Karen Muskavitch's Commentary on "Forbidden Knowledge"

Commentary On
Forbidden Knowledge

This case is very interesting and important because it highlights conflicts that researchers in both medical and social sciences might encounter between their responsibilities to the community as a whole, as personified in this case by the elders, and the individuals members of the community. The elders represent the practices and values that have been a traditional part of the Z community, what has made it "an isolated, closed society, separating itself from the general population," and the researchers in human genetics who work with the community wonder what impact their genetic screening program and research might have on those practices and values.

One of the community's values seems to be to have its elders protect and embody its interests. The case shows us several ways that this value is put into practice. The elders play a critical role in mate choice within the community. There is the suggestion that they do more than just act as a "go between" for the families of the young couple. It seems that they also must approve a potential match before they play this role and courtship is allowed. It is the elders who approach the genetic researchers for help, and it is they who tell the researchers what should be done and instruct the community about who should and should not be screened for the defective BCK allele.

Neither the elders' immediate reasons for asking the researchers to develop the carrier screening and diagnostic testing, nor their long-term goals are completely clear from the case. It appears that the genetic defect that causes the metabolic disorder of BCK has already been identified, and what the elders seek is a screening technique that can identify carriers of the defective allele as well as a diagnostic test to identify BCK-affected newborns so that the restricted diet can be initiated at birth. Does the birth of several BCK-affected infants in the community cause the elders to doubt the efficacy of the community's mate selection traditions? Are they looking for a way to confirm and/or improve the community's genealogies with regard to BCK? Do the elders want to give those already married a way to determine whether they have the potential to give birth to a BCK-affected child? Do they hope to trigger more interest in studying BCK by the medical community? Do the elders just want to ensure that affected infants are identified and put on the restricted diet as soon as possible by alerting the parents to their carrier status and informing them of the diagnostic test available to test newborns? We can't be sure of the elders' motives, but in some communities knowledge of carrier status for genetic diseases is held not by the individuals, but by the elders of the community who then tell the couples whether they are at risk of having an affected child.(1)

In this case, we are told that in the initial screening "testing is done for all who request it and the results are provided to those who inquire." However, we also learn that "the elders do not recommend testing prior to marriage." This scenario brings to mind several ethical concerns. Were the people aware that they were involved in medical research? (Presumably, this screening was a test of the newly developed screening method and so research rather than a standard procedure, but this reasoning could be questioned since the elders sought out the researchers, rather than the reverse, and we do not know if the researchers plan to publish their work.(2)) Were those tested informed of the nature of the research, and did they give consent? Did some members of the community feel pressured to be tested or alternatively to avoid testing? In other words, was there coercion from the community and/or the elders, if not from the researchers? Based on the principle of respect for persons or autonomy, informed consent should be freely given, but here the researchers might have difficulty identifying or controlling any pressure put on members of the community, and one might question whether they should. The principles put forth by the Belmont Report and used as the basis for our regulations on human subjects research focus on the individual, not on the researcher's responsibilities to a certain, identifiable community as a whole.(3) Should the researchers interfere with the manner in which such decisions are traditionally made within a community that may very well share medical costs in common?

In a similar way, consideration of how the information generated by the screening will be communicated and stored is complicated by the presence a strong community interest. In general, the IRB Guidebook recommends that subjects receive counseling regarding the genetic information they receive so as to minimize potential psychological harm.(4) It is hard to predict how people will react to the news that they are carriers for a genetic disease, although unaffected themselves, and there is also the potential for stigmatization by the community if others learn of their carrier status. In addition, people need to understand the probability of false positive and false negative results in such tests. In this case, counseling does not appear to be provided for those tested, and it is unclear who will have access to the information. The case does state that "the results are provided to those who inquire" presumably about their own tests, but we don't know whether the researchers have agreed to make the information available to the elders as well, or if members of the community are expected to make their results known to the elders. The IRB Guidebook says that "in general, except where directly authorized by individual subjects, data may not be released to anyone other than the subject." (5) But such an authorization could have been part of the form signed before testing, or the researchers could have concluded that this screening did not constitute "research" but was more like work done under contract to the community elders and so the elders should be given all the information. It seems to me that in order to respect the personhood and autonomy of all those tested and to be reasonably sure that the information is handled in a manner acceptable to all, a lot of discussion with those in the community needs to occur before the screening is done, regardless of whether or not this work is considered "research." In this way, the people will clearly understand what will happen to the information generated by the screening before they even decide whether to participate. "Before consenting to undergo genetic tests, whether new tests that are being developed, or already-established genetic tests, subjects should fully understand what it is they are going to learn about themselves, what they are *not* going to learn about themselves, and how reliable the information will be."(6)

