PRESCRIBING FOR PEOPLE WITH DEMENTIA; SELECTED FINDINGS FROM POMH-UK QUALITY IMPROVEMENT PROGRAMMES (QIPS)

The Prescribing Observatory for Mental Health (POMH-UK) is a national initiative to improve the quality of prescribing practice in mental health services through audit-based quality improvement programmes (QIPs). POMH-UK is based in the Centre for Quality Improvement at the Royal College of Psychiatrists and is funded wholly through subscriptions from member Trusts (n=63 in 2016/17).

POMH-UK identifies areas of prescribing practice that are suitable for QIPs, convenes an expert steering group, agrees clinical practice standards based on NICE and other evidence-based guidelines and provides bespoke data collection tools. Audit data are collected by clinicians and clinical audit staff in participating Trusts and are submitted on-line. POMH analyse these data and provide benchmarked audit reports that allow Trusts and teams within these Trusts to compare their prescribing practice with the audit standards and with each other.

POMH-UK have conducted two QIPs that are relevant to this clinical guideline. The first focussed on the prevalence and quality of prescribing of anti-dementia medicines; baseline audit in 2007 and re-audit in 2013. The second focussed on the prevalence and quality of prescribing of antipsychotic medication; baseline audit in early 2011, re-audit in late 2012 and a supplementary audit in 2016. For all of these audits, Trusts that opted to participate were asked to provide data on a sample of people with dementia under the care of their services.

Note that POMH-UK member Trusts all provide mental health services. Audit samples are large and reported clinical practice is therefore likely to be representative of mental health services across the UK, however it cannot be generalised to other settings such as acute Trusts and primary care.

PRESCRIBING ANTI-DEMENTIA DRUGS

The clinical practice standards for this audit were derived from the NICE dementia clinical guideline (CG42; 2012).

54 Trusts participated in the re-audit, submitting data for 9180 patients, of whom 6286 (68%) were prescribed anti-dementia medication.
Performance against the audit standards at re-audit is shown in Table 1 below.

Practice against audit standards 1 and 2 was measured in the sub-sample of patients who had started anti-dementia medication in the previous 6 months (n=1,650), audit standard 3 in those who had been receiving treatment with anti-dementia medication for 7-12 months (n=927) and audit standard 4 in those who had been treated with anti-dementia medication for more than a year (n=3709).

Table 1
Prescribing anti-dementia medication: performance against the audit standards in the total national sample and variation across participating Trusts (2013 re-audit).

Standard	Proportion meeting the audit standard in the total national sample	Variation in the proportion meeting the audit standard across participating Trusts
1. Before initiating treatment with anti-dementia medication, the following should be documented:		
○ formal cognitive testing	89%	14-100%
○ medication review	78%	0-100%
○ assessment of cardiovascular risk (cholinesterase inhibitors only)	68% (pulse rate recorded) 54% (ECG documented)	0-100% 0-100%
○ the carer's view (where there is a carer)	74%	0-100%
2. Only specialists in the care of people with dementia (psychiatrists, neurologists and physicians specialising in the care of older people) should initiate treatment with an anti-dementia drug.	95%	29-100%
3. All patients who continue on an anti-dementia drug should be reviewed within 6 months of initiation and this should include documentation of:		
○ global assessment	75%	0-100%
○ functional assessment	78%	0-100%
○ behavioural assessment	78%	0-100%
○ formal assessment of cognition	63%	0-100%
○ the carer's view	71%	0-100%
4. All patients who have been prescribed an anti-dementia drug for more than 12 months should have the following documented:		
○ review of tolerability/side effects	52% (pulse rate recorded) 74% (other side effects)	0-100% 24-100%
○ carer's view of treatment	85%	0-100%

Anticholinergic burden

There is evidence to suggest that medicines with anticholinergic properties can adversely affect cognition in older people with those exposed to such medicines having both a lower MMSE score in cross-sectional samples, and showing a greater rate of cognitive decline over time (Fox et al, 2011; Fox et al, 2014; Ruxton et al, 2015; Sink et al, 2008). Several studies report that these medicines are commonly prescribed in the elderly, including for people with dementia (Fox et al, 2014; Sink et al, 2008; Johnell & Fastbom, 2008).

A number of different screening tools are used to identify anticholinergic burden (Boustani et al, 2008; Rudolph et al, 2008; Carnahan et al, 2006; Han et al, 2008; Chew et al, 2008; Ancelin et al, 2006; Ehrt et al, 2010). In the POMH-UK re-audit, we used the Anticholinergic Burden Scale (ACB: Boustani et al, 2008) to collect data relating to anticholinergic burden. The authors of this scale state that a score of 2 or 3

indicates clinically significant anticholinergic burden and that this should prompt a review of medication with the aim of reducing this burden.

