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Original Study

Optimizing Practices, Use, Care and Services—Antipsychotics (OPUS-AP) in Long-term Care Centers in Québec, Canada: A Strategy for Best Practices

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A B S T R A C T

Objectives: Antipsychotic medications are often used for the first-line management of behavioral and psychological symptoms of dementia (BPSD) contrary to guideline recommendations. The Optimizing Practices, Use, Care and Services—Antipsychotics (OPUS-AP) strategy aims to improve the well-being of long-term care (LTC) residents with major neurocognitive disorder (MNCD) by implementing a resident-centered approach, nonpharmacologic interventions, and antipsychotic deprescribing in inappropriate indications.
Design: Prospective, closed cohort supplemented by a developmental evaluation.
Setting and Participants: Residents of designated wards in 24 LTC centers in Québec, Canada.
Methods: Provincial guidelines were disseminated, followed by the implementation of an integrated knowledge translation and mobilization strategy, including training, coaching, clinical tools, evaluation of clinical practices, and a change management strategy. Antipsychotic, benzodiazepine, and antidepressant prescriptions; BPSD; and falls were evaluated every 3 months, for 9 months, from January to October

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2018. Semistructured interviews (n = 20) were conducted with LTC teams to evaluate the implementation of OPUS-AP.
Results: Of 1054 residents, 78.3% had an MNCD diagnosis and 51.7% an antipsychotic prescription. The cohort included 464 residents with both MNCD and antipsychotic prescription. Antipsychotic deprescribing (cessation or dose decrease) was attempted in 220 of the 344 residents still admitted at 9 months. Complete cessation was observed in 116 of these residents (52.7%) and dose reduction in 72 (32.7%), for a total of 188 residents (85.5%; 95% confidence interval: 80.1%, 89.8%). A decrease in benzodiazepine prescriptions and improvements in Cohen-Mansfield Agitation Inventory scores were observed among residents who had their antipsychotics deprescribed. Caregivers and clinicians expressed satisfaction as a result of observing an improved quality of life among residents.
Conclusions and Implications: Antipsychotic deprescribing was successful in a vast majority of LTC residents with MNCD without worsening of BPSD. Based on this success, phase 2 of OPUS-AP is now under way in 129 LTC centers in Québec.

Antipsychotic medications are prescribed for the management of behavioral and psychological symptoms of dementia (BPSD) in patients with major neurocognitive disorders (MNCD) despite best-practice recommendations that underscore their association with increased mortality and stroke.[1,2] The benefit-to-risk ratio is particularly unfavorable in this indication, for which antipsychotics have a weak and limited efficacy.[3–6] International guidelines recommend the implementation of nonpharmacologic interventions as first-intention and restrict antipsychotics in MNCD to severe psychotic symptoms or aggressiveness.[3–6]

Although reducing use of antipsychotics in the long-term care (LTC) setting has proven difficult over the years, international and national initiatives are starting to bear fruit.[5,7–9] The implementation of the National Partnership to Improve Dementia Care in Nursing Homes in the United States contributed to a reduction in antipsychotic use in nursing homes from 23.9% in 2011 to 16% in 2016.[7] In Canada, the Canadian Foundation for Healthcare Improvement's (CFHI) pan-Canadian Appropriate Use of Antipsychotics initiative, and other provincial initiatives, reduced the inappropriate use of antipsychotics in LTC centers from 34% in 2010 to 28% in 2015.[8,9] Contrary to these positive results, the implementation of the National Dementia Strategy in the United Kingdom had no impact (18% in 2009 to 19% in 2012) on the use of antipsychotics in LTC.[10] Between 2006 and 2009, despite expert consensus guidelines and just after the antipsychotic black-box warning on death and stroke was published, a 13.3% increase in the number of antipsychotic prescriptions was observed in the province of Québec, Canada, for all individuals with MNCD.[11] This suggests that expert consensus guidelines are insufficient to change clinical practices and that other kinds of initiatives are needed.

Improving best practices in terms of BPSD management and antipsychotic use is a priority of the Ministry of Health and Social Services in Québec. In 2017, they launched the Optimizing Practices, Use, Care and Services-Antipsychotics (OPUS-AP) strategy in partnership with CHFI. We report the results of phase 1 of OPUS-AP, conducted in 24 LTC centers in Québec, to improve resident care through the systematic implementation of (1) resident-centered approaches to care, (2) nonpharmacologic interventions for the management of BPSD, and (3) systematic mediation reviews for all residents with antipsychotic prescriptions and antipsychotic deprescribing in inappropriate indications. We also describe our strategy to sustain improvements from phase 1 as we transition into phases 2 and 3 to support the long-term integration of these best practices in routine care.

