Supplemental Table 2. Summary of adherence and persistence rates and determinants

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Brostrøm and Hallas (2009)[1]	Proportion of patients continued (all drugs except trospium chloride): <50% at 6 months <25% at 1 year <10% at ≥2 years Proportion of patients continued trospium: 46% at 6 months 36% at 1 year 22% at 2 years 16% at 3 years	Not reported	***Gender, age, medication dose, treatment status, medication type*** Retention was longer: in females; in older people; with higher doses; with previous experience of other OAB drugs; trospium vs other OAB drugs
Chancellor et al (2013)[2]	Proportion of patients discontinued at 2 years:[a] tolterodine ER: 84.7% solifenacin: 85.2% oxybutynin: 91.1% darifenacin: 85.7% oxybutynin ER: 84.0% tolterodine: 85.1% trospium: 88.1% trospium ER: 87.1% Proportion of patient switched at 2 years:[a] tolterodine ER: 5.7% solifenacin: 5.2% oxybutynin: 4.7% darifenacin: 6.0% oxybutynin ER: 6.7% tolterodine: 9.7% trospium: 6.9% trospium ER: 6.4%	Proportion of patients with MPR ≥0.80 over study period (in those filling >1 prescription): tolterodine ER: 51.1% solifenacin: 49.4% oxybutynin: 30.1% darifenacin: 51.9% oxybutynin ER: 51.8% tolterodine: 42.6% trospium: 42.4% trospium ER: 54.3%	Not reported

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Chapple et al (2017)[3]	Median time to discontinuation (days): mirabegron: 169 darifenacin: 56 fesoterodine: 78 flavoxate: 30 oxybutynin ER: 60 oxybutynin IR: 35 propiverine: 56 solifenacin: 67 tolterodine ER: 56 trospium chloride: 60 Proportion of patients persistent at 1 year: mirabegron: 38% darifenacin: 16% fesoterodine: 24% flavoxate: 8.3% oxybutynin ER: 17% oxybutynin IR: 12% propiverine: 21% solifenacin: 25% tolterodine ER: 21% trospium chloride: 19%	Mean (SD) MPR at 1 year: mirabegron: 0.59 (0.33) darifenacin: 0.46 (0.34) fesoterodine: 0.53 (0.33) flavoxate: 0.44 (0.32) oxybutynin ER: 0.49 (0.32) oxybutynin IR: 0.41 (0.32) propiverine: 0.51 (0.32) solifenacin: 0.53 (0.34) tolterodine ER: 0.50 (0.34) trospium chloride: 0.48 (0.33) Proportion of patients with MPR ≥0.8 at 1 year: mirabegron: 43% darifenacin: 29% fesoterodine: 35% flavoxate: 24% oxybutynin ER: 31% oxybutynin IR: 22% propiverine: 25% solifenacin: 35% tolterodine ER: 32% trospium chloride: 29%	***Medication type*** Mirabegron was associated with a statistically significantly greater median time to discontinuation (adjusted HR range 1.31–2.31; p<0.0001 all comparisons) and 12-month persistence rates (adjusted OR range 0.18–0.71; p≤0.0001 all comparisons) vs antimuscarinics in all patients The mean MPR with mirabegron was significantly greater vs antimuscarinics in all patients (p values 0.03 to <0.0001), and in treatment-naïve subcohorts, except for flavoxate (p values 0.02 to <0.0001)

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Desgagné et al (1999)[4]	Proportion of patients refilled initial prescription: Short-term[b]; oxybutynin: 39.3% flavoxate: 36.6% Long-term[c]; oxybutynin: 63.9% flavoxate: 55.5% Proportion of patients discontinued at 3 months: oxybutynin: 78% flavoxate: 83% Proportion of patients discontinued at 6-months: oxybutynin: 89% flavoxate: 94% Proportion of patients switched at 4-years: Patients without renewal of the original claim: oxybutynin: 1.3% flavoxate: 3.1% Patients with any number of renewals before switch: oxybutynin: 2.2% flavoxate: 5.9%	Not reported	***Age*** Compared with patients aged <77.5 years, those who were older were less likely to discontinue vs: 77.5–83.5 years: RR 0.90, 95% CI 0.85–0.96, p<0.001 >83.5 years: RR 0.86, 95% CI 0.81–0.92, p<0.001 ***Medication dose*** Higher quantity of tablets per day (2–4 tablets/day) was associated with increased risk of early discontinuation, compared with low daily quantity (1 tablet per day) (RR 1.45, 95% CI 1.37–1.53, p<0.001) ***Medication type*** Patients receiving flavoxate had an increased risk of discontinuation compared with those receiving oxybutynin (RR 1.13, 95% CI 1.05–1.22, p<0.001)

