

## **Standardization of Molecular Diagnostic Testing for Non-Small Cell Lung Cancer**

**Project leaders:** David Stewart, Ottawa Hospital Research Institute; Craig Ivany, Eastern Ontario Regional Laboratory Association

**Administrative Lead Genome Centre:** Ontario Genomics

**Total funding:** \$2 million

Non-small cell lung cancer is the most common type of lung cancer, accounting for 85 per cent of cases. Specific genetic mutations in a patient's tumour can determine which drug will work best for that patient. As new targetable genetic mutations become known, it is more important than ever to be able to carry out genetic analysis of patient samples.

Dr. David Stewart of the Ottawa Hospital Research Institute is working with the Eastern Ontario Regional Laboratory Association (EORLA) to develop an assay that can accurately detect important genetic mutations in the very small biopsy samples that can be obtained safely from most patients with advanced lung cancer. The assays will test for multiple genetic variations at once, for a more timely result than is possible with current sequential testing strategies.

Patients will benefit from the rapid availability of information that will permit them to receive the most appropriate treatment. The financial benefits are also significant. If this new assay is implemented across the country, it could result in savings of \$35.9 million in testing costs and \$151.4 million overall due to the elimination of ineffective treatments. The project team will assemble a national advisory board to drive national translation of its technology so that these savings can be realized.