

Genetic profiling increases cancer treatment options, study finds

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Genetic profiling of cancer tumors provides new avenues for treatment of the disease, according to a study conducted by Sanford Health and recognized by the American Society of Clinical Oncology.

In 2014, Sanford developed and launched the Genetic Exploration of the Molecular Basis of Malignancy in Adults, or [GEMMA](#), to determine if evaluating genetic information could help customize treatment options for adult [patients](#) whose [cancer](#) had progressed after the first line of treatment or was too rare for standard treatment. DNA was extracted from tumor samples and tested to identify targets for treatment.

Oncologist and cancer researcher Steven Powell, M.D., and his team used next-generation [gene sequencing technology](#) to analyze tumor samples for more than 100 patients. More than 90 percent of those patients had gene mutations that could impact their treatment, Powell reported. Some patients, for example, discovered they were eligible for a clinical trial or might benefit from other personalized medicine therapies. Nearly 40 percent of these patients were able to be treated with personalized therapies as a result of their testing. Many were treated on [clinical trials](#) with new drugs that previously would not have been available to them in this region.

"Molecular profiling programs like GEMMA don't typically experience this degree of success," said Powell. "Sixteen percent of our patients were able to go on clinical trials matching them to a personalized therapy; many academic centers are only able to do this five percent of

the time. Our numbers indicate that the development of a molecular profiling program in a community setting in the Midwest is not only feasible but effective in getting patients access to the newest treatments."

Enrollment concluded in late 2015, and results of GEMMA were outlined in an abstract published in conjunction with this year's American Society of Clinical Oncology Annual Meeting held in Chicago last month. The published abstract can be found on the ASCO [website](#).

Later this year, Sanford will begin the second version of GEMMA, which will integrate molecular profiling as part of standard cancer care. The study is called Community Oncology Use of Molecular Profiling to Personalize the Approach to Specialized Cancer Treatment at Sanford, or COMPASS. Sanford experts will analyze [treatment](#) plans based on [molecular profiling](#) to determine if outcomes improve. As part of GEMMA and COMPASS, the Sanford team has brought in more than 60 different personalized therapy options for patients through clinical trials in the past two years.

Provided by Sanford Health

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