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
D'Souza et al (2008)[5]	Proportion of patients persistent at 1 year (without a gap >45 days): oxybutynin ER: 15.3% oxybutynin IR: 6.5% tolterodine ER: 15.0% tolterodine IR: 11.4% overall: 13.2% Proportion of patients not refilled index medication: oxybutynin ER: 39.4% oxybutynin IR: 59.3% tolterodine ER: 42.7% tolterodine IR: 46.1% overall: 44.5% Median time to discontinuation (days): oxybutynin ER: 34 oxybutynin IR: 0 tolterodine IR: 32 tolterodine ER: 33 overall: 31 Proportion of patients switched at 1 year: oxybutynin ER: 16.5% oxybutynin IR: 19.4% tolterodine IR: 13.7% tolterodine ER: 9.9% overall: 13.3%	Proportion of patients with MPR ≥0.80 at 1 year: oxybutynin ER: 36.1% oxybutynin IR: 14.8% tolterodine ER: 35.2% tolterodine IR: 23.5% overall: 30.3%	***Medication formulation*** Adherence with IR drugs approximately half that for ER drugs (OR 0.504, 95% CI 0.306–0.704, p<0.001) ***Age*** Patients aged ≥65 years were 1.5 times more likely to achieve an MPR ≥0.80 than patients aged <65 years

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Gomes et al (2012)[6]	Median time to discontinuation (days): oxybutynin: 68 tolterodine: 128 Proportion of patients persistent at: 6 months oxybutynin: 30.6% tolterodine: 42.9% 1 year oxybutynin: 18.9% tolterodine: 27.3% 18 months oxybutynin: 13.1% tolterodine: 18.9% 2 years: oxybutynin: 9.4% tolterodine: 13.6%	Not reported	***Medication type*** Over the 2-year follow-up, the time to discontinuation was longer with tolterodine than oxybutynin (p<0.0001)

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Gopal et al (2008)[7]	Over 3 years, 91% of 49,419 episodes of medication prescription resulted in discontinuation Cumulative incidence of discontinuation at 6 months, 1 year, 2 years and 3 years (unadjusted): Overall: 58.8, 77.2, 87.5, 92.0% Cumulative incidence of discontinuation, at 6 months, 1 year, 2 years and 3 years (adjusted for age, year of initiation, switch, number of previous drug classes, number of prior episodes and smoking status): oxybutynin: 71, 86, 94, 96% oxybutynin ER: 57, 80, 93, 97% tolterodine: 61, 81, 92, 95% tolterodine ER: 54, 76, 91, 97% trospium: 56, 80, 94, 98% propiverine: 61, 84, 95, 98% solifenacin: 53, 91, 98, 99% terodiline: 89, 99%, N/A, N/A flavoxate: 85, 96, 99, 99% Median time to discontinuation (months): oxybutynin: 4.67 oxybutynin ER: 5.13 tolterodine: 5.47 tolterodine ER: 5.37 trospium: 5.47 propiverine: 5.43 solifenacin: 5.00 terodiline: 4.00 flavoxate: 4.00 overall: 4.76 Overall switch rate: 15%	Not reported	***Medication formulation*** In comparison with the multiple-dosing drug classes at 6 months, both oxybutynin ER (57%, 95% CI 55.1–59.2) and tolterodine ER (54%, 95% CI 52.3–57.4) had lower incidences of discontinuation ***Medication type*** Trospium and tolterodine were associated with the longest median time to discontinuation (5.47 months each), followed by propiverine (5.43 months) and solifenacin (5.0 months). Terodiline and flavoxate had the shortest median time to discontinuation (4 months each)

