

DRUGS AND THE INTERNET

Issue 3, September 2014

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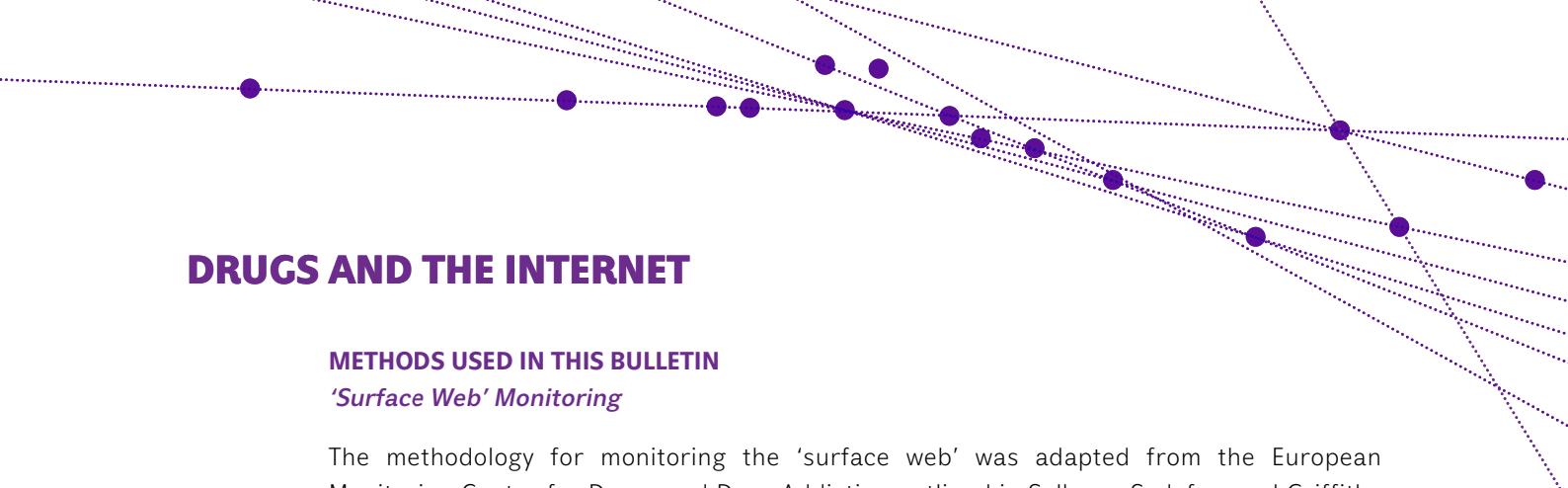
Citation: Sydney: National Drug and Alcohol Research Centre.

To date the availability of illicit drugs in Australia has largely been examined through household surveys and interviews with people who use drugs; indicators such as drug seizures and arrests; and analyses of hospital admissions and drug-related deaths. Over the past decade there has been an increasing awareness and interest in online marketplaces as a source for discussion about and purchase of drugs (Walsh, 2011). The advent of the Silk Road in 2011, as an online marketplace, broadened out the availability of new psychoactive substances (NPS) and other more conventional illicit substances (such as cannabis and MDMA). In the wake of the closure of the Silk Road in October 2014, new internet marketplaces have since emerged to take its place (Van Buskirk, Roxburgh, Farrell, & Burns, 2014)

This bulletin is the third in a series by Drug Trends that provides analysis of trends over time in the availability and type of substances sold via the internet to Australia. The current bulletin reports for the time period December 2013 to May 2014.

Key findings

- **Four key marketplaces** have emerged in the wake of the Silk Road closure, Agora, Evolution, Silk Road 2.0 and The Marketplace, with many other, smaller marketplaces operating at lower levels.
- **Cannabis and pharmaceuticals** were most commonly sold across all marketplaces, followed by MDMA (3,4-methylenedioxy-N-methylamphetamine), NPS and Cocaine, with slight variations in rank across marketplaces.
- The closure of the Silk Road saw a proliferation of new retailers in alternative marketplaces, many of which have subsequently closed down. Specifically, the previous bulletin monitoring until November 2013 saw **three major marketplaces** emerge in the wake of the Silk Road closure. Since this time over fifteen new marketplaces have emerged and are currently being monitored.
- Substances available on new marketplaces largely **mirrored** those sold on the original Silk Road, cannabis and pharmaceuticals were the most commonly sold substances. Cocaine, MDMA, NPS and methamphetamine followed, with some variation in order across marketplaces



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METHODS USED IN THIS BULLETIN

'Surface Web' Monitoring

The methodology for monitoring the 'surface web' was adapted from the European Monitoring Centre for Drugs and Drug Addiction outlined in Solberg, Sedefov, and Griffiths (2011). 'Surface web' sites are those that are registered with search engines, and hence can be identified using tools such as Google web searches. Retailers were located by using a generic list of search terms (e.g. "herbal highs", "research chemicals", "legal ecstasy", etc.) on the Metacrawler search engine (now named 'Zoo' - <http://www.zoo.com/>) which combines search results from Google and Yahoo.

Once retailers were identified, availability of selling and shipping to Australia was confirmed and the substances on offer were recorded. Searches were conducted monthly from December 2013 until May 2014, between the 15th and the 25th of each month. Searches were ceased once saturation point was determined, i.e. when no new retailers were returned within the first 100 search results for each search term. Retailers identified in previous searches were revisited and current activity confirmed, including current availability of substances for sale.

