

Appendix 2 – Additional tables

*Analysis of ADC transaction logs***Table A – Controlled Drugs – Time from removing a dose from ADC ('issue') to documenting waste (ADC transaction logs, 26 March – 30 June)**

Drug (Controlled)	Issue Transactions	Waste Transactions		Waste Concurrent with Issue		Waste by Separate Transaction to Issue								
	n	n	% of Issued	n	% of Total Waste	n	% of Total Waste	Average Time	Range Min	Range Max	<10m	10m - 1hr	1hr - 24hr	>24 hr
Bupivacaine + Fentanyl	9	3	33.3%	3	100.0%	0	n/a	n/a	n/a	n/a				
Clobazam	150	52	34.7%	46	88.5%	6	11.5%	0:29:06	0:00:30	2:48:54	5		1	
Clonazepam	2	2	100.0%	1	50.0%	1	50.0%	0:01:57	0:01:57	0:01:57	1			
Diazepam	156	57	36.5%	48	84.2%	9	15.8%	0:22:46	0:00:20	3:18:01	8		1	
Fentanyl	640	390	60.9%	326	83.6%	64	16.4%	2:37:09	0:00:17	84:12:10	44	4	15	1
Ketamine	229	194	84.7%	110	56.7%	84	43.3%	4:17:27	0:00:23	84:12:55	10	10	63	1
Midazolam	765	593	77.5%	495	83.5%	98	16.5%	0:55:14	0:00:15	9:25:36	56	16	26	
Morphine Hydrochloride	75	49	65.3%	44	89.8%	5	10.2%	0:00:36	0:00:14	0:00:54	5			
Morphine Sulfate	325	237	72.9%	195	82.3%	42	17.7%	4:28:15	0:00:19	172:00:21	37	1	3	1
Morphine Sulfate MR	57	49	86.0%	43	87.8%	6	12.2%	0:01:30	0:00:18	0:06:27	6			
Oxycodone	32	25	78.1%	24	96.0%	1	4.0%	0:00:31	0:00:31	0:00:31	1			
Phenobarbital	31	17	54.8%	15	88.2%	2	11.8%	0:02:33	0:01:01	0:04:05	2			
Phenobarbitone	1	0	0.0%	0	n/a	n/a	n/a	n/a	n/a	n/a				
Propofol	157	12	7.6%	2	16.7%	10	83.3%	6:25:49	0:55:18	16:03:49		2	8	
Thiopentone	3	1	33.3%	1	100.0%	0	n/a	n/a	n/a	n/a				
Total *	2632	1681	63.9%	1353	80.5%	328	19.5%	2:40:26	0:00:14	172:00:21	175	33	117	3

* Not including the controlled drug in the fridge – accessed by generic 'fridge item' in the ADC and documented in registries

*Analysis of data from audits of registries of controlled drugs***Table B. Frequency of documentation inaccuracies in controlled drugs registries in the ICU and control wards (January – June 2019)**

Type of documentation inaccuracy	ICU n (%)	Oncology n (%)	Orthopaedics n (%)
	(doses*: 5783)	(doses*:2930)	(doses*:3750)
Asterisks representing corrections to the register	305 (5.3%)	132 (4.5%)	282 (7.5%)
Calculation errors identified by nurses or pharmacists	9 (0.2%)	3 (0.1%)	48 (1.3%)
Other (e.g. balance changed incorrectly)	3 (0.1%)	1 (0.0%)	9 (0.2%)
Missing amounts (given, discarded, balance)	47 (0.8%)	26 (0.9%)	20 (0.5%)

% are calculated on number of doses. * The number of doses is the number of entries documented in registries – i.e. number of times medications have been recorded as given (or not) to patients. The table does not include data about discrepancies, reported in a separate table.

Table C. CD discrepancies (losses and gains) in the ICU and control wards in the study period (January – June 2019)

	ICU (*) [pre/post ADC] n (%)	Oncology [no ADC in use] n (%)	Orthopaedics [no ADC in use] n (%)
	(doses*: 5783)	(doses*:2930)	(doses*:3750)
Discrepancies identified by nurses/pharmacists	54 (0.9%)	11 (0.4%)	37 (1.0%)

(*) Limited to discrepancies identified in registries (excluding discrepancies in ADC). % are calculated on number of doses. * The number of doses is the number of entries documented in registries – i.e. number of times medications have been recorded as given (or not) to patients.

*Comparative analysis of data from audits of controlled drugs registries and ADC transaction logs***Table D. CD discrepancies (losses and gains) in the ICU and control wards in the three months before and after ADC implementation (as recorded in registries and ADC transactions logs)**

	Jan-March 2019 (pre-ADC) *			April – June 2019 (post-ADC)		
	n of doses	Losses N (%)	Gains N (%)	n of doses	Losses N (%)	Gains N (%)
ICU						
Medications in bottles	1597	15 (0.94%)	1 (0.06%)	2273	30 (1.32%)	6 (0.26%)
Medications in unit doses	1792	2 (0.40%)	0	121 [in registries]	0	0
				7366 (*) [in ADC]	15	14
Oncology [no ADC in use]						
Medications in bottles	336	4 (1.19%)	0	409	5 (1.22%)	2 (0.49%)
Medications in unit doses	1045	0	0	1140	0	0
Orthopaedics [no ADC in use]						
Medications in bottles	1123	19 (1.42%)	1 (0.09%)	1031	14 (1.36%)	2 (0.19%)
Medications in unit doses	889	0	0	707	0	0