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Ivanova et al (2014)[8]	Proportion of patients discontinued at 6 months: 61.0% Proportion of patients switched at 6 months: 8.0% Proportion of patients persistent at 6 months: 31.0% Proportion of patients discontinued at 6 months: oxybutynin: 30.6% tolterodine: 30.5% solifenacin: 24.5% darifenacin: 8.4% trospium: 4.1% fesoterodine: 1.9% Mean time to discontinuation: 54.7 days 42.7% of patients never refilled their indexed prescription	Not reported	***Age*** Patients who discontinued (50.5 years) or switched (52.6 years) medication were significantly younger than those who persisted (53.4 years; p<0.001) Increasing age was associated with reduced odds of discontinuation (adjusted OR 0.97, 95% CI 0.96–0.97, p<0.0001) ***Gender*** Being male was associated with greater odds of discontinuation (adjusted OR 1.11, 95% CI 1.00–1.23, p=0.0475) ***Medication type*** Patients who persisted with medication contained a significantly higher proportion of solifenacin users than those in groups who switched or discontinued (30.1% vs 19.7% vs 24.5%, respectively, p<0.001) and a lower proportion of oxybutynin (22.6% vs 29.6% vs 30.6%, respectively, p<0.001) Compared to patients treated with solifenacin, patients were significantly more likely to discontinue when treated with tolterodine (adjusted OR 1.30, 95% CI 1.16–1.45, p<0.0001) or oxybutynin (adjusted OR 1.80, 95% CI1.59–2.03, p<0.0001) ***Presence of infection*** Patients with UTI were more likely to discontinue compared with those without UTI (adjusted OR 1.31, 95% CI 1.19–1.45, p<0.0001) ***Financial burden*** Patients with lower log of baseline OAB-related costs were more likely to discontinue (adjusted OR 0.96, 95% CI 0.94–0.98, p<0.0001)

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Johnston et al (2012)[9]	Mean time of continuation at 1 year (days): diabetic: 164 not diabetic: 146.9 (p<0.001 difference) Proportion of patients discontinued at 1 year: diabetic: 71.5% not diabetic: 76.2% (p<0.001 difference)	Mean MPR at 1 year; diabetic: 0.473 not diabetic: 0.424 (p<0.001 difference)	***Age and gender*** The odds of adherence generally increase with age, and females had higher odds of adherence than men ***Diabetes*** The diabetes cohort had greater odds of achieving an MPR ≥0.80 (OR 1.215, 95% CI 1.169–1.263, p<0.0001) vs non-diabetes cohort during the 12-month evaluation period The diabetes cohort had greater odds of filling a second OAB medication prescription (OR 1.166, 95% CI 1.127–1.205, p<0.0001) vs non-diabetes cohort during the 12-month evaluation period

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Kalder et al (2014)[10]	Proportion of patients discontinued at: 1 year: 74.8% 2 years: 77.6% 3 years: 87%	Not reported	***Gender*** At 3 years, there was a significantly higher risk of discontinuation in male than female patients (HR 1.14, 95% CI 1.11–1.18, p<0.001) ***Age*** Discontinuation was higher in younger patients than older patients: ≤60 years: 89.7% 61–70 years: 87.9% 71–80 years: 86.8% >80 years: 83.0% ***Prescriber's profession*** Discontinuation rate was higher in patients treated by gynecologists and general practitioners compared with urologists (HR 1.60 [95% CI 1.52–1.67] p<0.001; HR 1.24 [95% CI 1.20–1.29] p<0.001) ***Side effects*** A higher risk of discontinuation in patients experiencing side effects: headache: HR 1.27, 95% CI 1.12–1.43, p=0.002 stomach upset: HR 1.20, 95% CI 1.12–1.27, p<0.001 glaucoma: HR 1.46, 95% CI 1.16–1.84, p<0.001 ***Medication type*** Patients using propiverine (HR 0.94, 95% CI 0.88–0.99, p=0.022) or solifenacin (HR 0.93, 95% CI 0.87–0.98, p=0.003) had a significantly lower risk of treatment discontinuation compared with oxybutynin. However, the absolute difference was relatively small ***Comorbidities*** Diabetes, Parkinson's disease, epilepsy, dementia, and multiple sclerosis was associated with a lowered risk of treatment discontinuation A prior diagnosis of migraine was associated with a higher risk of treatment discontinuation