Methods

Description of the Intervention

OPUS-AP builds on CFHI Appropriate Use of Antipsychotic initiatives[12] and previous work by the 4 university-affiliated research centers on an aging population in Quebec. The OPUS-AP strategy is supported by an evidence-based approach, involving provincial clinical guidelines developed by Québec's health-technology assessment agency, the Institut national d'excellence en santé et en services sociaux (INESSS).[13]

OPUS-AP is implemented through integrated knowledge translation and mobilization activities that include interventions shown to be effective in recent reviews.[14,15] The training component includes a 2-day in-person launch workshop attended by nurses, pharmacists, physicians, and managers, and a 2-day in-person training session on resident-centered approaches to care attended by nurses, managers, and long-term care aides. The monthly webinars were offered once and were recorded. The webinar presentations and other clinical tools, such as antipsychotic tapering guidelines, behavior assessment tools, and huddle guidelines, are available to participating LTC staff on a dedicated online learning platform. Personalized support is also offered by expert clinicians (pharmacist, geriatric psychiatrist, family physician, nurse) and by a provincial lead who also conducted phone and on-site visits. Strategies for optimal change management were discussed throughout all the interventions. Teamwork, at the center of OPUS-AP, was promoted during the 2-day training session and in the webinars. The webinars focused on (1) team work and huddles and the importance of interdisciplinary interventions plans, (2) partnership with residents and caregivers, (3) BPSD and antipsychotic deprescribing for physicians and pharmacists, and (4) team presentations (enablers and barriers). Teamwork was also supported through short 15- to 20-minute single-resident huddles (or standing meetings) to review the resident's personalized intervention plan and history. Caregivers are invited to contribute to the case discussions and to be involved in the development and implementation of the intervention plan.

Antipsychotic deprescribing was introduced gradually on each ward, for a limited number of residents with less-severe symptoms for whom the first indication for antipsychotic prescription was not still present. Once the nonpharmacologic measures and the antipsychotic tapering were progressing favorably for these residents, interventions were started in other residents with a progression to the more complex cases. Nonpharmacologic interventions were personalized to ensure their meaningfulness for each resident based on their biographical history. It was expected that antipsychotic deprescribing

would not be attempted in all residents because of the limited 9 months' follow-up and because some of the antipsychotic prescriptions were still indicated. Lower antipsychotic doses and lower severity of BPSD have been associated with greater success of antipsychotic deprescribing.[3,4,6] The knowledge translation and mobilization activities included an audit and feedback component, with reporting on both global and LTC center–specific data on antipsychotic, benzodiazepine, and antidepressant prescriptions; BPSD; and falls to clinicians every 3 months.

Quantitative Analysis

Study Design, Population, and Setting

The quantitative analysis is based on a prospective, closed cohort with outcome evaluation every 3 months over the 9 months of the program. The OPUS-AP program was launched in March 2017 by consensus decision of the Chief Executives Officers of all 24 Quebec Integrated Health and Social Services Centres that host an LTC center. Each of the 24 institutions identified an LTC ward with favorable implementation conditions such as experience in antipsychotic deprescribing, existing leadership and teamwork, and capacity and willingness to measure key outcomes. Residents who presented at baseline with (1) a diagnosis of MNCD documented in their medical chart and (2) an antipsychotic prescription were included in the MNCD and antipsychotic cohort.

Outcome Measures

The main outcome was antipsychotic deprescribing defined as complete (including as-needed prescriptions) cessation or dose reduction between the baseline and 9-month assessments. Attempts at antipsychotic deprescribing since the last measurement time were documented at 3, 6, and 9 months. Secondary outcomes included the impact of successful antipsychotic deprescribing on

1 changes in benzodiazepine and antidepressant prescriptions evaluated as (i) no change (present at baseline and 9 months OR absent at baseline and 9 months), (ii) present at baseline—absent at 9 months, and (iii) absent at baseline—present at 9 months, based on the presence or absence of the medications and irrespective of the dosage;
2 BPSD with the Cohen-Mansfield Agitation Inventory (CMAI)[16];
3 hallucinations and delusions with the sub-items from the Neuropsychiatric Inventory (NPI)[17]; and
4 falls in the last 30 days as reported by the clinicians, categorized as (i) no falls, (ii) 1 fall, and (iii) 2 or more falls.

