available to the clinician on request in respect of the development of a specific clinical investigation. As the investigation proceeds this co-operation continues, so that the laboratory worker can assist in interpreting the total information obtained and make suggestions concerning approaches to therapy.

The importance of the movement toward objective analysis of all aspects of medical practice needs no emphasis. The individual doctor will welcome assistance in the analysis of his work if it does not harm his patients, if it reveals to him deficiencies in his procedures, and if it enables him to meet the needs of his patients with improved effectiveness and increased confidence. The informed public, which accepts quality control in industry as part of the modern way of life, is coming to expect that the practitioner of medicine will analyze his performance objectively. In this respect, it would be a tragedy from the points of view of both the public and the profession if the responsibility for analysis of quality in medical practice, and the implementation of controls which inevitably follow, fall by default into the hands of individuals who are not fully conversant with the problems relating to the provision of medical care.

D.M.Y.

## THE POPULATION BOMB

**D**EATH and taxes have long been advanced as prime examples of inevitability. To this accustomed duo a third may be added if, as now appears possible, mankind is spared (or spares himself) annihilation by atomic forces. It appears almost certain that overpopulation of this earth of ours is as nearly inevitable as are the two aforementioned standbys of inevitability.

That recognition of this problem exists is evidenced in statements by many pundits from widely varied fields of interest and activity. In that of medicine, even cursory examination indicates that physicians have approached the subject from a variety of points of view. These are concerned

mainly with aspects of human fertility and with techniques of "birth control", "family planning" or like euphemisms; nor have related demography, ecology, esthetics and psychology been neglected.<sup>1-9</sup>

Two conclusions appear to be valid as to suitable attitudes for physicians and their co-workers toward this phenomenon and its consequences. First, individuals should inform themselves on the nature and the dimensions of the questions involved. Secondly, they should decide what course of action they will follow—both in the clinical sphere and in the larger purview of influencing public opinion and stimulating progress toward ends which they deem desirable.

The problem has been stated broadly and with exceptional clarity by Sir Charles Darwin.<sup>10</sup> "For thousands of years the number of human beings had been increasing but very slowly. Thus it is estimated that at the beginning of the Christian era there were between 300 and 400 million people, and that with ups and downs the number had reached 500 million by A.D. 1700. It is now [1959] more than 2500 million, and short of some frightful catastrophe it is practically certain that by A.D. 2000 it will be round about 5000 million. The sudden jump from near constancy for two thousand years to a multiplication by ten in three centuries shows that this period is the wonder age in the whole history of the human race."

This tendency to geometrical population increase must end in an unviable situation if it continues at even its present rate. Whether that terminal point lies decades or a few centuries in the future is of comparatively slight significance. It seems less than either scientific or humane to respond only with a Micawberish hope that something will turn up to alleviate the situation. In fact, what seems most likely to turn up is precisely an acceleration of this trend to a progressive increase in world population.

One of the factors which in recent years has exerted an increasing pressure toward such acceleration is described by Carlos A. Alvarado and L. J. Bruce-Chwatt,<sup>11</sup> two physicians in the Division of Malaria Eradication of the World Health Organization, who observe that "During the past 15 years modern methods have cut the number of cases of malaria from a world-wide total of 350 million to fewer than 100 million. Moreover, in several areas eradication has already been achieved. There now seems no reason to doubt that the same results could be attained in the remaining regions of the globe." Only slight exercise of the imagination is needed to predict fairly accurately the certain effects on world population when presently available medical knowledge and skills reach those now without access to such "miracles".

For those who recognize the problem and choose not to "pass by on the other side", appropriate responses are unlikely to be identical. Variety in milieu, in personal background, training, experience and religion will dictate variety in reaction, even

to nearly similar individual or group situations. Surgical, pharmacological, mechanical and temporal means are each more or less effective in producing artificial sterility of varying degrees. So, a range of alternatives is presented for those who seek them.

The significant second-order questions are those concerned with will and with communications. As to the first, we in North America—indeed in the northern hemisphere generally—experience this problem in a form much less acute than do our fellow-men elsewhere. Yet we can scarcely, in good conscience, prescribe policies for others while we evade the issue on our own ground. So, each of us must consult his philosophies of life and of medicine and formulate a general principle by which he can abide. As to the second, each of us must recognize that our underprivileged fellows suffer grave limitations of capability in both comprehension and action. These millions, to us mainly nameless, are limited by lack of literacy, by lack of communications media, and by lack of income sufficient even for existence. Both compassion and sheer self-interest of our own peoples indicate a necessity to aid in working towards ameliorating solutions.

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#### SOVIET MEDICAL THINKING

MUCH is being written in the North American press about the profound, yet very confusing changes taking place in Soviet Russia. According to one observer, enlightened and reactionary attitudes are frequently evidenced by the same person, often at one and the same time (Crankshaw, E.: *Globe and Mail*, Toronto, January 17, 1962). Lord Taylor sums up the Russian personality as being "predominantly manic-depressive, rich in contradictions, full of gloom and grandeur, rigidity and flexibility, apathy and achievement; but no less rich in hopes and potentialities" (Deep Analysis of the Russian Mind, *New York Times Magazine*, January 7, 1962). Superimposition of Marxist thinking on this underlying pattern has obviously not simplified this or any other pattern of personality encountered in Russia.

Until recent years very little was to be found in Soviet medical literature about such general topics as the state of medicine in the U.S.S.R., or