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Kleinman et al (2014)[11]	Median time until a ≥30-day medication gap: 64 days Proportion of patients persistent: beyond 1 month: 70% at 9 months: 10% at 1 year: 5%	Proportion of patients with PDC ≤10% at 1 year: 45.4% Proportion of patients with PDC ≥80% at 1 year: 12.7%	***Gender*** Compared to the group with PDC ≥80%, the group with PDC <80% contained a lower proportion of females (69.5% vs 76.3%, p=0.006) ***Age*** Compared to those with PDC ≥80%, patients with PDC <80% were younger (mean age: 46.18 years vs 49.79 years, p<0.001) ***Race*** Compared to the group with a PDC ≥80%, the group with PDC <80% contained a lower proportion of White patients (38.6% vs 50.0%, p<0.001) and higher proportion of Black and Hispanic patients (6.7% vs 3.7%, p=0.025; 11.6% vs 6.3%, p=0.002) ***Medication co-payment*** Compared to the group with a PDC ≥80%, those with PDC <80% paid a higher mean medication co-payment ($20.15 vs $14.68, p<0.001)
Krhut et al (2014)[12]	Median (SD) time to discontinuation: 6.53 (3.84) months Proportion of patients persistent at: 3 months: 59.7% 6 months: 39.3% 9 months: 33.6% 1 year: 27.2%	Not reported	***Medication type*** Persistence was significantly higher in patients treated with anticholinergic medication with an ER formulation than in patients treated with IR anticholinergics (ER: 7.10 [SD 3.90] months vs IR: 6.18 [SD 3.75] months, p=0.023)
Manack et al (2011)[13]	Mean (SD) duration of therapy: 201.9 (120.9) days Proportion of patients that: continued OAB medication ≥1 year: 28.9% discontinued OAB medication and did not restart[d]: 37.5% discontinued and restarted OAB medication[e]: 33.5%	Not reported	Not reported

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Mauseth et al (2013)[14]	Proportion of patients persistent at 1 year: tolterodine: 39.0% solifenacin: 39.4% darifenacin: 34.3% fesoterodine: 29.1% overall: 38.0% Proportion of patients switched at 1 year: tolterodine: 12.0% overall: 10.3% Proportion of patients filled only one prescription: 31.9%	Mean MPR at 1 year: 0.62[f] Proportion of patients with MPR ≥0.80[f] at 1 year: tolterodine: 33.7% solifenacin: 35.7% darifenacin: 37.0% fesoterodine: 38.5% overall: 35.2%	***Age*** Persistence was lowest in the age group 18–39 years (20.9%), generally increased with age, and was highest in the age groups 70–79 years (43.5%) and ≥80 years (43.3%) ***Medication type*** At 1 year, persistence was highest for tolterodine (39.0%) and solifenacin (39.4%), both of which entered the market first. Persistence for darifenacin and fesoterodine, which were launched later, was 34.3% and 29.1%, respectively
Nitti et al (2016)[15]	Proportion of patients persistent at: 1 month; mirabegron: 68.4% tolterodine ER: 47.1% 3 months; mirabegron: 48.7% tolterodine ER: 28.6% 6 months; mirabegron: 34.7% tolterodine ER: 18.5% Median persistence (days): mirabegron: 170 tolterodine ER: 90	Not reported	***Age*** Compared with patients aged <65 years, patients aged ≥65 years were less likely to discontinue over 6 months with tolterodine (HR 0.88, 95% CI 0.80–0.96, p=0.0064) and mirabegron (HR 0.68, 95% CI 0.52–0.90, p=0.0068) ***Prior treatment*** Compared to patients without prior use of OAB medication, patients with prior OAB medication use were less likely to discontinue over 6 months with tolterodine (HR 0.76, 95% CI 0.68–0.85), p<0.0001) and mirabegron (HR 0.68, 95% CI 0.53–0.88, p=0.0025) ***Medication type*** The risk of discontinuation was lower with mirabegron compared with tolterodine (HR 0.72, 95% CI 0.61–0.85, p<0.0001)
Pelletier et al (2009)[16]	Not reported	Mean cohort PDC at 1 year: 0.32 Proportion of patients with PDC ≥0.80 at 1 year: 14.4%	***Demographics (gender, age, comorbidities)***[g] Female and older subjects were more likely to adhere. Those with a history of hypertension, diabetes, or multiple sclerosis were more adherent. Subjects with COPD were less adherent

