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NHS
Sheffield Health and Social Care
NHS Foundation Trust

Sheffield City Council

Psychotropic medication prescribing for people with a learning disability

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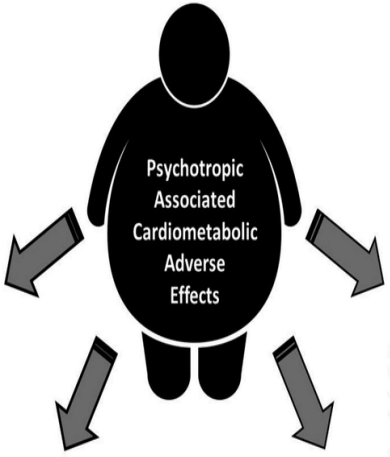
Psychotropics	• Medication that affects the mind e.g. medicines used in depression, anxiety, psychotic experiences and epilepsy
Antidepressants	• Type of psychotropic medicine licensed to manage depression
Anxiolytics/ Hypnotics	• These are sedating medicines. Most anxiolytics induce sleep when given at night, while hynotics sedate when given in the day
Antiepileptics	• Type of psychotropic medicine licensed for the prevention of seizures
Antipsychotics	• Type of psychotropic medicine licensed to manage mental health conditions with psychotic experiences such as hallucinations



Weight Gain
Antipsychotics
- Clozapine
- Olanzapine
- Quetiapine
- Risperidone

Mood Stabilizers
- Valproic Acid Derivatives
- Lithium

Antidepressants
- Mirtazapine
- Tricyclic Antidepressants
- Monoamine Oxidase Inhibitors
- Other Antidepressants (except bupropion)

Dyslipidemia
Hypertriglyceridemia
Antipsychotics
Especially:
- Clozapine
- Olanzapine

Mood Stabilizers
- Valproic Acid Derivatives
- Carbamazepine

Hypercholesterolemia
Antidepressants
- Mirtazapine
- SSRIs

Diabetes Mellitus / Insulin Resistance
Antipsychotics
- Clozapine
- Olanzapine
- Other SGAs
- Low and Mid-Potency FGA
- High Potency FGA

Mood Stabilizers
- Valproic Acid Derivatives

Antidepressants
- Tricyclic Antidepressants

Hypertension
Psychostimulants
- Amphetamines
- Methylphenidate
- Other stimulants
- Atomoxetine

Antidepressants
- SNRIs
- Tricyclic Antidepressants

Antipsychotics
- Aripiprazole
- Clozapine
- Olanzapine
- Ziprasidone

Mood Stabilizers
- Valproic Acid Derivatives

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Background & Aim

- People with learning disabilities have more **MH problems**, more **physical co-morbidities**, and exhibit more **concerning behaviours** than the general population.
- They are also prescribed more **psychotropic medications** (i.e. drugs that affect psychological functioning), at **higher doses** and for **longer** than the norm.
- We are therefore giving medications that can cause **cardiac and metabolic disease** to people already at higher risk of having / developing these conditions.
- **STOMP** is a national initiative to Stop Over Medication of People with a learning disability, autism or both
- This study sought to understand whether **local prescribing practices** adhere to national STOMP principles.

Recruitment & data collection:

Data extracted about 41 completed IP spells between 2015–2020 of 36 people.

This represents the first 5 years of the STOMP initiative

T1 Admission	**T2** Discharge	**T3** 6-month follow up	**T4** 12-month follow up
Assessment & Treatment Unit		Community	
• Medication • Diagnoses • Demographics • Care package costs • Significant life events	• Medication • Diagnoses	• Medication	• Medication

Participants

- 50% were 18-30yrs
- 58% were male
- 83% were White British
- 42% had Autism
- 36% had mild learning disability
- 50% had a funded care package. Median £24k (Range £11k - £177)
- Most commonly admitted from family home (36%) or supported accommodation (39%)