Dark Web Marketplace ('Dark Web') Monitoring

Dark web marketplaces were accessed weekly using a dedicated Domestic user account. Available substances are placed in nine categories – cannabis, dissociatives, ecstasy, opioids, precursors, prescription, psychedelics, stimulants and 'other'. Each of these categories is then divided into various subcategories including natural and synthetic substances within the broader class, e.g. LSD, magic mushrooms, and various NPS families under the 'psychedelics' category. See Appendix C for a detailed description of the categories and subcategories of substances available on dark web marketplaces.

Substances sold on these marketplaces are available both from domestic retailers within Australia and international retailers. An Australian retailer is defined as those retailers who list their country of origin as Australia. And an international retailer as a retailer with a country of origin either not within Australia or 'undeclared'. The total number of listings of each available substance under each subcategory was recorded as well as the number of unique retailers selling each substance. A retailer was considered 'active' on the market if there were an identified listing available from that retailer at the monitored time point. To monitor trends each retailer was assigned a unique code based on the time point in which they were first identified.

Though additional marketplaces exist, these marketplaces are often country-specific, and only offer domestic shipping of products within their own country, and are not included in the current monitoring.

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RESULTS

Number of Retailers

Surface Web

- The number of retailers on the surface web selling to Australia continued to decline over the current monitoring period, (74 retailers in September 2013 to 68 in May 2014).
- The surface web appears to be declining in popularity as a means for purchasing substances online.

Month	Feb 13	Mar 13	Apr 13	May 13	Jun 13	Jul 13	Aug 13	Sep 13	Oct 13	Nov 13	Jan 14	Feb 14	Apr 14	May 14
Number of surface web retailers	99	93	88	80	83	79	76	74	74	72	71	69	68	68

Table 1: Number of unique Retailers Operating on the Surface Web by Time Point for Silk Road searches.

Dark Web Marketplaces

Although the Dark Web marketplaces identified in this bulletin sold largely comparable products in terms of illicit substances and NPS, many offered additional products such as erotica, hacking tools, drug paraphernalia and occasionally firearms. In addition, these marketplaces varied in transaction processes, with around half operating on a multisignature escrow system, with the other half operating on a centralised escrow system. As described in Christin (2012), escrow is the process of holding funds for a transaction until that transaction is completed and the product delivered, at which point the funds are released. In a centralised escrow system, funds are released when the buyer indicates that the product was received, with funds being stored by the marketplace itself. Therefore, if a marketplace's security is compromised, so too are the funds held in escrow. This was the case with Silk Road 2.0 in February 2013, which most likely caused the decline in retailer numbers around this time (Figure 1). With multi-signature escrow, multiple signatures (encrypted 'keys' used to access funds) are required to release the funds. That is, two out of three participants in the sale (i.e. v buyer, the seller and the marketplace) must provide their specific keys for the funds to be released. The monitored marketplaces and their transaction process are outlined in **Table 2**.

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Centralised Escrow Markets		Multisignature Escrow Markets	
Marketplace Name	Date first monitored	Marketplace Name	Date first monitored
Silk Road 2.0	7/11/2013	Evolution	27/02/2014
Pandora	5/12/2013	The Marketplace	20/03/2014
TOR Market	5/12/2013	The Pirate Marketplace	20/03/2014
BlueSky	16/01/2014	BlackBank	20/03/2014
Agora	30/01/2014	TOR Escrow	20/03/2014
DarkBay	20/03/2014	Cloud Nine	4/04/2014
Andromeda	8/05/2014	TOR Bazaar	17/04/2014
		Hydra	17/04/2014

Table 2: Classification of Monitored Marketplaces. The total number of retailers on each marketplace at each time point for all monitored marketplaces is shown in **Figure 1** and **Figure 2**.

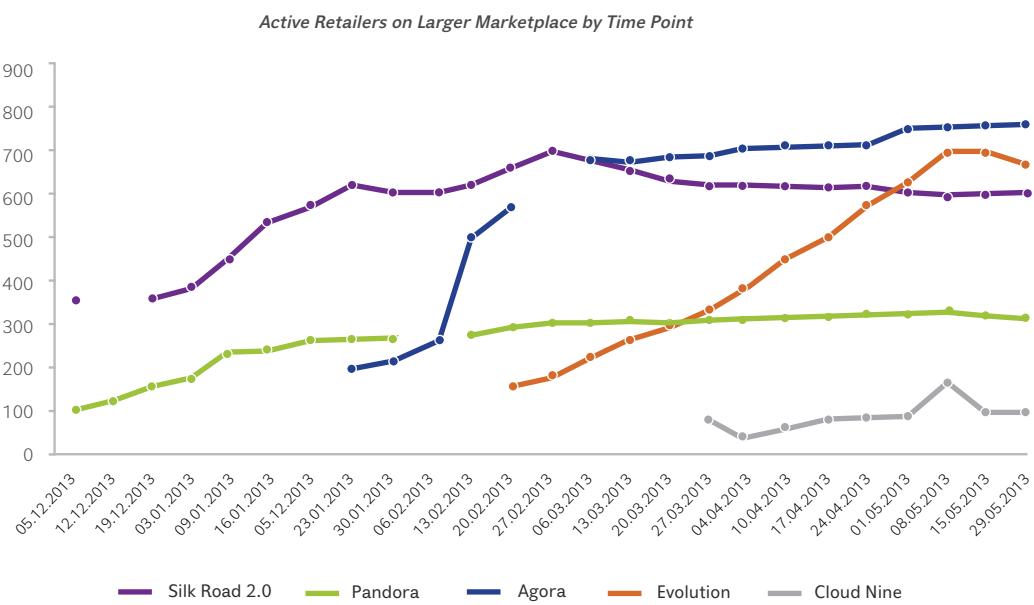


Figure 1: Number of retailers across the largest five marketplaces by time point.

