The research community has been moving steadily from the “one-drug-fits-all” standard of drug discovery to a model of personalized medicine, which tailors treatment or the aggressiveness of treatment to a patient’s unique set of biological characteristics. Molecular biomarkers are playing a critical role in this shift.

Molecular biomarkers refer to specific alterations on the DNA, RNA, protein, or metabolite levels that indicate tendencies or signal more immediate changes in a person’s physiological state. Observed in blood or other tissue samples, biomarkers can help researchers redefine diseases into smaller subgroups and acquire a better understanding of how diseases progress or how patients respond to treatment.

Biomarkers are being used to develop treatments for conditions such as Alzheimer’s disease, heart disease, and breast and lung cancer. Groundbreaking research by Duke scientists has already demonstrated how biomarkers can give critical information to physicians about a patient’s likelihood of benefiting from standard hepatitis C treatment.

In 2010, Duke University and Laboratory Corporation of America Holdings (LabCorp) joined forces to create the Biomarker Factory (BmF). The BmF coordinates scientific and commercial expertise related to biomarker development and serves as a funding source for the translation of biomarker research into tests that can predict disease progression, treatment response, and the overall benefit of certain drugs. The BmF is expected to benefit from hundreds of thousands of biological samples contributed by Duke as well as from the infrastructure created by the MURDOCK Study.

“You are essential to the success of this study!”

Many of you may recall that participating in the MURDOCK Study includes being contacted once a year to complete the Participant Follow-up Questionnaire sent to you by mail. The purpose of this questionnaire is to capture new information about you and your health as well as any changes to your information in the past year. If you have received your follow-up questionnaire, please take the time to complete and return it so that we can maintain your records in this long-term health study. Or, you can call the study office to report your follow-up information by phone (919) 284-8073.

If your contact information—address, phone numbers, e-mail address—has changed since you joined the MURDOCK Study, please help us keep our records current by contacting our office at (919) 284-8073 or murdock-study@duke.edu.

Has your address changed? If your address has changed since you joined the MURDOCK Study, please help us keep our records current by contacting our office at (919) 284-8073 or murdock-study@duke.edu.

To all MURDOCK Study participants: Many of you received a referral card on the day you joined the study. If you know someone who is interested in enrolling, please have him/her complete the card and include your name on the “referred by” line at the top. If your friend or family member joins the MURDOCK Study, you will be entered into a quarterly raffle to win a $50 gift card to a local business!

Without your continued participation, the promise of this community registry project will fade. Has your address changed? If your address has changed since you joined the MURDOCK Study, please help us keep our records current by contacting our office at (919) 284-8073 or murdock-study@duke.edu.

The MURDOCK Study supports joint venture to commercialize new biomarkers

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“The MURDOCK Study is an exciting part of the BmF. The enrollment of a large number of participants and the collection of samples means that research funded through the BmF

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Key partner joins study

A key study recruiter and partner—Dr. Paul Campbell of the Sanger Heart and Vascular Institute of Concord—enrolled in the MURDOCK Study on September 15, 2011. A member of the MURDOCK Study Healthcare Advisory Board for the last two years, Dr. Campbell has been an avid supporter of the study by promoting enrollment to his cardiac patients. Nearly 175 of his patients have either enrolled in the study or expressed interest in doing so. According to Dr. Campbell: “I believe the study will advance our understanding and treatment of diseases affecting our community...and help future generations lead healthier and more fulfilling lives.”

Dr. Campbell has a long history with Duke University, having completed his residency in internal medicine and then a fellowship in cardiology after receiving his medical degree from Temple University.

Community Blood Center of the Carolinas

The Community Blood Center of the Carolinas (CBCC) is an independent, locally managed, nonprofit community blood center. As the primary blood supplier to the region, our local hospitals rely on the CBCC to provide blood for patient care. Join the CBCC to save lives by donating blood or platelets or by organizing a blood drive at your workplace, organization, or house of worship. For more information, call 704-972-4700 or visit www.cbcc.us.

Carl Pieper from Duke Center on Aging and Human Development joins MURDOCK Study team

Dr. Carl Pieper of the Duke Center on Aging and Human Development recently joined the MURDOCK Study team. He is providing consultation on the proposed representative sample design for the study. Specifically, he will focus on ways to better characterize key demographic groups of the local population, which will enable study findings to be generalized across larger population groups.

Dr. Pieper is an applied biostatistician who has been with Duke for more than 20 years. He directs the Center’s Computing and Statistics Laboratory. His experience broadly encompasses design and analytic consultation for clinical trials, analysis of longitudinal and epidemiologic studies and experimental design. He has served as lead investigator on several large-scale data management efforts.

The MURDOCK Study supports joint venture to commercialize new biomarkers

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will produce results more directly applicable to practice,” said Dr. Jeffrey Shuster, general manager for the BmF and a liaison between the BmF and the MURDOCK Study. “Because many of the samples were obtained before disease symptoms appeared, they can potentially be used to discover biomarkers aimed at early disease detection.”

The discovery of a new biomarker is not important or useful in itself. It is only important if there is a clinical or patient need and if the biomarker is actually translated into something (for example, a test or drug target). By coordinating and funding translational research, the BmF helps pull biomarker discovery through clinical validation and commercial implementation that delivers results and builds a knowledge repository for the future refinement of medical practices.

“Choices of medical treatments are based on diagnostic tests and on subsequent discussions between physicians and patients. Work funded by the BmF is ultimately aimed at helping physicians select the best treatment for their patients,” Dr. Shuster said.