1600 of 9180 (17%) of the POMH-UK re-audit sample were prescribed medication that gave a cumulative anticholinergic burden score of 2 or more and 1115 (12%) a score of 3 or more. Of these 1115 cases, the medicines that most commonly contributed to this high anticholinergic burden score can be seen in Table 2. This table also shows the burden associated with these medicines as defined by other anticholinergic burden scales

Table 2
Most commonly prescribed medicines with anticholinergic effects in the POMH re-audit sub-sample (n=1115: representing 12% of the total national sample of people with dementia) with a high anticholinergic burden score

Medicine	Anticholinergic burden risk scales							Proportion of patients prescribed medicine in POMH-UK sample (AC burden >3 on ACB scale)
	ACB (2012)	ARS (2008)	ADS (2015)	Han (2008)	Chew (2008)	Ancelin (2010)	Ehrt (2010)	
Amitriptyline	3	3	3	3	3	3	3	20%
Quetiapine	3	1	2	2	1		1	19%
Furosemide	1		0		1	3	1	14%
Olanzapine	3	2	3	1	2		2	13%
Solifenacin	3		3					11%
Warfarin	1				0		0	9%
Codeine	1		0	1	0	2	0	8%
Digoxin	1		0		1	3	1	8%
Atenolol	1		0	1	0		0	7%
Diazepam	1		0	1	1		1	6%
Trazodone	1	1	0	1	0			6%
Isosorbide	1		1					6%
Risperidone	1	1	0	1	0			6%
Tolteridone	3	2	3	3	3			5%
Oxybutynin	3	3	3		2	3	3	5%
Carbamazepine	2			1	0			4%
Paroxetine	3	1	2	2	2		2	4%

Conclusions from this QIP

- Medicines with a high anticholinergic burden are prescribed for a small proportion of people with dementia. Given that medication review was conducted prior to initiating anti-dementia medication in a high proportion of patients, this prescribing is likely to be inadvertent. A small number of medicines are responsible for the most of the anticholinergic burden and alternative medicines that have fewer or no anticholinergic effects are available for many of these high effect drugs.
- Services are generally good at involving carers in decisions about anti-dementia medicines, but are less assiduous in completing physical health checks and assessing for side effects of anti-dementia medicines.

PRESCRIBING ANTIPSYCHOTIC MEDICATION FOR PEOPLE WITH DEMENTIA

The clinical practice standards for this audit were derived from the NICE dementia clinical guideline (CG42; 2012).
53 Trusts participated in the baseline audit, submitting data for 10199 patients, 16% of whom were prescribed anti-psychotic medication in the absence of a diagnosed co-morbid psychotic illness. The respective figures at re-audit and supplementary audit were 51 Trusts, 12799 patients (13% prescribed antipsychotics) and 58 Trusts, 10199 patients (15% prescribed antipsychotic medication) respectively. Performance against the audit standards at each of the 3 audits is shown in Table 3 below.

Practice against audit standards 1 was measured in all patients, audit standards 2-4 in the sub-sample of patients who had started anti-psychotic medication in the previous 3 months and audit standard 5 in those who had been receiving treatment with anti-psychotic medication for more than 6 months.

Table 3
Prescribing antipsychotic medication for people with dementia: performance against the audit standards in the total national sample and variation across participating Trusts (2016 supplementary audit re-audit).

Standard	Proportion meeting standard (variation across Trusts)		
	Baseline audit (2011)	Re-audit (2012)	Supplementary audit (2016)
1. The clinical indications (target symptoms) for antipsychotic treatment should be clearly documented in the clinical records	97% (50%-100%)	97% (67%-100%)	96%* (73%-100%)
2. Before prescribing antipsychotic medication for BPSD, likely factors that may generate, aggravate or improve such behaviours should be considered.	80% (0%-100%)	74% (0%-100%)	72% (0%-100%)
3. The potential risks and benefits of antipsychotic medication should be considered and documented by the clinical team, prior to initiation.	43% (0%-100%)	54% (0%-100%)	55% (0%-100%)
4. The potential risks and benefits of antipsychotic medication should be discussed with the patient and/or carer(s), prior to initiation	49% (0%-100%)	61% (0%-100%)	61% (0%-100%)
5. Medication should be regularly reviewed, and the outcome of the review should be documented in the clinical records. The medication review should take account of			
○ therapeutic response and	76% (21%-100%)	76% (0%-100%)	81% (29%-100%)
○ possible adverse effects	47% (0%-100%)	54% (0%-100%)	58% (7%-100%)

*With respect to audit standard 1, the clinical reasons for initiating antipsychotic medication at supplementary audit (in descending order and not mutually exclusive) were; agitation (50%), physical aggression (42%), evident or assumed psychotic symptoms (38%), verbal aggression (36%), distress (26%), resisting help with activities of daily living (16%), known psychotic illness (12%), disturbed

sleep (12%), wandering (12%), fear/anxiety (10%), disinhibited behaviour (8%), depression/low mood (7%). In 4% of cases the clinical rationale was unclear.

Conclusions

- There was no notable change in the prevalence of prescribing of antipsychotic medication for people with dementia over the timeframe of this QIP.
- There is no evidence of widespread use of antipsychotic medication outside guideline recommendations.
- Modest improvements were seen over the course of the QIP in the documentation of risks associated with antipsychotic medication and in the discussion of these risks with carers.
- There was no documented review of the on-going risks and benefits of antipsychotic treatment in more than two-fifths of patients

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