NB: missing data points indicate temporary marketplace outages. Empty markers indicate permanent closure of marketplace.

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Active Retailers on Smaller Marketplace by Time Point

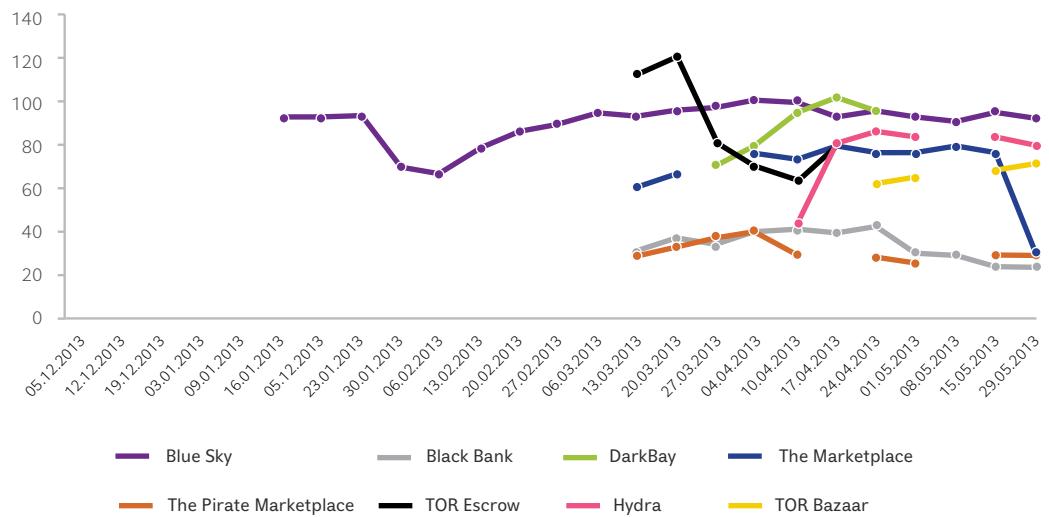


Figure 2: Number of retailers across smaller marketplaces by time point.

NB: Missing data points indicate temporary marketplace outages. Empty markers indicate permanent closure of marketplace.

- Four main marketplaces emerged, Agora, Evolution, Silk Road 2.0 and Pandora, with eight other marketplaces operating at lower levels, (with less than one hundred active retailers each at the final time point).
- Although the number of retailers on all four marketplaces initially increased dramatically, only Agora continued to increase over time, with Evolution and Silk Road 2.0 decreasing and Pandora plateauing.

The proliferation of new marketplaces in the wake of the Silk Road closure in 2013 has continued, (Van Buskirk, Roxburgh, Farrell, et al., 2014), with thirteen new marketplaces identified since December 2013.

Three marketplaces, TOR Market, DarkBay and TOR Escrow, were closed down over the monitoring period: TOR Market was closed due to a security breach; DarkBay merged with current marketplace Andromeda; and TOR Escrow closed due to unknown reasons. For the remaining eight marketplaces still operating at the final data point, retailer numbers largely remained

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stable across the monitoring period.. This represents a deviation from the trends observed in the first two bulletins (Van Buskirk, Roxburgh, Bruno, & Burns, 2013, 2014), in that retailer numbers were observed to continue increasing across the monitoring period up until the marketplace was closed. Changing trends may be partly due to the higher number of marketplaces now operating and therefore higher rate of retailer dispersion and consumer choice. It may also be due to heightened international enforcement and warnings issued about specific marketplaces by online discussion forums. Warnings have previously been issued about security breaches, security vulnerabilities, and practices of marketplace moderators.

Retailers Operating Across Multiple Marketplaces

Table 3 shows the number of retailers operating across multiple marketplaces.

Number of Marketplaces	# of Retailers Present	Percentage of Total Retailers
10	1	0.03%
9	1	0.03%
8	3	0.10%
7	10	0.32%
6	10	0.32%
5	27	0.86%
4	64	2.03%
3	160	5.07%
2	418	13.26%
1	2459	77.99%
Total Unique Retailers	3153	100%

Table 3 : Number of retailers operating across multiple marketplaces.

Over three quarters (78%) of retailers operated on one marketplace only, with a large proportion of the remaining retailers (13%) operating on two marketplaces. No retailers operated across all 15 marketplaces, with only one retailer operating across 10 marketplaces. As this analysis was performed solely on usernames used on individual marketplaces, it obviously excludes any retailer operating across multiple marketplaces under different usernames. If retailers are operating under different usernames on different marketplaces, it may represent an underestimation of numbers of retailers operating across multiple marketplaces.

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SUBSTANCES FOR SALE

Total Substances Available

Table 4 outlines the substances available from the top five marketplaces by origin (international or Australian) ranked by the number of unique international retailers identified selling each substance. The top three available substances sold by international marketplaces were cannabis, pharmaceuticals and MDMA. This was followed by cocaine, NPS and methamphetamine. Among Australian retailers, MDMA, Cannabis, methamphetamine and pharmaceuticals were the top substances sold. See **Appendix C** for data from all monitored marketplaces.

