Privacy Rules Blindside French Glaucoma Effort

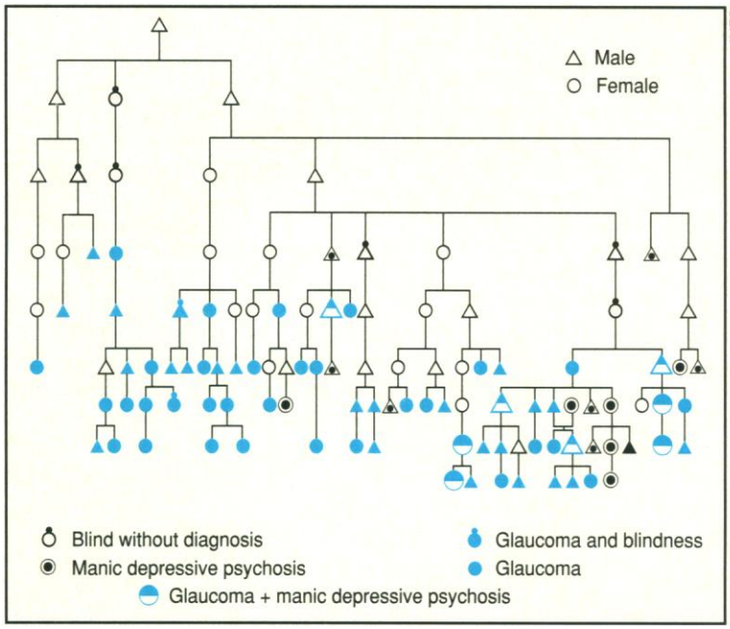
A plan to notify potential carriers of a genetic defect that can lead to blindness has prompted an ethical quandary

Paris—A TEAM OF RESEARCHERS SIFTING through 5 centuries of French village records for patterns of mental illness has instead turned up an astonishing pattern of blindness caused by hereditary juvenile glaucoma—a pattern that goes all the way back to a single couple living in a village in Brittany in the 15th century. The researchers have since traced no fewer than 30,000 living Frenchmen and Frenchwomen who are descended from that couple, and they have found that more than half of all reported French cases of juvenile glaucoma have occurred in people in that direct lineage.

The researchers, from the Institut National d'Etudes Démographique (INED), were elated—treated early with drugs or surgery, this form of glaucoma can be arrested; blindness occurs only in untreated sufferers. So INED's data could be invaluable in pinpointing families at risk and ensuring that they get early treatment. But then came a revelation: French privacy law, designed to protect at almost any cost the privacy of the French citizenry, would prevent any such use of the information.

"I know the names of the people, often young ones, who risk becoming blind tomorrow, but I cannot alert them," says André Chaventré, director of INED's Department of Anthropology and Genetic Demography, who led the team that traced the genealogy of the disease. And Chaventré isn't the only one who's incensed. Claude Evin, minister of Social Affairs and Solidarity, recently announced the results of the INED study at a medical ethics conference and has since done his best to get the privacy rules changed.

The identification of potential bearers of the putative glaucoma gene is the fortuitous result of a study Chaventré started 3 years ago with psychiatrist Edouard Zarifian of the Caen University Hospital. They were trying to trace the genetic pattern of manic depression and soon realized that there was a strong, but so far unexplained, statistical link between this disease and a common variety of congenital juvenile glaucoma known as open-angle glaucoma. The disease is insidious: The patient, often a child, does not become conscious of the disease until vision is affected, but by that time a large proportion of optic fibers are irreversibly damaged.



Glaucoma genealogy. *Fragment of family tree of one 15th-century couple shows transmission of juvenile glaucoma and manic depression.*

Chaventré came across a 1979 medical thesis reporting a high incidence of juvenile glaucoma in the Nord-Pas-de-Calais region, near the English Channel, and quickly recognized it had a familial pattern. Chaventré contacted ophthalmologists in Lille and Paris and established a protocol to trace the genealogy of manic depression, glaucoma, and diabetes, which is known to be associated with glaucoma. The study was extended to relatives of glaucoma patients, who were given an ophthalmologic examination, glaucoma tests, and, whenever possible, psychiatric evaluation.

