• Preventionists are not asking that "scientists" (Dr. Krause's word) "apply what we know now" but that the health care delivery system, through its practitioners, applies what we know now. We also do ask that more scientific research be devoted to prevention and health promotion. Indeed, much work remains to be done in behavioral medicine, environmental health, political science, and economics related to health promotion and disease prevention.

• The science of prevention is not, as Dr. Krause would have us believe, merely epidemiology, although it is the most basic one. Further, epidemiology is not "only" observation. Descriptive epidemiology is observational; analytic epidemiology, not covered effectively in very many medical schools, is certainly "perturbational." All epidemiology uses the same scientific method in the field that Dr. Krause uses in his lab.

• Prevention is technically straightforward and conceptually simple. Unlike disease treatment, it is neither complex nor expensive. Why then is it not universally implemented? Primarily because, as [former HHS Secretary] Richard Schweiker said, prevention is a state of mind. It is an ideological, not a scientific, question. That is why there is never, and can never be, enough evidence to convince close-minded disease treaters of what should be done, just as the tobacco industry can never be convinced that cigarette smoking directly causes disease and death. The solution to the problem is, and will be, political. In that context, only the opponents of change will suffer.

Dialogue is certainly a useful way to resolve conflict, but only when both sides are looking for change from the status quo. When one side wants change and the other side does not, dialogue leads only to delay. In the case of health promotion and disease prevention, dialogue about how the biomedical research community can best help to implement the Surgeon General's report "Healthy People" would certainly be most useful. I hope that it begins soon because presently we are hearing all too often, as in Dr. Krause's paper, that there is nothing different to do.

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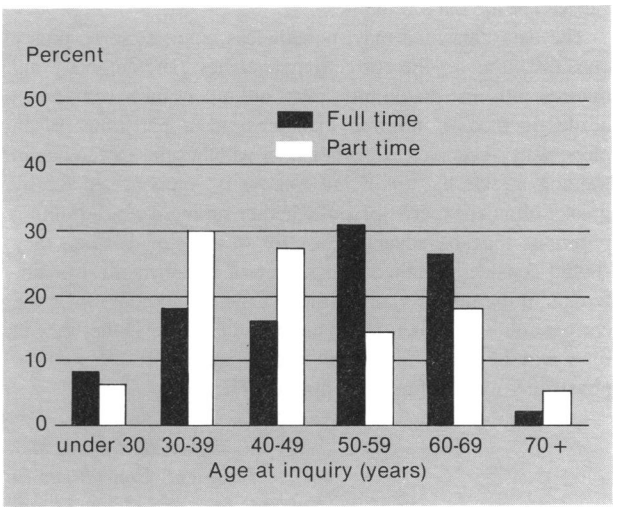
Prison Health Care: Training Differences Reflect Age Cohort Differences

The article profiling licensed prison physicians in the November-December issue (*1*) is disappointing in its data analysis and in the broad conclusions it reaches. It attempts to predict the quality of care given by full-time versus part-time prison physicians, on the basis of their questionnaire responses on attitudes and training, with little heed paid to the significant demographic distinctions between these two groups.

It is noted that full-time prison physicians responding to the questionnaire had a mean age at time of inquiry that was but 3

Age distribution of prison physicians (full-time and part-time)



years greater than that for part-time prison physicians answering the questionnaire. Analysis by mean age, however, has obscured the very significant difference in age distribution existing between the two groups. Analysis by median age would have shown a difference closer to 10 years. Further, as the attached graph of the authors' data shows, 57 percent of the full-time physicians were in the age group 50–69 years old, while 57 percent of the part-time physicians were in the age group 30–49 years old at the time of response.

The data demonstrate a significant cohort difference between the full-time and the part-time physicians. The study might as well be described as comparing attitude and training responses for prison physicians who are for the most part 40 ± 10 years of age and part-time employees with those who are for the most part 60 ± 10 years of age and full-time employees. The analysis presented attributes all differences to the employment status without giving adequate attention to the age difference.