Significant Life events experienced pre-admission

Death of a parent or sibling		2
Death of another relative or close friend		5
Serious illness or injury to self		7
Serious illness of someone close		2
Conflict with someone close		1
Sexual abuse		5
Move of house or residence		6
Unemployed/seeking work for one month or more		2
Problems with police or other authority		9
Other	Alcohol use	1
	Changes to staff support and home environment	1
	forced Prostitution	1
	historical abuse at day service	1
	Notice served on tennancy	1
	Poor mental health	1

Psychiatric diagnoses at admission

	Yes	No	Total
At least one psychiatric diagnoses	18	18	36
Psychotic disorder?	11	25	36
Mood disorder?	5	31	36
Anxiety disorder?	9	27	36
Psychiatric diagnoses other?	4	32	36

Median length of stay: 147 days

Analyses

Patterns of psychotropic prescribing over the 4 timepoints examined:

- Medications divided into 6 different classes:
  - Regularly prescribed **anti-psychotics**
  - Regularly prescribed **mood-stabilisers**
  - Regularly prescribed **anti-depressants**
  - Regularly prescribed **anxiolytics & hypnotics**
  - Regularly prescribed **'other'**
  - **All** regularly prescribed **psychotropics**
  - Pro Re Nata (**PRN**) medications

- Total no of medications in each group recorded

- Total percentage of max BNF doses in each group calculated

Changes over time:

- Repeated measures ANOVA with Greenhouse-Geisser correction. Post hoc analysis with a Bonferroni adjustment.

Differences between patient groups:

- One-way ANOVAs with Tukey post hoc tests

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Results #1

Statistically significant changes in psychotropic prescribing over time

BNF Category	Timepoint	N	Min	Max	Mean	S.D.	Repeat measures ANOVA	Statistically significant pairwise comparisons identified through post hoc analysis with a Bonferroni adjustment
Number of regularly prescribed mood stabilisers	T1 (Admission)	35	0	2	0.3	0.6	F(1.928, 57.841) =4.163, p=0.022	None detected
	T2 (Discharge)	36	0	2	0.1	0.4		
	T3 (6-months)	35	0	2	0.1	0.4		
	T4 (12-months)	32	0	1	0.1	0.2		
Number of regularly prescribed anxiolytics and hypnotics	T1 (Admission)	35	0	2	0.9	0.8	F(2.304, 69.107) =3.697, p=0.025	T1-T4 0.452 (95% CI, 0.001 to 0.902), p=0.049
	T2 (Discharge)	36	0	3	0.8	0.9		
	T3 (6-months)	35	0	2	0.6	0.7		
	T4 (12-months)	32	0	2	0.4	0.7		
Cumulative total BNF max dose of 'Other' regularly prescribed psychotropics	T1 (Admission)	35	0	50	5.2	12.6	F(1.037, 29.044) =19.822, p<0.001	T1-T4 85.817 (95% CI, 30.80 to 140.834), p=0.001
	T2 (Discharge)	36	0	33.3	2.8	8.5		T2-T4 86.966 (95% CI, 32.550 to 141.382), p=0.001
	T3 (6-months)	35	0	50	2.9	10.3		
	T4 (12-months)	31	0	50	3.2	10.9		T3-T4 86.966 (95% CI, 31.907 to 142.025), p=0.001
Number of Pro Re Nate (PRN) psychotropics	T1 (Admission)	35	0	2	0.6	0.7	F(2.565, 74.392) =3.604, p=0.022	T2-T3 0.367 (95% CI, 0.049 to 0.685), p =0.017
	T2 (Discharge)	35	0	3	0.8	0.8		
	T3 (6-months)	35	0	2	0.4	0.7		
	T4 (12-months)	32	0	2	0.4	0.7		