At the end of the case, we see the researchers puzzling over allele frequencies from the initial screening that are much higher than expected based upon the frequency of children born with BCK in the community. Now the researchers are contemplating what would clearly be research aimed at trying to determine the frequency of the defective BCK allele throughout the Z community, including among those not married, and whether there is any evidence of nonrandom mating within the community. The lower frequency of BCK-affected births could be explained in a number ways including: the elders or community custom discouraging mating between two carrier families, a lower allele frequency in the entire community than among the subpopulation tested in the initial screening, or death *in utero* of a significant percentage of BCK-affected fetuses.

In order to do the research to answer these questions, the researchers would need the support and cooperation of the community elders, and probably would need to make some agreements with the elders on how the study will be done including who will be tested and who will have access to the information generated. The relationship with the elders established with the agreement would generate both practical and ethical obligations. First, there is the purely practical consideration that continued work in community Z requires maintaining a good relationship with the elders. Then as the Code of Ethics of the American Anthropological Association states "fieldworkers may develop close relationships with persons. . . with whom they work, generating an additional level of ethical considerations" concerning their obligations(7) . In many ways, this work is a type of anthropology, and it is instructive to note that the anthropology code of ethics states that "anthropological researchers must expect to encounter ethical dilemmas at every stage of their work," that "researchers have primary ethical obligations to the people. . . they study. . . [and] these obligations can supersede the goal of seeking new knowledge," and that "researchers who have developed close and enduring relationships (i.e., covenantal relationships) with either individual persons. . . or with hosts must adhere to the obligations of openness and informed consent, while carefully and respectfully negotiating the limits of the relationship." Could the research have an effect on the culture and practices of the community such as mate choice, and does this possibility preclude the work? Are the "people" to whom the researchers have an obligation best represented by the individuals being tested or by the community as a whole represented by the elders? What should the researchers do if the obligations to individuals and to the "host" elders conflict? These are concerns of a type that is just starting to be considered by researchers and ethicists and on which there is no consensus at this point.

It might be interesting in your discussion to consider the following extension of this case, which makes the potential conflict between obligations to the community and to individuals within the community more immediate: Let us assume that the researchers have worked out an agreement with the elders of the community for genetic screening of all those in the community who are willing to be tested. The agreement is that the results of the tests will be made available to those *married* individuals who request them, but that no results will be given to the elders or to community members who are not married. The individual results will be kept confidential by the researchers, although the aggregate results (such as allele frequencies) can be used in publications and will be made available to the community. Now suppose that two young, unmarried people from the community contact the researchers saying that they want to be tested for the defective BCK allele but only if they will be given their results. The young people say that the elders have not approved their courtship and the couple suspects it is because BCK is known to run in both of their families. They hope that if they can show the elders that one or both of them is not a carrier, the elders will change their minds and approve their courtship and marriage. What are the obligations of the researchers, some of whom are medical doctors, to these two young people? What are the researchers' obligations to the community? Note that this unmarried couple is asking the researchers to help them in their quest to overturn what is seen in the community as a decision that cannot be appealed.

- (1)D. Abeliovich, A. Quint, N. Weinberg, G. Verchezon, I. Lerer, J. Ekstein, and E. Rubinstein, “Cystic Fibrosis Heterozygote Screening in the Orthodox Community of Ashkenazi Jews: The Dor Yesharim Approach and Heterozygote Frequency,” European Journal of Human Genetics 4 (6, 1996): 338-3341.
- (2)National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, The Belmont Report, Ethical Principles and Guidelines for the Protection of Human Subjects of Research, 1979, http://grants.nih.gov/grants/oprr/humansubjects/guidance/ belmont.htm.
- (3)National Commission, Belmont Report; Code of Federal Regulations, Title 45, Department of Health and Human Services, Part 46, Protection of Human Subjects, 1991 and 1994, http://www.med.umich.edu/irbmed/FederalDocuments/hhs/HHS45CFR46.html#46.111; Office for Protection from Research Risk, National Institutes of Health, Institutional Review Board Guidebook, 1993, http://grants.nih.gov/grants/oprr/irb.
- (4)OPRR, Guidebook.
- (5)Ibid.
- (6)Ibid.
- (7)American Anthropological Association, Code of Ethics, 1998, http://www.aaanet.org/committees/ethcode.htm.