An issue with the use of oral fluid for forensic purposes that is while it correlates well with blood with regard to the presence of a substance, since different metabolites are detected in oral fluid than in blood for a number of substances, quantitative measures from the two substrates do not correlate well. Over the history of the use of breath tests rather than blood for DUI cases, the relation of breath to blood concentration produced considerable controversy in the courts until laws were passed separately specifying the concentration in each medium. A similar problem will likely arise as the use of oral fluid increases because, like the alcohol breath test, its ease of use in the field or police station. Specifying cut-off levels by reference to concentrations in blood will invite challenges based on the evidence for the correspondence specified. With the use of the *per se* standard, the issue of correlation of oral fluid concentration and blood concentration and the correlation of either with impairment become of little significance. With the *per se* standard, the cut-off levels for oral fluid tests are set to be relatively easily achieved by laboratories and not by correlation with impairment or blood levels.

The area of specimen matrices presents several opportunities for research, some of which are discussed in more detail:

- Development of improved, more uniform and standardized procedures for testing in drugged driver and fatally injured driver populations
- Development of breath tests for detection of recent use of impairing drugs
- Development of reliable, rapid oral fluid test devices that can be read at the roadside
- Assessment of interpretability of oral fluid results relative to impairment
- Assessment of the utility of oral fluid test results in drugged driving prosecution and trial outcomes

Point of Contact Drug Testing (POCDT) Technology

The development or adaptation of current laboratory based immunoassay tests for roadside use is a drugged driving research priority. Current instrumental approaches are designed for automation and throughput, which is not the priority at roadside. Consequently, the laboratory based instruments tend to be floor or bench mounted technologies with robotics, plumbing, waste stream management and intensive computer-based data processing capabilities, which make them unsuitable for use in police stations or police vehicles. Commercial companies in this market profit from the volume of tests sold, making it worthwhile for them to invest in this technology for laboratory use. The current test volume for law enforcement or offender monitoring in the field is low, reducing the commercial incentive for innovation.
This fact underlines the need for government support for the development of technologies for this specific application. As noted, oral fluid has emerged as the optimum sample type for reasons of ease of collection, collection proximate to the time of driving, and because it eliminates the need for transportation of subjects and Emergency Medical Technician (EMT) or phlebotomist time and costs to collect the samples.

Current POCDT devices are limited to 6 to 8 drug classes, have variable sensitivity, and poor reliability in the field. Internationally, countries that have taken steps as early adopters of the existing generation of test devices have had to accept high false negative rates which mean many impaired drivers are missed. However, identifying even a relatively small percentage of drugged