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Perfetto et al (2005)[17]	Cumulative discontinuation rates at: 1 month; tolterodine ER: 6% oxybutynin ER: 11% 3 months; tolterodine ER: 55% oxybutynin ER: 62% 6 months; tolterodine ER: 69% oxybutynin ER: 76% 11 months; tolterodine ER: 79% oxybutynin ER: 85% Overall, at 11 months, 21% of patients remained on tolterodine ER and 15% of patients remained on oxybutynin ER	Not reported	Not reported
Sears et al (2010)[18]	Proportion of patients without prescription refills over 3 years: 35.1% Median persistence (days): overall: 273 patients with at least 1 refill: 582 Overall medication persistence duration was 273 days when all cases were analyzed and 582 days when those with at least 1 refill were analyzed	Median MPR at 3 years: oxybutynin 5 mg IR: 0.68 oxybutynin 5 mg ER: 0.83 oxybutynin 10 mg ER: 0.84 tolterodine 1 mg IR: 0.71 tolterodine 2 mg IR: 0.73 tolterodine 2 mg ER: 0.88 tolterodine 4 mg ER: 0.89 overall: 0.82 Proportion of patients with MPR ≥0.80 at 3 years: 34.0%	***Gender*** Male patients had a higher median MPR than female patients (0.86 vs 0.81, p<0.001) Medication adherence was higher in males than in females (0.370 vs 0.328, p<0.001) Of patients refilling their prescription at least once, the median number of days persisted was longer in females than in males (606.0 days vs 547.0 days, p=0.01) ***Medication type*** Of patients refilling their prescription at least once, median medication persistence was longest in 5 mg oxybutynin IR (634 days, 95% CI 596.1–671.9) and lowest with 10 mg oxybutynin ER (504 days, 95% CI 137.0–871.0)

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Sicras-Mainar et al (2016)[19]	Proportion of patients persistent (without switching or experiencing a gap of >60 days) at: 6 months; fesoterodine: 71.4% solifenacin: 67.1% tolterodine: 64.8% 1 year; fesoterodine: 40.2% solifenacin: 34.7% tolterodine: 33.6%	Mean MPR at 1 year was: 0.880, 0.877 or 0.875, depending upon geographical location	***Medication type*** Persistence at 6 months and 1 year was statistically significantly higher with fesoterodine than solifenacin and tolterodine ($p<0.05$). Persistence at 1 year was significantly lower with solifenacin than fesoterodine ($p<0.01$)
Sicras-Mainar et al (2015)[f,20]	Proportion of patients persistent at: 3 months: 86.2% 6 months: 67.6% 9 months: 48.4% 1 year: 35.9% Mean (SD) treatment duration (without stopping, switching or a gap >30 days): fesoterodine: 8.1 solifenacin: 7.8 tolterodine: 7.7 overall: 7.9	Mean MPR at 1 year: fesoterodine: 0.900 solifenacin: 0.870 tolterodine: 0.861 overall: 0.877	Not reported
Sicras-Mainar et al (2014)[21]	Proportion of patients persistent (without switching or experiencing a gap of >30 days): 3 months; fesoterodine: 94.8% solifenacin: 76.2% tolterodine: 70.8% 6 months; fesoterodine: 70.7% solifenacin: 59.5% tolterodine: 57.1% 1 year; fesoterodine: 46.6% solifenacin: 36.5% tolterodine: 33.5%	Mean MPR at 1 year: fesoterodine: 0.907 solifenacin: 0.935 tolterodine: 0.936	***Medication type*** At 3 months, persistence was higher with fesoterodine than with tolterodine and solifenacin

