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BioTrust banks on research: TechTown rescues samples

By [Tom Henderson](#)

Medical researchers nationwide will soon have access to about 3.5 million blood samples collected over the past 44 years from Michigan newborns, thanks to a new neonatal repository at Detroit's **TechTown**, the **Wayne State University**-affiliated Tech Park and incubator.

The **Michigan Neonatal BioTrust** will have its grand opening in June. But work already has begun in the trust's newly built-out 4,800 square feet on the third floor of the Tech One building.

About 240,000 samples have arrived at TechTown, where 14 college students are working part-time to help catalog and file them. Previously, the samples had been stored in a document warehouse in Lansing. Four other students are working on the project in Lansing.

Each sample is in the form of half-inch blood spots on a 3-by-5 card, taken from a needle-prick of each newborn's heel.

The names of the donor babies will not be divulged to researchers, who will have access to other information, such as gender, race and where the mother resided.

Officials hope access to the trust's database, which is being compiled by one of the biotrust's partners, the **Van Andel Institute** in Grand Rapids, could prove invaluable to researchers. It might, for example, link the incidence of a certain disease to particular geographical areas — down to ZIP codes — or determine whether there were genetic markers present at birth for diseases that cropped up later in life.

Other partners in the biotrust are **Michigan State University**, the **University of**

Michigan and the **Michigan Department of Community Health**, which has been collecting and storing the samples.

The trust's interim manager is Nancy Christ, who is on loan from the office of the vice president of research at Wayne State.

Frances Downes, director of the public health laboratory for the state's Department of Community Health, said recent technological advances, such as genomics and mass spectroscopy, as well as analytical tools such as labs-on-a-chip, make the state's collection of blood samples a treasure trove.

"It really does. There's so much potential. We can help identify new therapies. We can find new disease interventions," she said.

Talks between her department and Wayne State over how to best utilize the collection began about two years ago. A grant from the **U.S. Centers for Disease**

Control funded a study of potential ethical issues, the scientific benefits and whether there was a viable business model.

Randal Charlton, executive director at TechTown, eventually wrote a business plan that called for what turned into the BioTrust to be housed in TechTown.

"This is potentially one of the most valuable resources of its type in the U.S," he said. Nine other states keep samples for at least 21 years. Four other states mandate that samples be kept for at least five years.

"The Department of Community Health showed tremendous leadership in recognizing the potential value of this and in bringing parties together from around the state to make it happen," said Charlton.

The BioTrust will not require state funding.

Both Downes and Charlton are optimistic that federal stimulus funding will help finance BioTrust operations, both from stimulus money paid to the state and from stimulus money funneled into the **National Institutes of Health**. Proposals are being written for NIH grants.

The business plan also calls for the BioTrust to be self-sufficient after five years, based on fees paid by researchers. It is estimated that \$2 million in funding must be found to fund the first five years of operation.

The build-out of the center and operations thus far have been funded by TechTown.

Any potential research must be approved by an institutional review board at the Department of Community Health to make sure it meets ethical standards. Wayne State researchers would also need to get approval from the school's institutional review board.

The state began collecting blood samples in 1966, on a voluntary basis by participating doctors, to test for phenylketonuria, an inherited metabolic disorder caused by an enzyme deficiency that, if left untreated, can cause severe mental retardation.

Over the years, various other tests were added as they became available, and blood samples today are tested for 39 disorders, including cystic fibrosis and sickle-cell anemia.

In the early 1980s, the state required samples to be kept for 21.5 years. Now, they are kept indefinitely.