which points to the relevance of such laws as a reinforcement strategy.(LIM-40-HC-FMUSP)

## P-4. Self reported (il)licit drug use in Belgian drivers

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Introduction. There are relatively few data on the prevalence of driving under the influence of drugs in the general population. Aims. To determine the number of drivers who took drugs and medicines by using questionnaires, and comparing to the results of toxicological analysis. **Methods.** 2957 respondents driving a personal car or van completed a questionnaire during roadside surveys to report their use of drugs and medicines during the last two weeks and indicate the time of last intake. The drug classes were combined to benzodiazepines and Z-drugs, antidepressants, codeine, alcohol, cannabis, cocaine, heroin and amphetamines. Drugs were analysed in oral fluid by UPLC-MS/MS. Frequencies in the time categories were calculated and compared with toxicological results. **Results**.

				0			
Drug class	Self-report/ toxicology	Use <1h (n)/ positive toxicology (n)	<4h	<12h	<24h	>24h	Unkn own
Alcohol	1614/196	138/95	180/56	182/ 15	370/9	713/1 4	31/7
Antidep.	110/41	6/3	14/5	50/ 19	24/8	8/0	8/6
Benzodiaz. and Zs	98/40	4/2	10/9	33/ 14	30/9	12/4	9/2
Cannabis	79/32	5/4	3/1	10 /8	7/3	46/14	8/2
Codeine	60/6	4/2	7/3	9/0	6/0	25/0	9/1
Cocaine	7/5	2/2	0	0	0	4/2	1/1
Amphetam.	5/2	0	0	0	0	3/1	2/1
Heroin	2/1	1/1	0	0	0	1/0	0

**Conclusions.** Alcohol, antidepressants, cannabis, benzodiazepines and codeine were most commonly used. Most drugs were last used 4 h or more before driving. Self-report yielded more positives than toxicological analysis. The percentages of positives were higher among the subjects who reported more recent drug consumption.

**Disclaimer.** This abstract has been produced under the project "Driving Under the Influence of Drugs, Alcohol and Medicines" (DRUID) financed by the European Community within the framework of the EU 6th Framework Program. This abstract reflects only the author's view. The European Community is not liable for any use that may be made of the information contained therein.

## P-5. Analytical evaluation of five oral fluid drug testing devices

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**Introduction.** The correlation of oral fluid with drug concentration and the ease of sample collection make oral fluid an ideal matrix for roadside drug tests targeting impaired drivers. **Aims.** To evaluate the performance of five oral fluid testing devices: Varian OraLab® 6, Dräger DrugTest® 5000, Cozart® DDS 806, Mavand RapidSTAT and Innovacon OrAlert. **Methods.** More than 760 oral fluid samples were collected from volunteers either at drug addiction treatment centres or during roadside sessions. At the time of collection volunteers provided

two oral fluid samples. One was tested on-site with one of the selected devices, while the second sample was used for confirmation analysis ultra-performance liauid by chromatography-mass spectrometry (UPLC-MS/MS). Sensitivity, specificity, accuracy and prevalence for amphetamines, cannabinoids, cocaine, and opiates were calculated for each device applying Belgian legal confirmation cut-offs (THC 10 ng/mL; amphetamine 25 ng/mL; free morphine or 6-MAM 5 ng/mL; cocaine or benzoylecgonine 10 ng/mL). Results. All devices showed good specificity for all drugs classes. Sensitivity and accuracy were very variable among devices and drug classes, as shown in the table below.