	Agora			Evolution			Silk Road 2.0			Pandora			Cloud Nine		
	I	A	%	I	A	%	I	A	%	I	A	%	I	A	%
Cannabis	516	37	7%	427	16	4%	436	32	7%	295	16	5%	97	8	8%
Pharmaceuticals	441	42	10%	378	16	4%	387	36	9%	256	10	4%	72	3	4%
MDMA	342	50	15%	238	17	7%	355	51	14%	201	17	8%	41	3	7%
NPS	231	27	12%	157	8	5%	238	27	11%	160	12	8%	35	2	6%
Cocaine	235	19	8%	192	7	4%	236	32	14%	194	10	5%	45	3	7%
Methamphetamine	215	34	16%	165	16	10%	212	46	22%	198	24	12%	45	5	11%
LSD	115	11	10%	85	1	1%	147	13	9%	83	4	5%	20	0	0%
Illicit Opioids	104	11	11%	121	3	2%	126	9	7%	101	4	4%	22	1	5%
Magic Mushrooms	73	8	11%	48	2	4%	76	6	8%	27	1	4%	10	0	0%
Ketamine	40	4	10%	37	1	3%	62	10	16%	30	0	0%	8	1	13%
PIEDs	47	12	26%	33	3	9%	44	15	34%	26	6	23%	4	0	0%
GHB	19	2	11%	10	0	0%	18	4	22%	20	0	0%	4	0	0%
Synthetic Cannabinoids	25	2	8%	12	0	0%	30	1	3%	2	0	0%	5	0	0%
Weight Loss	23	2	9%	6	4	67%	0	0	0%	0	0	0%	4	0	0%
Precursors	3	1	33%	0	0	0%	17	4	24%	0	0	0%	0	0	0%
Caffeine	3	0	0%	1	0	0%	5	0	0%	1	0	0%	0	0	0%
Total Unique	1216	145	12%	1108	70	6%	1057	145	14%	655	107	16%	259	21	8%

Table 4: Total number of retailers on the top five marketplaces with proportion of Australian retailers indicated, in order of unique retailer count by substance type.

NB: **I** = International country of origin; **A** = Australian origin; **NPS** = New Psychoactive Substances; **PIEDs** = Performance and Image Enhancing Drugs. Percentages listed reflect the proportion of Australian retailers selling each substance class as a percentage of total retailers selling that substance. As retailers often sell multiple substance classes, percentages do not add up to 100%. For a further clarification of the categories used in the above table, please see **Appendix B**.

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In contrast to previous bulletins, the 'international retailers' category in **Table 4** refers to all retailers operating on these marketplaces, and not just those listing Australia as an acceptable shipping destination. As not all marketplaces clearly listed information on acceptable shipping destinations, such as Agora, it was decided to instead quantify all active retailers on any monitored marketplace. Using these criteria the rankings of available substances largely mirrored the ranking from retailers shipping to Australia with only slight variations. Given this we have included all retailers in **Table 4** so as to not exclude key marketplaces such as Agora from the analysis. Please refer to **Appendix C** for data from retailers willing to ship to Australia, as well as information on which marketplaces listed this information.

NPS Available from All Retailers

Table 5 details the ten most commonly sold NPS on the top five marketplaces (ranked by unique retailers selling NPS). The categories of 2C-x, NBOMe Family and 5-MeO Family (5-methoxy-substituted) were collapsed for clarity as many of these drugs (e.g. 2C-B, 2C-I, 2C-E in the 2C-x category) are sold in the same form, and are advertised as having similar effects. Drugs from the 2C-x and NBOMe and DMT categories were the most commonly sold, with slight variations across marketplaces, followed by methylone and methoxetamine (Table 5). Synthetic Cannabinoids were collapsed into one category given the large number of variations of these that exist, (Ammann, McLaren, Gerostamoulos, & Beyer, 2012). Additionally, synthetic cannabinoids were often sold as blends, consisting of different combinations of many chemicals, making classification more complex.

Substance	Agora			Evolution			Silk Road 2.0			Pandora			Cloud Nine		
	n	%	Rank	n	%	Rank	n	%	Rank	n	%	Rank	n	%	Rank
2C-x	55	23%	1	58	23%	1	30	18%	3	24	15%	1	6	20%	2
DMT	53	22%	2	47	19%	2	36	22%	2	23	14%	2	11	37%	1
NBOMe	39	16%	3	45	18%	3	37	23%	1	7	4%	5	5	17%	3
Methylone	32	13%	5	45	18%	3	23	14%	4	9	6%	4	4	13%	5
Methoxetamine	23	9%	8	21	8%	7	14	9%	5	5	3%	6	3	10%	6
Synthetic Cannabinoids	25	10%	7	30	12%	5	12	7%	6	2	1%	13	5	17%	3
MDA	27	11%	6	28	11%	6	6	4%	11	10	6%	3	2	7%	9
5-Meo Family	13	5%	11	16	6%	8	7	4%	9	4	3%	8	2	7%	9
Ethylone	33	14%	4	7	3%	21	9	6%	8	2	1%	13	1	3%	14
Dox	22	9%	9	15	6%	10	5	3%	12	1	1%	23	1	3%	14
Mescaline	15	6%	10	11	4%	16	10	6%	7	2	1%	13	0	0%	36
Total	243			248			163			160			30		

Table 5: Number of retailers from the top five marketplaces selling the ten most common NPS by average rank across all marketplaces. For further information on the above substances and categories, please see **Appendices A** and **B**.

