Increased utilization of multi-gene panel testing for hereditary cancer: overcoming initial barriers

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Multi-gene panels (MGP) for hereditary cancer susceptibility became commercially available in the United States in 2012. Both genetics and non-genetics providers experienced initial concerns regarding utility and implementation of MGP. However, research has demonstrated multiple benefits of MGP, such as a higher diagnostic yield. This study analyzes the utilization of MGP over a three-year period at a clinical diagnostic laboratory in the U.S.

Quarterly ordering trends for single-syndrome tests were compared to smaller and larger MGP from the third quarter (Q3) of 2013 to Q3 2015. Ordering provider (OP) specialties and genetics provider (geneticist, genetic counselor, advance practice nurse, or other clinician with genetics training) extent of involvement was also noted. Statistical analysis was performed using the Fisher's exact test.

Comparison of single-syndrome tests in Q3 2013 versus Q3 2015 revealed that larger MGP significantly increased in frequency from 39% to 65% ($p<0.01$). MGP have been utilized more frequently across all OP specialties in 2015 compared to 2013. Genetics provider involvement significantly increased the utilization of MGP across all specialties ($p<0.01$).

Consistent with recent literature, this study demonstrates markedly increased utilization of MGP compared to 2012 when initially available. However, despite the overall decrease, single-syndrome and smaller MGP tests still account for 34% of total tests in Q3 2015, demonstrating clinicians' desires for tiered testing options. Additional research is needed to directly investigate OP attitudes towards MGP, however this study indicates that initial concerns surrounding MGP have lessened over time, particularly when genetics providers are involved in the ordering process.