DEVICE			TARGET substance					alse		True neg		False	
					9 9			195		neg 35		1	
				Cocaine Opiates		9 15	0					35 42	1
	Varian OraLab® 6		THC		-	8	2		120		42 70		1
					o 9	0			216		14	1	
			Amph Cocaine					1		-			1
			Opiates			6 '5	3			124 45		6 14	1
	Dräger DrugTest <sup>®</sup> 5000		THC				5					5	
	5000					0	-		107				1
				Amph		ô	0		129			2	
		Cocaine			·			129		7		1	
	Cozart <sup>®</sup> DDS 806			Opiates		49		)	-	6 23			ł
202011 220 000			THC					)	99		28		l
				Amph		4	1		131		2		l
							20	7		l			
	Mavand RapidSTA	т	Opia			2	2		52		17		
	marana rapido n		TH	C		3		2	_	1	17		
			Amp			1	4			23	5		
	Innovacon OrAlert		Coca	ine	1	7	(	)	9		7		
			Opia	tes	6	i4	2		20		24		
			TH	C	<b>~</b> 2	3				97 10			
			Amp	bh	1	1		10 9		97 2		2	J
-	DEVICE		RGET	N. 0	f	Sen	S.	Spe	C.	Ac	C.	Pre	v.
			stance	test	S	(%)	) (%				)	(%)	
			Cocaine		35.			100		85.9		21.7	
v			Opiates		66.9		9	98.4				51.	0
		THC		249		20.	5	00	0	74			2
			Amph			20.	5	98.	0	- 71.	.1	35.	3
			mph	249		57.		10	)	94		13.	3
Dräger DrugTest®			mph caine	249 137	1		ô		)		.4		3
		Co			,	57.	6 D	10	) 2	94	.4 .9	13.	3 3
	räger DrugTest® 000	Co Op	caine	137	) •	57. 50.	6 D 3	10 99.	) 2 8	94 94	.4 .9 .6	13. 8.8	3 3 0
		Co Op T	caine iates	137	) - -	57. 50. 84.3	6 D 3 D	10 99. 93.	) 2 8 5	94 94 87	.4 .9 .6 .7	13. 8.8 65.	3 3 0 2
		Со Ор Т А	caine iates HC	137 137 137	) - - -	57. 50. 84. 80.	6 D 3 D D	10 99. 93. 95.	) 2 8 5 0	94 94 87 92	.4 .9 .6 .7	13. 8.8 65. 18.	3 3 0 2 3
51	000	Co Op T A Co	caine iates HC mph	137 137 137 137 137	· · · · · · · · · · · · · · · · · · ·	57.0 50.0 84.3 80.0 75.0	6 D 3 D D 5	10 99. 93. 95. 10	0 2 8 5 0 2	94 94 87 92 98	.4 .9 .6 .7 .5 .2	13. 8.8 65. 18. 5.8	3 3 0 2 3 3
51		Со Ор Т А Со Ор	caine iates HC mph caine	137 137 137 137 137 138		57.0 50.0 84.3 80.0 75.0 12.3	6 0 3 0 0 5 1	10 99. 93. 95. 10 99.	0 2 8 5 0 2 0	94 94 87 92 98 94	.4 .9 .6 .7 .5 .2 .3	13. 8.8 65. 18. 5.8 5.8	3 0 2 3 3 2
51	000	Co Op T A Co Op T	caine iiates HC mph caine iiates	137 137 137 137 137 138 138		57.0 50.0 84.3 80.0 75.0 12.3 68.0	6 0 3 0 0 5 1 2	100 99. 93. 95. 100 99.	2 8 5 2 2 2 0	94 94 92 98 94 83	.4 .9 .6 .7 .5 .2 .3 .7	13. 8.8 65. 18. 5.8 5.8 52.	3 0 2 3 3 2 3
51	000	Со Ор Т А Со Ор Т Т А	caine iiates HC mph caine iiates HC	137 137 137 137 137 138 138 138		57.0 50.0 84.3 80.0 75.0 12.3 68.2 28.3	6 0 3 0 0 5 1 2 7	100 99. 93. 95. 100 99. 100 100	2 8 5 0 2 0 2 0 2	94 94 87 92 98 98 94 83 79	.4 .9 .6 .7 .5 .2 .3 .7 .8	13. 8.8 65. 18. 5.8 5.8 5.8 5.8 5.8 5.8 5.8	3 0 2 3 3 3 3
51 C	000	Co Op T A Co Op T A Co	caine iiates HC mph caine iiates HC mph caine	137 137 137 137 137 138 138 138 138		57.0 50.0 84.3 80.0 75.0 12.3 68.7 28.3 66.7	6 0 3 0 5 5 1 2 7 0	100 99. 93. 95. 100 99. 100 100 99.	0 2 8 5 0 2 0 2 0 2 0 0 2 6	94 94 87 92 98 94 83 79 97	4 9 6 7 5 2 3 7 8 5	13. 8.8 65. 18. 5.8 5.8 52. 28. 4.3	3 0 2 3 3 2 3 3 5
51 C	ozart® DDS 806	Со Ор А Со Ор Т А Со Ор	caine iiates HC mph caine iiates HC mph	137 137 137 137 138 138 138 138 138		57.0 50.0 84.3 80.0 75.0 12.3 68.2 28.3 66.3 30.0	6 0 3 0 5 5 1 2 7 0 5 5	100 99. 93. 95. 100 99. 100 100 99. 99.	0 2 8 5 0 2 0 2 0 2 0 2 0 2 0 3	94 94 92 98 94 94 83 79 97 92	4 9 6 7 5 2 3 7 8 5 7 7	13. 8.8 65. 18. 5.8 5.8 52. 28. 4.3 7.8	3 0 2 3 3 2 3 3 5 4