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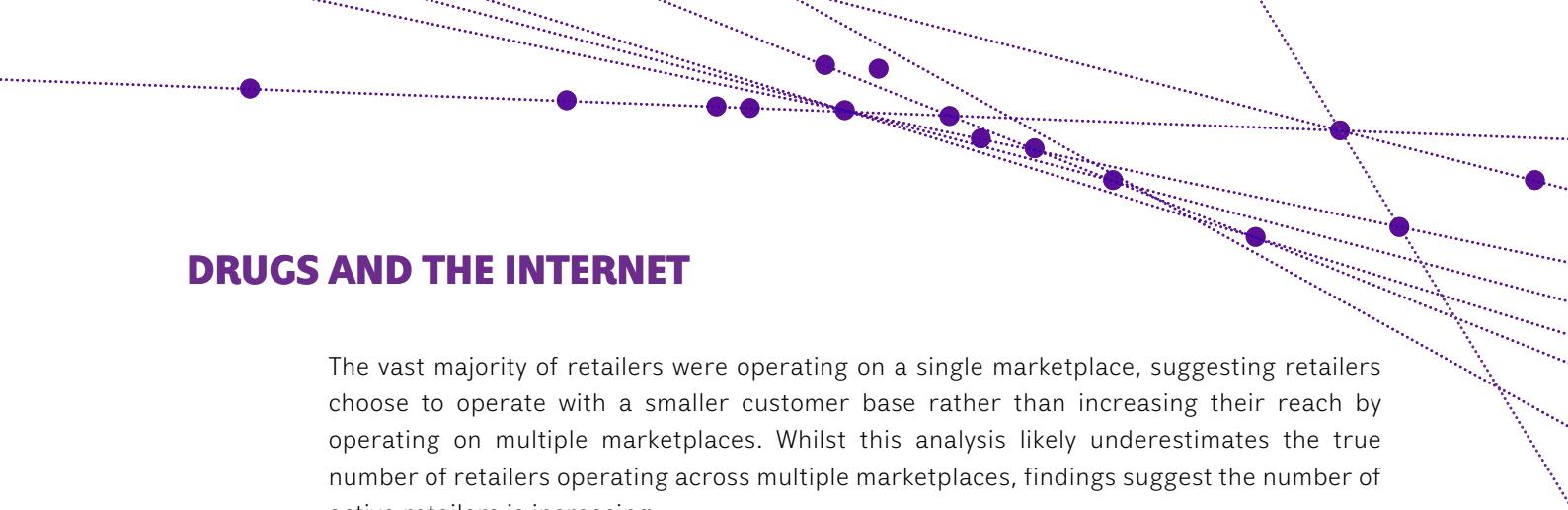
SUMMARY

- Four key marketplaces emerged in the wake of the Silk Road closure and the closure of Black Market Reloaded and Sheep Marketplaces; Agora, Evolution, Silk Road 2.0 and Pandora.
- While many other marketplaces were identified, these had substantially fewer active retailers.
- Substances sold across all marketplaces appeared to be consistent with the previous bulletin in this series, with cannabis, pharmaceuticals and MDMA most commonly sold.
- NPS availability on dark web marketplaces continued to slightly decline.
- The specific types of NPS sold across dark web marketplaces were consistent with those observed in the first two bulletins.
- Consistent with previous findings, the most commonly available substances on these marketplaces are largely traditional illicit substances (cannabis and ecstasy) and pharmaceuticals, rather than NPS, reflecting findings from surveys on people who use drugs.

It is not possible from these results to determine how often, and in what amounts, illicit and emerging substances are being purchased online in Australia. The 2013 EDRS report suggested low usage of the internet for purchasing drugs among existing ecstasy consumers, with only 6% having used the internet for their most recent drug purchase, compared with 86% purchasing from a friend and 51% from a dealer (Sindicich & Burns, 2014). Consistent with this, published findings from the Global Drug Survey (GDS – an online survey of people who use drugs) reported that 7% of Australians had purchased drugs on the Silk Road (Barratt, Ferris, & Winstock, 2013).

IMPLICATIONS

Internet drugs markets are highly dynamic. Although three monitored marketplaces closed over the six-month monitoring period, many other marketplaces remained open and new marketplaces opened. In the final recorded time point during the Silk Road monitoring there were 579 active retailers shipping worldwide, and 129 retailers shipping from within Australia (Van Buskirk, Roxburgh, Bruno, et al., 2014). In the most recent time point of the current monitoring period, there were 394 active retailers shipping worldwide on Evolution, the marketplace with the highest number of retailers shipping worldwide, followed by 282 on Silk Road 2.0. Agora, the marketplace with the highest number of active Australian retailers, had 88 active Australian retailers operating at the final time point, while Silk Road 2.0 had 62. Whilst no single marketplace is operating with a comparable number of active retailers to the original Silk Road the combined number of active retailers across all marketplaces far exceeds those seen on the original Silk Road.