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Results #2

Headline	Detail
Inpatients with severe ID were prescribed more anxiolytics & hypnotics than both other groups and at higher cumulative doses than those with a mild ID	• No of anxiolytics & hypnotics differed by level of ID: ANOVA ($F(3,30) = 4.984$, $p = .006$). Tukey post hoc test revealed mean no at admission was higher for severe ID (1.67 ± 0.516) than a mild ID (0.69 ± 0.855, $p = .049$) or moderate ID (0.40 ± 0.516, $p = .010$). • At admission, % of max BNF doses of anxiolytics & hypnotics differed by level of ID: ANOVA ($F(3,30) = 4.756$, $p = .008$). Tukey post hoc test revealed the mean % was higher for people with a severe ID (87.97% ± 36.64%) than moderate ID (7.79% ± 12.23, $p = .016$)).
Inpatients with ASD were prescribed more psychotropics and at higher cumulative doses	• At admission, % of max BNF doses of all regular psychotropics were higher in ASD group: mean 159% Vs 92%. ANOVA ($F(1,32) = 5.432$, $p = .026$). Post hoc tests were not possible. • At discharge mean no of all regular psychotropics was higher in ASD group: 3.07 Vs 1.71. ANOVA ($F(1,33) = 9.247$, $p = .005$).. Again, post hoc tests were not possible.
People with ASD in the community were prescribed: • A higher cumulative dose of regular psychotropics at discharge • More PRN psychotropics 6 months post-discharge • A higher cumulative dose of regular psychotropics 12 months post-discharge	• At discharge, % of max BNF doses of all regular psychotropics was higher in the ASD group: mean 159%Vs 92%. ANOVA ($F(1,33) = 4.395$, $p = .044$). Tukey post hoc tests were not possible. • At 6 months the no of PRN psychotropics was higher in the ASD group: mean 0.64 Vs 0.20. ANOVA ($F(1,32) = 4.163$, $p = .050$). Again, Tukey post hoc tests were not possible. • At 12 months % of max BNF doses of all regular psychotropics was higher in the ASD group: mean 121% Vs 53%. ANOVA ($F(1,27) = 4.360$, $p = .046$). Tukey post hoc tests were not possible.

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Results #3

Diagnostic group	Antipsychotic medication status	Time Point			
		Admission	Discharge	6 months post-discharge	12 months post-discharge
At least one psychotic diagnosis recorded	Prescribed	7	13	10	9
	Not prescribed	3	1	3	3
	Missing data	0	0	1	2
No psychotic diagnoses recorded	***Prescribed***	***12(5)***	***13(7)***	***14(12)***	***12(6)***
	Not prescribed	13	9	8	8
	Missing data	1	0	0	2
At least one psychiatric diagnosis recorded	Prescribed	8	20	17	15
	Not prescribed	10	8	10	10
	Missing data	0	0	1	3
No psychiatric diagnoses recorded	***Prescribed***	***11(4)***	***6(3)***	***7(5)***	***6(4)***
	Not prescribed	6	2	1	1
	Missing data	1	0	0	1

NB Bracket figures are the no of those individuals with a co-morbid diagnosis of ASD

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Summary

- STOMP is **not** anti-medication, it seeks to **improve quality** of life by ensuring psychotropic medications are prescribed and monitored appropriately
- National **variation in prescribing** psychotropics to PWID hence a need for local monitoring of progress with STOMP
- Locally there was a **general downward trend** in the number, and doses of psychotropic medications prescribed to PWID
- **Inpatients with severe ID** and those with **ASD** received higher doses
- Those with **ASD** continue to receive higher doses when **in community**
- **Anti-psychotics** (which have the most problematic side-effect profile) are being prescribed to people without a corresponding diagnosis
- Again, people with **ASD are disproportionately affected**
- Local findings echo the national hypothesis that these **medications** are still being used **off-licence** to manage **concerning behaviours** in lieu of less risky non-pharmacological interventions (e.g. PBS)
- NB Statistical significance differs from clinical significance. We must not forget these people have complex needs that require an individualised response