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At Johns Hopkins, researcher Linda Ward analyzes AIDS test results using the Retrovirus Laboratory Management Program.

PC Application Helps AIDS Researchers Test New Drugs

By John Pallatto

Finding new drugs that effectively combat the Acquired Immune Deficiency Syndrome (AIDS) virus is a long and arduous process.

To facilitate the hunt for effective medication, researchers around the country are relying on a PC application developed with the filePro database to compile and analyze the results of blood tests. The system, referred to as the Retrovirus Laboratory Management Program (RLMP), helps scientists determine whether an experimental drug reduces the virus count in an AIDS patient's blood without causing life-threatening side effects.

filePro, marketed by The Small Computer Co. Inc., of Hawthorne, N.Y., was selected as the foundation for RLMP because of its highly customizable nature and its ability to run applications under a variety of operating systems, including DOS, Unix and Xenix, according to Cheryl Michels, president of software developer Dataworks Inc. in Seattle and one of the original designers of the system.

"AIDS research by its very nature changes every week," Michels said. "There are constantly new tests, new techniques and new data that have to be captured."

RLMP, which was developed at the University of Washington in Seattle to help with AIDS research, soon caught the eye of the National Institutes of Health (NIH), which was looking for an application that was adaptable enough to serve the needs of a number of laboratories. NIH funds the AIDS Clinical Trials Group (ACTG), a series of 44 laboratories across the country that are involved in locating new anti-Human Immunodeficiency Virus (HIV) drugs.

One participating ACTG lab, at Johns Hopkins University in Baltimore, uses RLMP to automatically record the results of thousands of blood tests in a central database. "The purpose of these tests is to determine whether the level of the [HIV] in a patient's bloodstream goes down as a result of various treatments," explained Linda Ward, a researcher in the virus lab at Johns Hopkins' Medical Center.

Before RLMP was developed, nearly all the labs compiled test results on paper, making analysis of data difficult.

The lab has created a direct communications link between the instruments measuring virus levels and a central computer—usually a PC—that records the results in a filePro database. "There is no rekeying of the data and therefore no data-entry errors," Ward noted.

Before the computer database was developed, nearly all of the ACTG laboratories were compiling their test results on paper, making analysis and manipulation of this vital data difficult and time-consuming, Ward said.

Because filePro is easily customized, RLMP is versatile enough to accommodate the needs of all ACTG labs—for example, it can be adapted to work with whatever record or specimen-numbering system each lab happens to use, Michels said.

"This was the crucial feature. Some of the labs have unique numbering systems, and the software had to be modified to support these systems," she explained. "You can't walk into a lab and change the way they do business. You have to be able to change the software to serve the way the researchers do business." ■

AIDS \ *Database Is Foundation for Research*