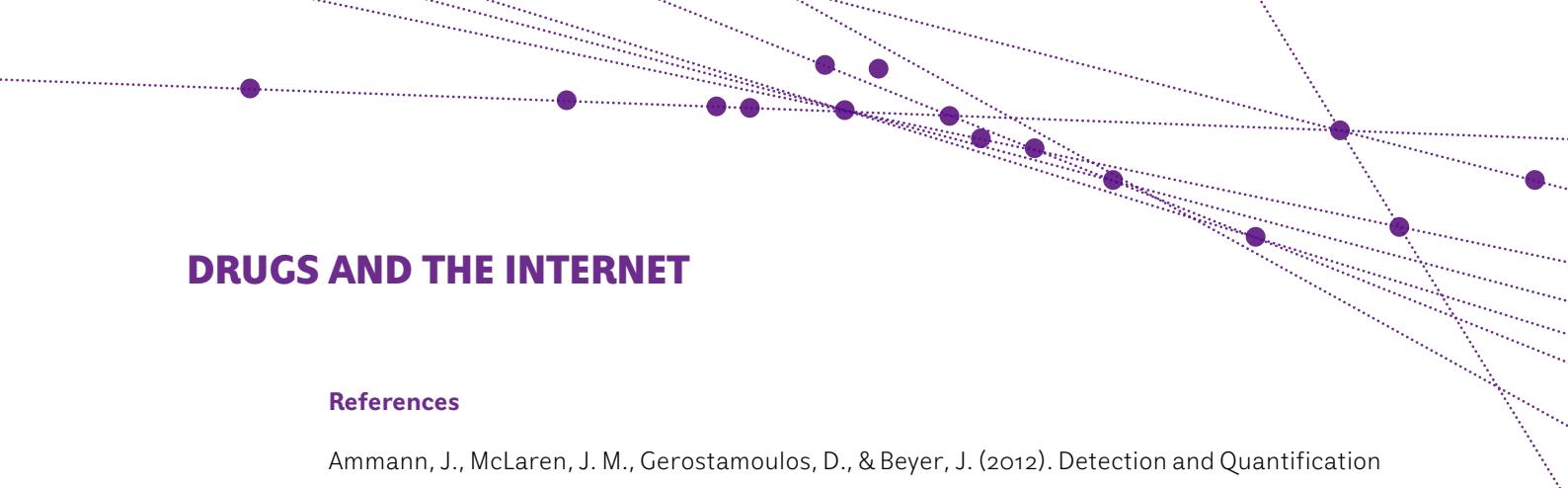
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The vast majority of retailers were operating on a single marketplace, suggesting retailers choose to operate with a smaller customer base rather than increasing their reach by operating on multiple marketplaces. Whilst this analysis likely underestimates the true number of retailers operating across multiple marketplaces, findings suggest the number of active retailers is increasing.

Substances available from Australian retailers varied slightly from those available from international retailers. Specifically, a higher proportion of Australian retailers were selling MDMA and methamphetamine, rather than pharmaceuticals and NPS. This is reflected in the most recent Illicit Drug Data Report from the Australian Crime Commission (Australian Crime Commission, 2014) showing the number of detections of clandestine methamphetamine laboratories is at an all time high. A similar trend is noted by the Australian Customs and Border Protection Service who reported a record number of illicit drug seizures in 2012/13, being detected via international post (Australian Crime Commission, 2014).

The number of retailers operating on the surface web has continued to decline and may be part due to the increasing implementation of domestic and international legislation controlling these substances. This suggests dark web marketplaces, as opposed to surface web stores, are the preferred method of purchasing drugs online (Barratt et al., 2013), and future monitoring of these marketplaces will reveal whether this trend will continue.

Given the rapid rate at which dark web marketplaces appear and subsequently close, continued monitoring of these markets is critical. Future bulletins in this series will continue to provide timely and accurate updates on the state of dark web marketplaces and seek to assess their impact on traditional street marketplaces, as well as the impact of the Internet as a whole on illicit drug use in Australia.



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Appendix A: Chemical classification of mentioned NPS.

NPS	Category	Subcategory
2C-x	Phenethylamine	Psychedelic
4-AcO Family	Tryptamine	Psychedelic
5-APB	Phenethylamine	Entactogen
5F-AKB58	Synthetic Cannabinoid	Cannabimimetic
5F-PB22	Synthetic Cannabinoid	Cannabimimetic
5-MeO Family	Tryptamine	Psychedelic
6-APB	Phenethylamine	Entactogen
AM2201	Synthetic Cannabinoid	Cannabimimetic
aMT	Tryptamine	Psychedelic
DMT	Tryptamine	Psychedelic
DOx	Phenethylamine	Psychedelic Amphetamine
Ethylphenidate	Other Stimulant	Amphetamine Type Stimulant
Etizolam	Benzodiazepine Analogue	Benzodiazepine Analogue
FAs	Phenethylamine	Entactogen
MDAI	Phenethylamine	Entactogen
MDPV	Phenethylamine	Amphetamine Type Stimulant
Mephedrone	Phenethylamine	Amphetamine Type Stimulant
Methiopropamine	Other Stimulant	Amphetamine Type Stimulant
Methylone	Phenethylamine	Entactogen
NBOMe Family	Phenethylamine	Psychedelic
STS-135	Synthetic Cannabinoid	Cannabimimetic

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Appendix B: Glossary of categories and abbreviations used in bulletin

Category	Commonly Available Examples
2C-x	2C-B, 2C-E, 2C-I
4-AcO Family	4-AcO-DMT, 4-AcO-DET, 4-AcO-MiPT
5-MeO Family	5-MeO-DMT, 5-MeO-DiPT
Cannabis	Marijuana, hash, edibles (THC infused foods)
DOx	DOI, DOM, DOC
Illicit Opioids	Heroin, Opium
MDMA	MDMA powder, 'Ecstasy' pills
Methamphetamine	Powder (Speed), crystal (Ice)
NBOMe Family	25C-NBOMe, 25I-NBOMe, 25E-NBOMe
Pharmaceuticals	Pharmaceutical Opioids, Benzodiazepines, Sildenafil (Viagra)
PIEDs	Clenbuterol, Nordicor, Biogen
Synthetic Cannabinoids	JWH Family, AM2201, UR144

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Appendix C: Complete tables of substance availabilities across marketplaces