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Sicras-Mainar et al (2014)[g,22]	Proportion of patients persistent at 1 year: fesoterodine: 35.8% solifenacin: 31.9% tolterodine: 30.9%	Mean MPR at 1 year: fesoterodine: 0.937 solifenacin: 0.948 tolterodine: 0.935	***Medication type*** The mean duration of treatment was numerically higher with fesoterodine compared to solifenacin and tolterodine, but no statistical between-medication differences were found. However, adjusted HRs for remaining on treatment at 1 year significantly favored fesoterodine compared with solifenacin (HR 1.24 [95% CI 1.05–1.47]; p=0.011) and tolterodine (HR 1.28 [95% CI 1.07–1.52]; p=0.006)
Sicras-Mainar et al (2013)[g,23]		Mean MPR at 1 year: fesoterodine: 0.945 solifenacin: 0.954 tolterodine: 0.946	***Medication type*** The mean duration of treatment was numerically higher with fesoterodine compared to solifenacin and tolterodine, but no statistical between-medication differences were found
Suehs et al (2016)[24]	Proportion of patients not refilling their index medication: PIM: 41.4% Non-PIM: 47.8% (p<0.01) Mean number of days persistent (before discontinuation or experiencing a gap >15 days): PIM: 87.6 Non-PIM: 80.9 (p<0.001) Proportion of patients persistent at: 3 months; PIM: 23.9% Non-PIM: 20.3% 6 months; PIM: 13.2% Non-PIM: 11.4% 1 year; PIM: 5.1% Non-PIM: 4.5% (all p<0.001 differences)	Mean PDC at: 3 months; PIM: 0.62 Non-PIM: 0.59 6 months; PIM: 0.45 Non-PIM: 0.42 1 year; PIM: 0.32 Non-PIM: 0.30 (all p<0.001 differences) Proportion of patients with PDC ≥0.80: 3 months; PIM: 37.0% Non-PIM: 35.0% 6 months; PIM: 23.3% Non-PIM: 19.7% 1 year; PIM: 12.7% Non-PIM: 10.7% (all p<0.001 differences)	***Medication use appropriateness*** At 1 year, there was no statistical difference between PIM status and OAB treatment discontinuation in the multivariable adjusted model based on the primary analysis definition (15-day definition OR 0.977, 95% CI 0.891–1.072, p=0.63; 30-day definition OR 0.939, 95% CI 0.871–1.013, p=0.10)

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Sussman et al (2017)[25]	Proportion of patients discontinued at 1 year (gap of ≥30 days): mirabegron: 67.1% anticholinergic: 84.1% Median time to discontinuation (days): mirabegron: 131 anticholinergic: 30	Mean PDC: mirabegron: 0.66 anticholinergic: 0.55 Proportion of patients with PDC ≥0.80 at 1 year: mirabegron: 43.6% anticholinergic: 30.9%	***Medication type*** Users of mirabegron appeared to achieve greater persistence and adherence at 1 year than users of anticholinergics

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Wagg et al (2012)[26]	Time (days) to discontinuation (or a gap >1.5 times the length of the previous prescription without a refill): darifenacin: 135.9 flavoxate: 77.4 oxybutynin ER: 146.7 oxybutynin IR: 119.3 propiverine: 141.1 solifenacin: 158.7 (5 mg); 216.0 (10 mg) tolterodine ER: 156.7 tolterodine IR: 151.7 trospium: 138.5 Proportion of patients persistent at 3 months: darifenacin: 52% flavoxate: 28% oxybutynin ER: 44% oxybutynin IR: 40% propiverine: 47% solifenacin: 58% tolterodine ER: 47% tolterodine IR: 46% trospium: 42% Proportion of patients persistent at 6 months: darifenacin: 30% flavoxate: 16% oxybutynin ER: 35% oxybutynin IR: 29% propiverine: 36% solifenacin: 46% tolterodine ER: 36% tolterodine IR: 33% trospium: 33% Proportion of patients persistent at 1 year: darifenacin: 17.4% flavoxate: 13.5% oxybutynin ER: 26.1% oxybutynin IR: 21.7% propiverine: 26.8% solifenacin: 35% tolterodine ER: 28.2% tolterodine IR: 24.1% trospium: 25.9%	Not reported	***Age*** Over 1 year, the majority of patients aged ≥60 years were more likely to persist than younger patients. Graphical results only ***Medication type*** Patients receiving solifenacin spent the longest mean duration on therapy compared with other OAB medications

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Wagg et al (2015)[27]	Proportion of patients persistent at 1 year (without switching or experiencing a gap ≥30 days): mirabegron: 31.7% fesoterodine: 21.0% oxybutynin ER: 18.9% oxybutynin IR: 13.8% solifenacin: 22.0% tolterodine ER: 19.7% Median duration of treatment (days): mirabegron: 221 solifenacin: 108 fesoterodine: 100 tolterodine ER: 100 oxybutynin ER: 100 oxybutynin IR: 75 Proportion of patients persistent at 1 year: treatment-naïve:19.0% treatment-experienced: 30.0% Median days on therapy: treatment-naïve: 90 treatment-experienced: 205	Median MPR at 1 year: mirabegron: 0.645 fesoterodine: 0.492 oxybutynin ER: 0.328 oxybutynin IR: 0.186 solifenacin: 0.459 tolterodine ER: 0.454	***Age*** As age increased, median MPR increased for OAB medications: <46 years: 0.273 45–64 years: 0.372 ≥65 years: 0.492 (p<0.001 difference compared to ≥65 years) ***Treatment status*** Patients with prior experience of OAB medication use achieved a higher MPR than treatment-naïve patients (0.546 vs 0.328, p<0.001) ***Medication type*** Compared with antimuscarinics, patients taking mirabegron demonstrated greater persistence and statistically significantly greater adherence (64.5% vs 18.6%–49.2%, p<0.001) than those taking antimuscarinics

