

Impact of I-502 on the Toxicology Lab

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Toxicology Laboratory Division

- Only one toxicology lab for entire state
- Receive approximately 15,000 cases a year
- Case types: Death investigation, DUI, DRE, sexual assault
- 39 counties
- Testing is a free service funded by the state
- Every single DUI/DRE case is screened for the presence of cannabinoids

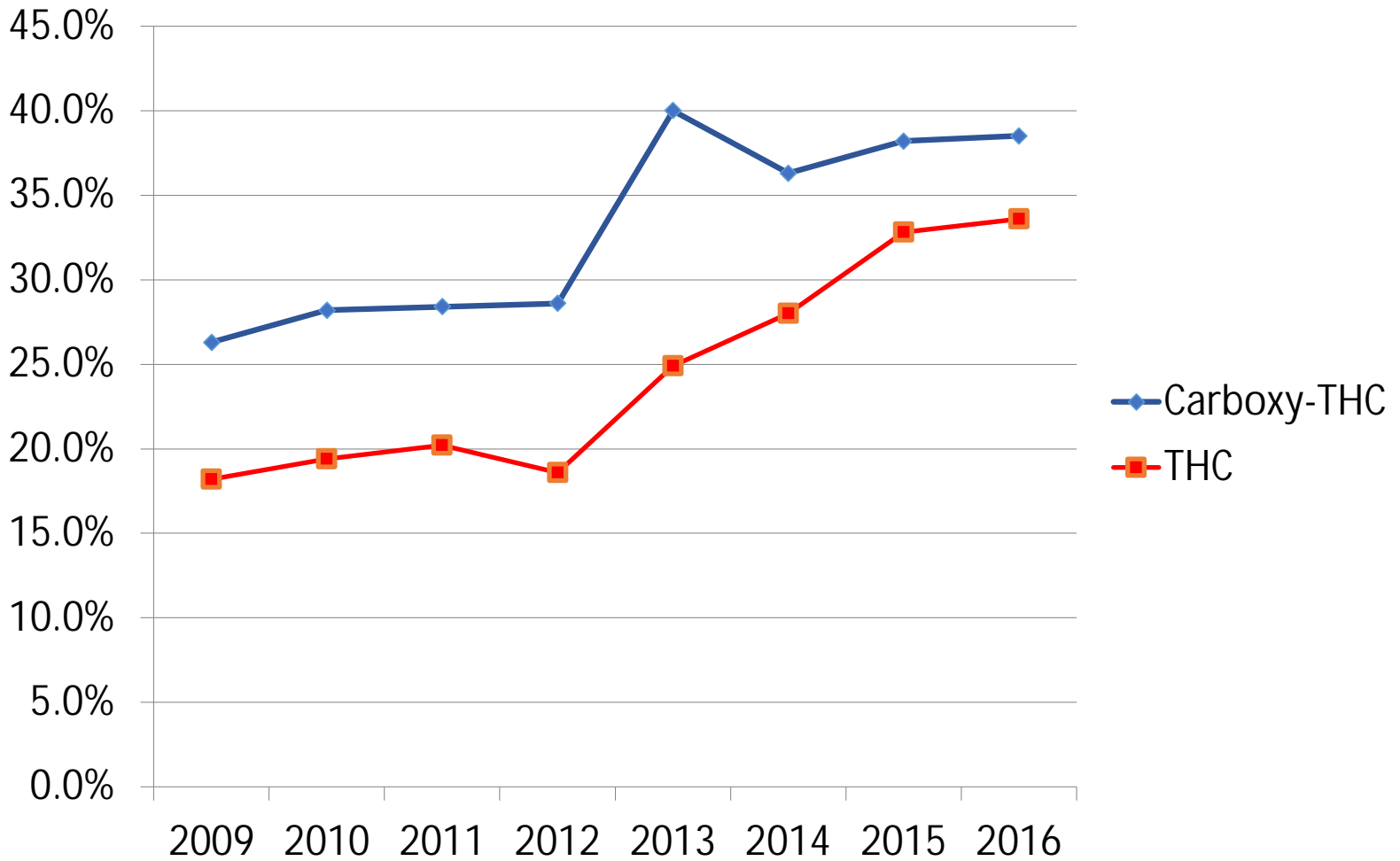
THC Results

Year	Total # DUI/DRE cases received	# of positive THC cases	% of positive THC cases
2009	4,809	877	18.2%
2010	5,012	974	19.4%
2011	5,132	1,036	20.2%
2012	5,298	988	18.6%
2013	5,468	1,362	24.9%
2014	6,270	1,759	28.0%
2015	7,044	2,311	32.8%
2016	8,478	2,848	33.6%

