



## Legislative Fiscal Bureau

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May 19, 2009

Joint Committee on Finance

Paper #809

### Wisconsin Genomics Initiative (UW System)

[LFB 2009-11 Budget Summary: Page 656, #8]

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#### CURRENT LAW

No provision.

#### GOVERNOR

Provide \$2,000,000 GPR in 2009-10 in the UW System's general program operations appropriation. Require the Board of Regents to allocate this funding in 2009-10 to support the establishment of the Wisconsin genomics initiative for research in personalized health care for disease identification and prevention. The Wisconsin genomics initiative is a collaborative research effort involving the Marshfield Clinic, Medical College of Wisconsin, University of Wisconsin School of Medicine and Public Health, and UW-Milwaukee.

#### DISCUSSION POINTS

1. In 2006, Governor Doyle proposed that Marshfield Clinic, the Medical College of Wisconsin, UW-Madison's School of Medicine and Public Health, and UW-Milwaukee form a research partnership similar to the "research triangle" in North Carolina. Within this research triangle, which is a partnership between the University of North Carolina-Chapel Hill, North Carolina State University, and Duke University, faculty and research staff partner across institutions to combine resources and leverage additional funding from federal and private sources. In addition, the surrounding region has used the research triangle as a marketing tool to attract new businesses, especially those in high-tech fields, to the area. Similarly, one of the goals of the Wisconsin-based research triangle is to promote economic development through cutting-edge research. The Wisconsin genomics initiative would be the first Wisconsin research triangle project.

2. Through the Wisconsin genomics initiative, Marshfield Clinic, the Medical College, and UW-Madison's School of Medicine and Public Health would analyze individual DNA samples and match this genetic information with electronic medical records. The purpose of this study would be to identify the genetic precursors of disease. Once these precursors are known, doctors would be able to identify patients who may be susceptible to particular diseases based on their genetic make-up. This would enhance the ability of physicians to work with patients to prevent the onset of disease and prescribe effective treatment.

3. Using a patient's genetic information to shape treatment is the basis of personalized medicine. According to a report issued by the U.S. Department of Health and Human Services, personalized health care could allow health care professionals to: (1) predict individual susceptibility to disease; (2) provide person-specific tools for preventing disease; (3) detect the onset of disease earlier; (4) preempt the progression of disease; and (5) target medicines and dosages more precisely and safely to each patient.

4. The Marshfield Clinic is a private, group medical practice which operates 45 medical centers located in northern, central, and western Wisconsin. The Marshfield Clinic Research Foundation (MCRF) is the charitable research arm of the Marshfield Clinic. Marshfield Clinic is one of five members of the Electronic Medical Records and Genomics Network, a consortium organized by the National Human Genome Research Institute, which is part of the National Institutes for Health. Consortium members were selected based on their strength in genomic research.

5. In 2002, Marshfield Clinic received \$2 million in state funds from the Department of Commerce's Technology Development Fund to develop a DNA biobank. These funds, along with \$1.8 million in federal and institutional funds, have been used to create a DNA biobank that contains 20 years of electronic medical records and a DNA sample for approximately 20,000 individuals. According to information provided by Marshfield Clinic, the Marshfield DNA biobank is unique in that it is population-based, meaning that it contains samples from all groups of people including both healthy and diseased individuals. Other DNA biobanks have generally focused on a single disease and have collected samples only from people who have that disease or who may be likely to develop that disease. In addition, the Marshfield DNA biobank contains more years of electronic medical records than any other such biobank in the country.

6. Under the proposal, Marshfield Clinic would share the DNA samples from its DNA biobank with MCW. Research staff at MCW would sequence these DNA samples and share the resulting data with research staff at the UW School of Medicine and Public Health who would then match this genetic information with the electronic medical records provided by the Marshfield Clinic. By matching this genetic data with electronic medical records, the researchers may be able to link certain diseases and medical conditions to genetic markers. Meanwhile, the Medical College would partner with UW-Milwaukee's College of Nursing to create a second DNA biobank containing the medical records and DNA samples of Milwaukee-area residents. UW-Milwaukee's College of Nursing, which is engaged with the community through partnerships with the community health centers and Milwaukee public schools and its two community nursing centers,

would work with the Medical College to develop a cohort appropriate for study. This second DNA biobank, which would contain samples from a more diverse, urban population, would be paired with Marshfield's existing database to broaden the scope of the research.

7. It has been estimated that it could cost \$10 million to process 10,000 samples and between \$14 and \$15 million to process the 20,000 samples currently in the Marshfield Clinic DNA biobank. In addition to the \$2 million provided for this purpose in the Governor's budget, the Marshfield Clinic, MCW, the UW Medical School, and UW-Milwaukee have committed a total of \$2 million in institutional funds to support the project. Researchers at the institutions have also applied for federal grant funding to support the project, primarily from the National Institutes of Health.

8. While the Governor's budget provides \$2,000,000 GPR in 2009-10 to support the Wisconsin genomic initiative, it also reduces funding provided to the University to support educational and other programs, including research, by \$73,136,000 GPR in that same year. As an alternative, this funding could be provided to the Board of Regents to offset a portion of the proposed reduction in the 2009-10 fiscal year. This could be accomplished by deleting the nonstatutory language that would require the Board of Regents to allocate \$2,000,000 to support the establishment of the Wisconsin genomics initiative for research in personalized health care for disease identification and prevention. This would permit the Board of Regents to allocate the funding provided in the manner it deems best fulfills the University's mission of instruction, research, and public service.

## ALTERNATIVES

1. Approve the Governor's recommendation.
2. Delete the nonstatutory language requiring the Board of Regents to allocate \$2,000,000 in 2009-10 to support to support the establishment of the Wisconsin Genomics Initiative for research in personalized health care for disease identification and prevention. In doing so, this alternative would permit the Board of Regents to allocate the funding provided in the manner it deems best fulfills the University's mission of instruction, research, and public service.
3. Delete provision.

ALT 3	Change to Bill
	Funding
GPR	-\$2,000,000

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