Author (year)	Persistence*	Adherence*	Determinants of persistence and adherence
Wagg et al (2015)[28]	Proportion of patients persistent at 6 months: <40% Proportion of patients discontinued at 4 years: oxybutynin: 93% tolterodine IR: 90% tolterodine ER: 90% solifenacin: 90% darifenacin: 91% trospium: 94% flavoxate: 98% overall: 91.4% Median duration of first-line treatment (days): oxybutynin: 60 tolterodine IR: 90 tolterodine ER: 100 solifenacin: 106 darifenacin: 91 trospium: 90 flavoxate: 10	Not reported	***Medication type*** Initial treatment with solifenacin, darifenacin, tolterodine ER and tolterodine was associated with a significantly lower risk of discontinuation compared with oxybutynin as the first medication (HRs 0.68, 0.72, 0.77 and 0.84, respectively; p<0.001 vs oxybutynin for each) Patients receiving flavoxate as initial treatment had a significantly higher risk of discontinuation compared with those who received oxybutynin (HR 2.48, p<0.0001) There was no statistically significant difference in the risk of discontinuation with trospium as first-line compared with oxybutynin (p=0.1074) ***Age*** Compared with patients aged 40–64 years, patients aged <20, 20–39, 65–74 and ≥75 years had a higher risk of discontinuation (HRs 1.08–1.19, all p≤0.0022) ***Gender*** Males had a slightly higher risk of discontinuation than females (HR 1.03, 95% CI 1.00–1.06, p=0.0341)
Yeaw et al (2009)[29]	Proportion of patients remaining on therapy (without a refill gap >60 days) at: 6 months: 28% 1 year: 18%	Proportion of patients with mean MPR at 1 year: 35%	Not reported
Yu et al (2005)[30]	Proportion of patients without index prescription refill within the first 6 months: 36.9% Proportion of patients discontinued at: 1 month: 42.7% 2 months: 66.8% 5 months days: 77.6% 9 months: 86.3% At a 1-year follow-up, the rate of discontinuation was increased to 88.6%	Mean MPR at: 6 months: 0.34 1 year: 0.22 Proportion of patients with MPR ≥0.80 at: 6 months: 4.9% 1 year: 0.7%	***Medication type*** Compared with oxybutynin, patients receiving tolterodine were less likely to have discontinued at 6 months (HR 0.74, 95% CI 0.67–0.81, p<0.01) ***Polypharmacy*** The use of multiple drugs was associated with a higher risk of discontinuation by the 6-month follow up (HR 1.26, 95% CI 1.09–1.46, p<0.01) Other significant predictors of higher persistence included: White ethnicity, previous hospitalization length, and starting treatment with tolterodine

CI = confidence interval; COPD = chronic obstructive pulmonary disease; ER = extended release; HR = hazard ratio; IR = immediate release; MPR = medication possession ratio; OAB = overactive bladder; OR = odds ratio; PIM = potentially inappropriate medication; PDC = proportion of days covered; RR = risk ratio; SD = standard deviation; UTIs = urinary tract infections

*In cases where reported values differ from published values, they were derived from the published data; [a]cohort discontinuation percentages are also quoted for 3, 6, 12 and 18 months. However, these figures included some non-oral OAB medications. Therefore, these have not been included; [b]within 1.5x the duration of the initial prescription; [c]over a 4-year period; [d]stopped receiving an OAB medication for ≥6 months between end of therapy and end of the study's eligibility period; [e]stopped receiving an OAB medication for <6 months before restarting an OAB medication; [f]patients who filled only one prescription were given an MPR of zero; [g]no exact figures were quoted within the article text

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