Substance	Agora	Evolution	Silk Road 2.0	Pandora	TOR Market	Cloud Nine	TOR Escrow	Hydra
Cannabis	516	340	436	295	2	81	50	49
Pharmaceuticals	441	312	387	256	150	58	50	27
MDMA	342	152	355	201	74	30	13	22
NPS	231	123	238	160	16	30	1	25
Cocaine	235	145	236	194	27	38	9	15
Methamphetamine	215	88	212	198	15	36	2	20
Illicit Opioids	104	70	126	101	43	20	12	16
LSD	115	57	147	83	20	16	7	7
Magic Mushrooms	73	30	76	27	149	9	24	6
Ketamine	40	23	62	30	85	6	18	5
PIEDs	47	26	44	26	98	3	32	1
Synthetic Cannabinoids	25	10	30	2	183	0	56	2
GHB	19	5	18	20	19	4	5	0
Precursors	3	0	21	0	7	0	0	0
Total Unique	1216	1109	1061	655	421	212	144	108

Table 6 (Part 1): Total number of retailers by substance type and marketplace

Substance	DarkBay	Andromeda	The Marketplace	Tor Bazaar	Blackbank	Pirate Marketplace	Outlaw	1776
Cannabis	46	44	48	24	28	56	8	2
Pharmaceuticals	29	25	30	19	27	38	6	4
MDMA	14	18	19	13	16	40	2	2
NPS	13	11	39	14	9	33	2	1
Cocaine	12	10	8	7	10	26	1	1
Methamphetamine	11	12	13	7	8	29	4	1
Illicit Opioids	7	9	5	3	17	32	3	1
LSD	9	13	10	12	4	19	1	0
Magic Mushrooms	5	3	10	1	6	10	1	1
Ketamine	7	2	1	1	0	15	0	1
PIEDs	2	0	0	2	3	6	0	0
Synthetic Cannabinoids	0	0	1	0	1	9	0	0
GHB	0	3	0	0	0	0	0	0
Precursors	0	0	0	0	0	0	0	0
Total Unique	105	98	97	76	73	63	19	9

Table 6 (Part 2): Total number of retailers by substance type and marketplace

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	Agora		Evolution		Silk Road 2.0		Pandora		Tormarket		Cloud Nine	
	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank
Cannabis	148	1	220	1	219	1	187	1	74	3	82	1
Pharmaceuticals	130	2	180	2	199	3	174	2	102	1	56	3
MDMA	114	3	147	3	209	2	138	4	87	2	39	4
NPS	80	6	109	5	155	4	90	6	67	4	59	2
Cocaine	89	4	140	4	150	5	136	5	52	6	34	6
Methamphetamine	88	5	104	6	138	6	152	3	55	5	37	5
Illicit Opioids	41	8	71	7	76	8	74	7	18	8	19	7
LSD	53	7	52	8	99	7	65	8	32	7	15	8
Magic Mushrooms	16	10	17	11	45	9	16	11	9	11	9	9
Ketamine	21	9	24	9	37	10	19	9	8	12	6	10
PIEDs	12	11	18	10	31	11	17	10	14	9	1	13
Synthetic Cannabinoids	8	12	3	14	19	12	3	13	2	14	0	14
GHB	6	13	5	13	13	13	16	11	13	10	4	11
Caffeine	2	15	1	15	3	15	0	14	1	16	0	14
Weight Loss	5	14	6	12	0	16	0	14	6	13	2	12
Precursors	2	15	0	16	13	13	0	14	2	14	0	14
Total Unique	463		655		620		484		260		182	

Table 7 (Part 1): Number of retailers shipping internationally by substance type and marketplace.

	TOR Escrow		Hydra		TOR Bazaar		Blackbank		Pirate		1776	
	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank
Cannabis	21	1	28	1	20	1	13	1	19	1	2	1
Pharmaceuticals	21	1	12	4	20	1	9	2	14	2	2	1
MDMA	9	5	12	4	15	3	5	6	12	3	2	1
NPS	17	3	19	2	13	4	5	6	9	6	1	4
Cocaine	9	5	10	7	8	6	7	3	10	5	1	4
Methamphetamine	11	4	16	3	8	6	7	3	11	4	1	4
Illicit Opioids	5	8	11	6	2	8	7	3	7	8	1	4
LSD	7	7	6	8	10	5	2	9	8	7	0	9
Magic Mushrooms	2	9	3	9	1	10	3	8	2	11	0	9
Ketamine	1	11	3	9	1	10	0	10	3	10	1	4
PIEDs	2	9	1	11	2	8	0	10	2	11	0	9
Synthetic Cannabinoids	0	13	1	11	0	13	0	10	4	9	0	9
GHB	1	11	0	13	0	13	0	10	0	14	0	9
Caffeine	0	13	0	13	1	10	0	10	2	11	0	9
Weight Loss	0	13	0	13	0	13	0	10	0	14	0	9
Precursors	0	13	0	13	0	13	0	10	0	14	0	9
Total Unique	69		70		73		35		25		6	

Table 7 (Part 2): Number of retailers shipping internationally by substance type and marketplace.

