purposes, they are capable of being quantified. Appropriate refinements based on all of the above factors have, in fact, been incorporated into the automated procedures for mortality follow-up of Canadian uranium miners and other study cohorts in this country. To assess the importance for linkage of a given identifier comparison "outcome" (agreement, disagreement, specified similarity, etc.), one asks a very simple question, "How common, or 'fashionable' is that 'outcome' in genuinely linked pairs of records as compared with unlinkable pairs?" "Outcomes" that are more likely to occur in linked pairs will obviously argue for linkage, and those that are more common in unlinked pairs will argue against linkage. The strength of the argument is proportional to the magnitude of the ratio. It is that simple, provided the relevant data are captured, from the files themselves and from the matched pairs of records out of a preliminary linkage operation.

The *art* of record linkage, as distinct from the theory and general strategy, lies in the choice of the specifics of any such refinements. The designer of a linkage procedure wishing to introduce refinements of the above kinds must inevitably explore the options empirically, and quantitatively in some detail using actual data, before deciding upon some optimum simplification. Although the practice of this art is laborious, experience has shown that substantial improvements in overall discriminating power can, in fact, be achieved as a result of the fine tuning that is possible when the intuitive insights gained from dealing manually with the more difficult linkages are tested quantitatively and used to modify the machine procedures.

From the Arellano, *et al,* paper in the present issue of the Journal[2] and from others,[7] one is encouraged to believe that the art of automated death searching will continue to be refined at various centers in the future. In essence what is being refined is the judgment of a machine in the light of the experience which, in large part, the machine has made possible. The practical benefit to people will be increased awareness of some of their more important mortality differences.

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The 'Trickle-Down' Theory—Is That Any Way to Make Policy?

Whether there are enough physicians, and whether they are practicing where people need them, have been difficult public policy questions for well over a decade now. During those years, the answers to these questions have shifted several times.

In the middle and late 1960s a consensus emerged that there was a physician shortage in the United States. The Congress responded with enthusiasm and created programs that helped private and state medical schools drastically increase their enrollments. These included capitation support to institutions, traineeships for biomedical research, and scholarships and loans for students.

As the problem was studied more carefully, it was clear that the principal shortages were of primary care physicians and of any physicians in many rural and inner-city areas. Even the remarkable improvements in access brought about by Medicare and Medicaid had not made these problems go away. Again, the Congress responded with funds to help train family physicians, general internists, and general pediatricians, and with programs to identify health manpower shortage areas and to encourage or even require physicians to work in those areas. During this time there was rapid growth in the National Health Service Corps, and in the Migrant and Community Health Centers.

The past few years have seen another major shift in the perception of the physician shortage problem and the appropriate solution to that problem. Now, there is general agreement that the total number of physicians is more than adequate to meet the needs of the people of this country. Some have argued that this large supply will create market forces that will eliminate geographic and specialty shortages. Most recently, an optimistic interpretation of a few studies[1,2] has created a new "conventional wisdom" that such shortages are already or will very soon be a problem of the past. In turn, the need for continuing many of the programs mentioned above has now come into question.

In this issue of the Journal, the article by Hicks[3] points to quite a different conclusion. Together with another recent study[4] Hicks' article makes it clear that even huge overall increases in physician supply in a state leave some areas still in great need. A degree of progress was made, yes—but at what cost? While some of the new physicians went to counties with shortages, nearly eighty per cent settled in areas that already had more than enough physicians to meet local needs. Twenty-four counties, largely rural ones, experienced a decline in their ability to meet the needs of their residents, while the number of physicians practicing in the state grew by one-third. This situation may well get worse as older physicians are not replaced by younger ones in those areas.

No studies are perfect, and these issues are complex[5] and may never be fully resolved. But it is clear that the

marketplace approach alone is very inefficient and only questionably effective as a solution to the equitable distribution of physicians. Apparently that approach works only, if at all, by pumping up the "reservoir" of physicians in attractive urban areas and particular specialties to enormous proportions so that a tiny "trickle" of practitioners will flow to less attractive places and less remunerative specialties. In the meantime, people in rural areas must wait. The same is undoubtedly true for residents of poor inner-city areas, although Hicks' study does not address that concern.

Hicks suggests a solution with some merit, looking for practitioners who will work where physicians will not. But that need not be the only approach. Strong continued support for programs such as the National Health Service Corps scholarship and field programs, for Migrant and Community Health Centers, and for federal programs to train primary care physicians will also be necessary for the foreseeable future. People in areas without enough physicians should not be ignored in the name of supply-side theories.

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Notes from a Fertile Field: A New Forum

As noted in a 1983 editorial,[1] "The flow of papers has forced this Journal, as a matter of policy, to reject manuscripts which describe new programs or curricula unless they are accompanied by an assessment of the extent to which objectives were achieved. This is a loss to those who toil in the field where drastic budget cuts in the face of inflation and unemployment and greater needs on the part of those served are forcing health agencies to develop new ways of fighting the trends, and trying to function as efficiently and effectively as circumstances permit. Under such circumstances, one cannot wait for the new ways to prove themselves. What others are doing is an important stimulus to thinking, decision making, and action. Thus a forum where this kind of intelligence is shared can be very useful."

Beginning in this issue of the Journal, *Notes from the Field* appears for the first time as a new feature (see p 1418). The emphasis of this column is on timeliness and application. While frequency of publication will depend on contributions—both voluntary and invited—the forum is initially scheduled to appear every other month. As editor of this new feature, I hope the concept will generate a steady stream of cogent, interesting, and innovative reports submitted to these pages.

Information regarding field experience with specific program ideas is solicited directly "from the field," i.e., from action agencies at the local level practicing public health in our nation's communities. The usual scholarship and documentation required by the Journal for research and survey articles are also required of submissions for *Notes from the Field*. The difference is the extent to which information may be preliminary, anecdotal, or with numbers which might preclude the usual statistical analyses applied to research articles.

In keeping with the Journal's commitment to inform its readers of matters important to their own day-to-day activities, the column commits to present as thoroughly as circumstances will permit, both failures and successes, and the broad range of field experience which falls in between those two. Published materials would include, but not be limited to, reports that describe new, innovative programs, developments, or projects that would be of interest to a large number of the readers and possibly serve as models elsewhere. Many of these reports will emanate from local and state health agencies and from health facilities. As conceived, the project will publish technical and research-oriented materials as well as organizational and programmatic reports, and data management concepts. All public health disciplines will be represented in the scope of reports published.

The column should be viewed as an experiment in informational journalism. It will succeed only if current information is submitted by you, the readers. Furthermore, its "success" will be determined by the usefulness of the information to our readers. Therefore, both original submissions and reader responses are solicited and will be reviewed by the Editorial Board in its assessment of this experiment throughout the coming year.

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Submissions to "Notes from the Field", as well as reader responses, should be addressed to Dr. Hugh H. Tilson, Notes from the Field Editor, Department of Product Surveillance and Epidemiology, Burroughs Wellcome Co., 3030 Cornwallis Road, Research Triangle Park, NC 27709.