INED researchers assembled bits and pieces of a genealogic tree, using town and village records, often kept in several copies by the traditionally punctilious French administration. Posted on a wall, the tree was several tens of meters long. Computer analysis unequivocally pointed to a single couple, who died in 1495 in a small hamlet near the village of Wierre-Effroy in the département of Pas-de-Calais, as the original source of the disease. (An 11th-century chapel in Wierre-Effroy, dedicated to Sainte Godeleine, contains a cistern filled with water that was believed to cure blindness; even today, pilgrims gather there every year in July to pray for the healing of the blind. "This," says Chaventré, "is not a coincidence.")

From this 15th-century couple, the gene spread rapidly throughout the region and the country. "This can go very fast," says Chaventré. "We have found records of affected parents who had as many as 18 children." The data are now coded and stored on a computer in the INED building in Paris. And if the Commission Nationale d'Informatique et des Libertés (CNIL) gets its way, that's where they will stay.

In 1988 Chaventré consulted CNIL, which was created in 1978 to protect individuals from potential abuses of computerized data, about a plan to inform physicians of the names of at-risk individuals living in their area. Physicians would then be able to keep a close watch on specific patients and, when necessary, recommend an examination in ophthalmology departments of designated hospitals. The CNIL cut the ground out from under the plan, however, by ruling that it would be fine for INED to tell physicians to keep an eye out for juvenile glaucoma among their patients, but it couldn't mention the names of any individuals. INED, it said, can alert physicians only to the symptoms and hereditary nature of the disease.

Chaventré objects that alerting physicians without telling them which patients are at risk would be ineffective, and that a national screening campaign would overwhelm specialized centers. "Giving physicians the names of individuals registered in their neighborhood, who are on the INED list would be far more efficient," he says. But Vulliet Tavernier, an official at CNIL, counters that distributing a list of individu-

als obtained by a genealogic study would constitute an authoritarian public health measure that would infringe on individual liberty and privacy. CNIL is concerned that circulating the names of potential carriers of genes predisposing to diseases might lead to discrimination in hiring or insurance.

CNIL bases its legal case on a 1978 law that states that individuals about whom information is collected must know how the information will be used. The law specifically notes that "even in the domain of medical research, such information can, in certain cases, cause prejudice to a patient because it informs him he is affected by a severe disease." Although a proposal was floated in 1989 to change this legislation to permit some types of data to be released to protect public health, it was rejected because "they did not provide for a satisfactory equilibrium between the interests of public health, the respect of fundamental liberties, and the rights of men, notably the right to respect privacy," CNIL president Jacques Fauvet wrote at the time.

Meanwhile, Evin, whose jurisdiction includes health, has forced a public debate on the INED study. During a congress on ethics organized by the Conseil National de l'Ordre des Médecins, the French National Medical Association, last month, he said, "The use of informatics can be felt as a threat....But techniques of genealogical studies in France allow the identification of thousands of persons at risk for certain diseases that can perfectly well be prevented." Evin specifically mentioned the INED study, which previously had been kept under wraps. The press picked up the story and effectively launched a public information campaign. Now Chaventré says he is getting telephone calls directly from individuals willing to participate in the study and in a screening program.

Officials from INED, CNIL, and the ministry plan to meet soon to try to find a way to solve this ethical quandary. While those efforts are under way, the Laboratory of Molecular Genetics of the Brest Blood Transfusion Center is undertaking a search for the precise gene or genes for glaucoma, using blood samples from 100 glaucoma patients and 100 relatives who are not afflicted with the disease. Identification of the gene could lead to a pre- or postnatal diagnostic test for the disease and, perhaps, to the development of drugs to counteract its effects. But all this will be of little use unless a change in the privacy law can be effected. Only then will the 30,000 families of potential victims be safe from blind justice.