NB: Darkbay, Andromeda, the Marketplace and Outlaw did not indicate those retailers willing to ship international and are thus excluded

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Substance	Agora		Evolution		Silk Road 2.0		Pandora		TOR Market		Cloud Nine		TOR Escrow	
	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank
Cannabis	37	3	16	2	32	4	16	3	14	1	8	1	3	3
Cocaine	19	6	7	6	32	4	10	5	7	6	3	3	0	7
GHB	2	12	0	13	4	12	0	11	2	9	0	9	0	7
Illicit Opioids	11	8	3	8	9	10	4	8	2	9	1	7	0	7
Ketamine	4	11	1	11	10	9	0	11	1	11	1	7	0	7
LSD	11	8	1	11	13	8	4	8	5	8	0	9	0	7
Magic Mushrooms	8	10	2	10	6	11	1	10	1	11	0	9	0	7
MDMA	50	1	17	1	51	1	17	2	10	4	3	3	1	5
Methamphetamine	34	4	16	2	46	2	24	1	14	1	5	2	4	2
NPS	27	5	8	5	27	6	12	4	10	4	2	6	2	4
Pharmaceuticals	42	2	16	2	36	3	10	5	12	3	3	3	6	1
PIEDs	12	7	3	8	15	7	6	7	7	6	0	9	1	5
Precursors	1	15	0	13	4	12	0	11	0	14	0	9	0	7
Synthetic Cannabinoids	2	12	0	13	1	14	0	11	0	14	0	9	0	7
Weight Loss	2	12	4	7	0	15	0	11	1	11	0	9	0	7
Total Unique	145		70		128		107		41		21		11	

Table 8 (Part 1): Total number of Australian retailers by substance type and marketplace

Substance	Hydra		Andromeda		The Marketplace		TOR Bazaar		Pirate Marketplace	
	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank
Cannabis	2	1	1	1	4	1	0	6	1	2
Cocaine	0	6	0	5	1	5	1	1	1	2
GHB	0	6	0	5	0	9	0	6	0	9
Illicit Opioids	0	6	1	1	0	9	0	6	1	2
Ketamine	1	2	1	1	1	5	0	6	0	9
LSD	1	2	1	1	0	9	0	6	0	9
Magic Mushrooms	0	6	0	5	1	5	0	6	0	9
MDMA	0	6	0	5	3	3	1	1	2	1
Methamphetamine	1	2	0	5	1	5	1	1	1	2
NPS	1	2	0	5	4	1	1	1	1	2
Pharmaceuticals	0	6	0	5	2	4	1	1	1	2
PIEDs	0	6	0	5	0	9	0	6	1	2
Precursors	0	6	0	5	0	9	0	6	0	9
Synthetic Cannabinoids	0	6	0	5	0	9	0	6	0	9
Weight Loss	0	6	0	5	0	9	0	6	0	9
Total Unique	5		4		7		5		2	

Table 8 (Part 2): Total number of Australian retailers by substance type and marketplace

NB: DarkBay, Blackbank and Outlaw marketplaces did not indicate country of origin and are thus excluded, while 1776 marketplace had no identified Australian retailers.

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Agora		Evolution		Silk Road 2.0		Pandora		TOR Market		Cloud Nine		TOR Escrow		
Substance	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank
DMT	53	2	36	2	20	3	34	1	13	1	11	1	5	3
2C-x	55	1	30	3	20	3	32	2	11	3	6	2	4	4
NBOMe	39	3	37	1	22	2	9	5	13	1	5	3	8	1
Methylone	32	5	23	4	27	1	10	4	11	3	4	5	2	6
Methoxetamine	23	8	14	5	18	5	6	6	3	8	3	6	6	2
MDA	27	6	6	11	13	6	11	3	4	6	2	9	2	6
Mescaline	15	10	10	7	3	15	3	12	5	5	0	36	3	5
Ethylone	33	4	9	8	1	31	3	12	0	43	1	14	0	10
Dox	22	9	5	12	5	10	1	26	1	20	1	14	1	8
Synthetic Cannabinoids	25	7	12	6	7	7	2	19	2	13	5	3	0	10
5-Meo Family	13	11	7	9	2	21	5	7	2	13	2	9	1	8
Total	243		163		248		147		65		30		32	

Table 9 (Part 1): Total number of retailers selling the ten most common NPS by substance and marketplace

NB: Outlaw Marketplace and 1776 are excluded from the above table as they each had 2 and 1 unique retailer identified over the sampling period, respectively. Both Outlaw Marketplace retailers sold DMT, and the sole NPS retailer from 1776 sold mephedrone.

Hydra		DarkBay		Andromeda		The Marketplace		Tor Bazaar		Blackbank		Pirate Marketplace		
Substance	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank	n	Rank
DMT	7	1	1	5	0	7	10	2	3	2	2	2	19	1
2C-x	4	3	3	2	3	1	8	3	1	4	1	3	2	8
NBOMe	6	2	2	3	0	7	4	5	4	1	1	3	8	4
Methylone	1	11	1	5	2	3	14	1	1	4	1	3	2	8
Methoxetamine	2	6	4	1	3	1	3	7	1	4	4	1	0	10
MDA	0	18	1	5	0	7	1	13	3	2	0	8	0	10
Mescaline	2	6	0	18	1	4	3	7	0	7	1	3	17	2
Ethylone	3	4	0	18	1	4	0	37	0	7	0	8	0	10
Dox	0	18	1	5	1	4	4	5	0	7	0	8	0	10
Synthetic Cannabinoids	2	6	0	18	0	7	1	13	0	7	0	8	9	3
5-Meo Family	0	18	0	18	0	7	1	13	0	7	1	3	0	10
Total	28		13		11		41		14		9		33	

Table 9 (Part 2): Total number of retailers selling the ten most common NPS by substance and marketplace

NB: Outlaw Marketplace and 1776 are excluded from the above table as they each had 2 and 1 unique retailer identified over the sampling period, respectively. Both Outlaw Marketplace retailers sold DMT, and the sole NPS retailer from 1776 sold mephedrone.

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