Carboxy-THC Results

Year	Total # DUI/DRE cases received	# of positive Carboxy-THC cases	% of positive Carboxy-THC cases
2009	4,809	1,267	26.3%
2010	5,012	1,413	28.2%
2011	5,132	1,460	28.4%
2012	5,298	1,515	28.6%
2013	5,468	2,187	40.0%
2014	6,270	2,279	36.3%
2015	7,044	2,693	38.2%
2016	8,478	3,264	38.5%

Marijuana-related driving cases (%)



Demographics of marijuana positive DUI cases

Year	Percent Male	Age, Range	Age, Median
2009	80 %	14 - 76 years	25 years
2010	78 %	15 - 74 years	25 years
2011	81 %	14 - 70 years	25 years
2012	77 %	16 - 85 years	25 years
2013	79 %	14 - 78 years	26 years
2014	80 %	15 - 74 years	26 years
2015	81 %	13 - 73 years	27 years
2016	81 %	13 - 91 years	30 years

Summary of THC blood concentrations

Year	# cases positive for THC	THC concentration range	Average THC concentration	Median THC concentration
2011	1,036	1-58 ng/mL	6.4 ng/mL	4.8 ng/mL
2012	988	1-90 ng/mL	8.0 ng/mL	6.2 ng/mL
2013	1,362	2-77 ng/mL	7.2 ng/mL	5.2 ng/mL
2014	1,759	1-100 ng/mL	6.1 ng/mL	3.9 ng/mL
2015	2,311	1-69 ng/mL	5.7 ng/mL	3.8 ng/mL
2016	2,848	1-71ng/mL	5.7 ng/mL	3.7 ng/mL

THC cases at or above 5 ng/mL

Year	# cases positive for THC	# cases positive for THC below 5 ng/mL	# cases (%) positive for THC above 5 ng/mL
2011	1,036	530	506 (49%)
2012	988	378	610 (62%)
2013	1,362	642	720 (53%)
2014	1,759	1,056	703 (40%)
2015	2,311	1,389	922 (40%)
2016	2,848	1,752	1,096 (38%)

Impact on Tox Lab

- Increase in overall caseload
 - 60% increase in DUI submissions the last 5 years*
- Increased number of cases with THC present
 - Increased operational costs
 - Increased time spent to perform testing
 - Increased court time
- Legislative support
 - 2013 - One additional scientist and 0.5 support staff

Prosecutor's perspective

- Affected by cases easier to prove before I-502 passed
- Since implementation things have gotten more difficult:
 - Under 5 ng/mL cases, prosecutors must review police video
 - Over 5 ng/mL cases usually involve more impairment so it is easier to charge on the affected by prong
 - Many DUI's are dealt when under the per se level even with good signs of impairment and poor field sobriety tests
 - Exigent circumstances cases are usually thrown out
 - Increased ethanol and marijuana combined driving cases

- § Reliable information regarding traffic accidents and traffic deaths to correlate with toxicology results

- § Information regarding time course of incident:
time of stop and time of blood draw.
 - § THC has a short half life

- § Uncertainty of Measurement
 - § 26% for THC at k=3 (99.7% confidence)
 - § Result of 6.7 ng/mL is reported at 6.7 ± 1.7 ng/mL

Things to remember

- Establish a reliable baseline of data
 - Benefit of having years of comparison data
- Be aware of any changes in testing practices
 - Lower limit of reporting
 - Increasing number of cases tested
- Be aware of what is scope of data
 - Regional – different labs testing, different reporting guidelines, different uncertainty measurements
 - Are all cases being screened for marijuana use?

For More Information

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