■ ALEXANDER DOROZYNSKI

Alexander Dorozynski is a free-lance science writer based in Paris.

A Fix for the FDA

When the Food and Drug Administration (FDA) came under fire last year because some of its employees had accepted bribes from generic drug company officials, Secretary of Health and Human Services (HHS) Louis W. Sullivan appointed a blue ribbon panel of outside experts to find out what was wrong with the beleaguered agency. The panel has now completed its year-long study and identified a wide range of defects—including the fact that Sullivan and his predecessors are a big part of FDA's problems. They have failed to give the agency enough status, support, and independence, the commission has concluded. "FDA suffers from its placement as a third-tier agency within HHS," according to a draft report released last week. "With few exceptions, the essential departmental support has unfortunately not been forthcoming."

As a result, the panel of 15 experts that has come to be called the Edwards Commission, after its chairman, Scripps Clinic and Research Foundation president Charles C. Edwards, is making the bold recommendation that FDA be removed from the Public Health Service and be elevated in status within HHS—a step that was urged by 35 different witnesses who testified before the committee in the past year. "You can't put the commissioner of the FDA on the third or fourth level [of HHS] and expect him to carry the weight of an agency," says Edwards. "Where he stands determines the power he has." And Edwards should know: He was commissioner of the FDA from 1969 to 1973. The panel's report also says that the FDA must be given more authority to issue its own regulations and enforce them. And if Sullivan doesn't move quickly to carry out those recommendations, then the panel advises Congress to intervene and consider removing FDA from HHS altogether, making it a free-standing, independent executive agency, much like other regulatory agencies, such as the Environmental Protection Agency and the Federal Trade Commission.

That is just one of two dozen far-ranging recommendations made by the panel, which released its draft report earlier than planned after it had been obtained last week by *The New York Times*. Interviews with panel members and staff confirm that essentially the same recommendations will be made in the final report to be delivered to Sullivan in May. And the panel's diagnosis of the FDA—an agency in unusually poor health—will not change. "Although the FDA has routinely lived with controversy, the magnitude of current pressures is unprecedented in nature and scope," says the report. Those pressures come from all sides—Congress, AIDS activists, consumer advocates, drug company officials, and the media (*Science*, 12 April, p. 200). Even the current scientific advances in drug development and biotechnology are making it more challenging for the FDA to regulate those industries and their new products. Yet the report notes that the FDA is having trouble keeping its labs and technology up-to-date, particularly in the division that inspects food.

The cure prescribed by the panel has several parts. It advises Congress to stop heaping new responsibilities on the agency without considering the costs that would be incurred. And it warns the agency to take better care of itself: The FDA leadership should improve its system for setting priorities and for managing employees and limited resources; invest in new computers to track the approval of drugs and other products; and beef up the FDA's inspections of industries and enforcement of laws and regulations. Finally, it suggests that the FDA seek new legislation to ensure that its regulations preempt those approved by state governments, which have perceived the FDA as slow-moving and unresponsive. A couple of years ago, for example, California's Proposition 65 required much broader warnings than the FDA did for labeling carcinogens in foods and over-the-counter drugs.

There has been no official reaction so far because Sullivan and other officials say they are waiting for the final report. But the Administration has openly opposed moves to give the agency more independence. It was the Reagan Administration, in fact, that sharply limited the FDA commissioner's authority to issue regulations in 1981. That makes it all the more noteworthy that the panel, six of whose members come from the industries the FDA regulates, called for new enforcement authority. Finally, much will depend on the reaction of the new FDA commissioner, David A. Kessler. But it's doubtful that any of the recommendations come as a surprise to him: He was a member of the Edwards Commission until he was nominated for the top FDA job last October.

■ ANN GIBBONS