51 C	ozart® DDS 806	Со Ор Т А Со Ор Со Со Со Со Г	caine iiates HC mph caine iiates HC mph caine iiates HC	137 137 137 137 138 138 138 138 138 133		57.0 50.0 84.3 80.0 75.0 12.3 68.3 68.3 66.3 30.0 78.9	6 0 3 0 5 1 2 7 7 0 5 3	100 99. 95. 100 99. 100 100 99. 99. 97. 96. 88.	0 2 8 5 5 0 2 0 2 0 2 6 3 3	94 94 92 98 94 83 79 97 97 92 85	4 9 6 7 5 2 3 3 7 8 5 5 7 2 2 3 7 2	13. 8.8 65. 18. 5.8 52. 28. 4.3 7.8 59.	3 0 2 3 3 3 5 4 6
51 C	ozart® DDS 806	Со Ор Т А Со Ор Т Т А	caine iiates HC mph caine iiates HC mph caine iiates HC mph	137 137 137 137 138 138 138 138 138 138 133 133 133		57.0 50.0 84.3 75.0 12.3 68. 28.3 66. 30.0 78.3 43.3 16.	6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	100 99. 93. 95. 100 99. 100 100 99. 97. 96.	0 2 8 5 0 2 0 0 2 0 0 2 0 0 2 3 3 9	94 94 92 98 94 83 79 97 97 97 97 85 78	4 9 6 7 5 2 3 7 8 5 7 7 8 5 7 7 2 2 2	13. 8.8 65. 18. 5.8 52. 28. 4.3 7.5 59. 22.	3 0 2 3 3 5 4 6 5 5
5 C M R	ozart® DDS 806	Со Ор Со Ор П А Со Ор Т Т А А Со	caine iates HC mph caine iates HC mph caine iates HC mph caine	137 137 137 137 138 138 138 138 138 138 133 133		57.0 50.0 84.3 80.0 75.0 12.3 68.3 66.3 30.0 78.3 43.3	6 0 0 0 0 0 0 5 5 5 0 0 0 0 0 0	100 99. 93. 95. 100 99. 100 100 99. 97. 96. 88. 96.	0 2 8 5 0 2 0 2 0 2 0 2 0 2 0 3 3 9 0 0	94. 94. 87 92 98 94 83 79 97 97 97 92 855 78 93	4 9 6 7 5 2 3 7 8 5 7 8 5 7 7 2 2 6	13. 8.8 65. 18. 5.8 52. 28. 28. 7.5 59. 22. 4.5	3 3 0 2 3 3 3 5 4 6 5 7
5 C M R	ozart® DDS 806	Со Ор А Со Ор Т А А Со Ор Т Т А А Со Ор	caine iates HC mph caine iates HC mph caine iates HC mph caine iates	137 137 137 137 137 138 138 138 138 138 138 133 133 133 133		57.1 50.1 84.2 80.1 75.1 12.2 68. 66.1 30.1 30.1 30.1 78.3 66.1 16.1 50.1 72.1	6 0 0 0 0 5 5 5 7 7 0 0 5 5 5 7 7 0 0 7 7	100 99. 95. 100 99. 99. 90. 90. 90. 90.	0 2 8 5 0 2 0 2 0 2 0 2 0 2 0 0 2 0 0 2 0 0 2 0 0 0 0 0 9 0 0 9	94 94 87 92 98 94 83 79 97 97 97 92 855 78 93 93 93 76	4 9 6 7 5 2 3 7 8 5 5 7 2 2 6 4	13. 8.8 65. 18. 5.8 52. 28. 7.5 59. 22. 4.5 59. 22. 4.5 80.	3 3 2 3 3 3 5 4 6 5 7 0
5 C M R	ozart® DDS 806	Со Ор А Со Ор Т А Со Ор Т Т А А Со Ор	caine iates HC mph caine iates HC mph caine iates HC mph caine	137 137 137 137 138 138 138 138 138 138 133 133 133 133		57.1 50.1 84.3 80.1 75.1 12.2 68. 66.3 66.6 30.1 78.3 78.3 43.3 16.5 50.1	6 0 0 0 0 5 5 5 7 7 0 0 5 5 5 7 7 0 0 7 7	100 99. 93. 95. 100 99. 99. 99. 96. 88. 88. 88. 100	0 2 8 5 0 2 2 0 2 2 0 2 2 0 2 2 0 0 2 0 0 2 0 0 2 0	944 947 922 988 944 833 799 977 922 855 788 933 933	4 9 6 7 5 2 3 7 7 8 8 5 7 7 2 2 6 4 9	13. 8.8 65. 18. 5.8 52. 28. 7.5 59. 22. 4.5 59. 22. 12.	3 0 2 3 3 3 3 3 5 4 6 5 7 0 8

**Conclusions.** Considering that cannabis, followed by amphetamines, is the most prevalent drug among impaired drivers in Belgium, only Dräger DrugTest<sup>®</sup> 5000 appeared to be sensitive enough to be used during roadside police controls.

**Footnote.** This abstract has been produced under the project "Driving Under the Influence of Drugs, Alcohol and Medicines" (DRUID) financed by the European Community within the framework of the EU 6th Framework Program. This abstract reflects only the author's view. The European Community is not liable for any use that may be made of the information contained therein.

## P-6. Prevalence of alcohol, drugs and benzodiazepines among drivers and pedestrians involved in road accidents in the South Region of Portugal during the years 2008 - 2009

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**Introduction.** Driving performance is easily impaired as a consequence of the use of alcohol, licit and illicit drugs. In order to target strategies to better manage drugged driving, it is