Additionally, no consideration in the analysis has been given to the duration of prison employment at the time of inquiry. I would suggest that the younger, part-time physicians may have been prison physicians for a far shorter time than had the older, full-time prison physicians. It would not be surprising if physicians, like other employees, working full-time in underfunded prison health units did not become both jaded by the experience and trapped by pension and other financial restrictions.

An appropriate analysis might have matched full-time and part-time prisons physicians by age and duration of prison employment and then have compared the attitudes and training of those who acquired full-time employment and stayed employed versus those who acquired part-time employment and stayed employed as long.

Interpretation of the results in terms of predicted quality of care must be carefully performed so as not to "blame the victim" as appears to have been done. Quality of care may well be more dependent upon the quantity and quality of support provided the physician than upon his initial training or subsequent attitude or on whether he was employed full time or part time. It is not clear that this paper contains data on critical variables of care, but rather presents analysis of "pseudovaria-

bles," an approach that cannot be justified on the basis that "these are the data available."

The data presented may, nonetheless, suggest some policy considerations for the corrections agencies. The authors point out that full-time prison physicians are older and have had less academic medical training than have most part-time prison physicians. Agencies might consider whether this difference in training affects the quality of care or is compensated for by greater clinical experience and whether supplementary training programs may be advantageous for this group. Further, they should consider whether their source of future medical practitioners in the prison system can be expected to come from the current cohort of part-time prison physicians or whether they in time will be replaced by subsequent waves of still younger physicians with different training experiences.

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Age Difference Was Key to Conclusions

We described the characteristics of the population of physicians who worked in prisons in the fall of 1979 (*1*). We also compared the subset of physicians who worked in prisons on a full-time basis with those who worked part-time in terms of their demographic and professional characteristics.

Since we had no measures of the actual quality of care provided by these physicians, we stated: "In the absence of data about the technical quality of care . . . inferences about quality . . . may be based on [the physicians'] professional attributes." We cited several studies which found a significant relationship between physicians' characteristics (age, years of training, specialty status, scope of practice and, in certain cases, graduation from a foreign medical sch⁻ol) and the quality of care they render (*2–9*). We then noted our concern about the quality of care "full-time prison physicians were likely to provide since their profile indicated that a disproportionate number had characteristics associated with lower quality care." Namely, we found the population of full-time physicians to be older, less likely to be board-certified or eligible, and more likely to be foreign medical school graduates (FMG), to declare no specialty, and to hold a restricted license. It was not the physicians' full-time employment status that led to our concern; rather, it was the characteristics of the physicians themselves. Our conclusion was based solely on inferences derived from the known association between these physician characteristics and quality.

In his letter, Dr. Lamm points out that full-time prison physicians are much older than their part-time colleagues. This was evident in the age distributions we presented, and Dr. Lamm's assertion concerning median ages is correct: the median age of full-time and part-time practitioners was 52 years and 45 years, respectively. However, Dr. Lamm's argument that we did not give adequate attention to these age differences is inaccurate. The age difference was, in fact, one of the key bases of our conclusion. We expressed concern about the quality of care rendered by full-time rather than part-time practitioners because, along with their other characteristics, they were markedly older.

Dr. Lamm's point about duration of employment and quality of care is an interesting one. However, our data reveal that part-time physicians maintained their relationship to correctional programs for a *longer* period than full-time physicians (an average of 78 months and 52 months, respectively). This does not support Dr. Lamm's hypothesis.

Finally, a note on our conclusion. Given our findings, and our assumption that the "fiscal and 'environmental' conditions that make full-time prison practice unattractive to mainstream providers are not likely to change soon," we recommended that, based on considerations of quality alone, administrators of prison health programs rely more heavily on part-time physicians. Of course, this recommendation would not apply where the set of physicians or individual practitioners working full-time in a given institution or prison system do not resemble the typical full-time provider found in our study. Likewise, if a future cohort of full-time prison physicians were, indeed, younger and more well-trained than the current cohort, our recommendation would also not apply to them.

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