The CMAI and NPI questionnaires were not completed if the residents were judged ineligible for antipsychotic deprescribing because of antipsychotic use for a diagnosis of schizophrenia, bipolar disorder, or major depressive disorder because other questionnaires are more appropriate for clinical follow-up in this patient population. Falls were also not assessed in this population. Changes of 30% or more in the CMAI score were judged to be clinically significant, a threshold previously used by others.[18] Reasons for noneligibility to antipsychotic deprescribing were evaluated at baseline, 3 months, and 6 months.

Data Collection

The quantitative study data were collected by the LTC staff in the secure web application REDCap (www.project-redcap.org). Medication data were downloaded from the pharmacy software and loaded into REDCap. LTC center–specific outcome data were reported every 3 months to each LTC center through the REDCap secure reporting features.

Statistical Analysis

Descriptive statistics were used to report resident characteristics. Antipsychotic deprescribing is reported as a proportion with 95% confidence intervals.[19] Changes in benzodiazepines, antidepressants, and presence of hallucinations and delusions were assessed with the McNemar test to compare those who started vs those who stopped. The McNemar test was used to account for repeated measures for each resident. Changes in CMAI and falls were also assessed with the McNemar test, but to compare those who increased vs those who decreased between the 2 corresponding time points. The main analysis was conducted on residents with available data at both baseline and 9 months. A last-observation carried forward sensitivity analysis was also conducted to evaluate the impact of loss to follow-up on antipsychotic deprescribing and to explore the impact of antipsychotic deprescribing on death. In that sensitivity analysis, Student *t* test was used to compare mean age, Mann-Whitney test to compare CMAI score, chi-square test to compare proportion of female sex, and Fisher exact test to compare number of deaths, hallucinations, and delusions. All statistical analyses were performed using R, version 3.5.3.[20]

Qualitative Analysis

Study Design, Population, and Setting

The goal of the qualitative analysis was to inform phase 2 design based on the experiences of the early adopters of phase 1. More specifically, the aim was to identify barriers and enablers in relation to the long-term integration of the OPUS-AP strategy in routine care. To achieve this, we carried out a realist developmental evaluation[21] based on the responses of key stakeholders from 5 LTC organizations. These organizations were contrasted according to their level of antipsychotic deprescribing at the 3-month follow-up in the quantitative data phase.

Outcomes Measures and Data Collection

We documented practices related to 12 long-term success factors in an LTC context identified by Lennox et al in 2017[22] (Table 1).

Data Collection and Analysis

Twenty semistructured interviews of a mean duration of 50 minutes were conducted with key stakeholders, who were primarily nurses, managers, and staff responsible for locally implementing the strategy. We then conducted a semi-inductive thematic analysis.

Ethics Approval

This study was approved by the CIUSSS de l'Estrie-CHUS institutional review board (IRB) acting as the central IRB for all LTC centers. The IRB did not request a written consent form.

Results

Quantitative Analysis

In January 2018, a total of 1054 LTC residents, with a mean age of 82.9 ± 11.2 years, and 667 (63.4%) of female sex, resided on participating OPUS-AP wards. Of those, 825 (78.3%) had a diagnosis of MNCD documented in their medical chart and 545 (51.7%) had an antipsychotic prescription, leading to the inclusion of 464 (44.0%) residents in the MNCD and antipsychotic cohort (Figure 1).

Table 1
Long-term Success Factors

Enabling Conditions	Evaluation*
Commitment to the improvement	Sites with experience in deprescribing have an advantage
Involvement	Strong, but primarily as part of a pilot project; the quality of involvement was lower for night and weekend shifts
Skills and capabilities of those involved	Strong increase through not only training and tools but also the introduction of huddles (interprofessional standing meetings)
Leadership	Managers' perception of priority
Team functioning	Huddles very useful to create a shared culture
Resources in place	Good but insufficient for night and weekend shifts
Progress monitored for feedback and learning	Positive clinical feedback from the huddles and from the collection of quantitative data
Evidence of benefits	Very strong thanks to accessible quantitative results combined with observed clinical effects and feedback from family members
Robust and adaptable processes	Perception of the conceptual robustness and clinical adaptivity of the strategy
Alignment with organizational culture and priorities	More or less yes in pilot mode, but difficult to integrate over the long term; no major changes in work organization observed
Support for improvement	Present, but especially in relation to the pilot project
Alignment with external political and financial environment	Perception of priority but concerns about long-term funding and required structural changes

*Based on 20 semistructured interviews.

MNCD and Antipsychotic Cohort

The residents of the MNCD and antipsychotic cohort were representative for age (84.1 ± 9.1) and sex (60.3%) of all residents on participating OPUS-AP wards. Of 464 cohort residents, 344 (74.1%) were still admitted on participating OPUS-AP wards at the 9-month follow-up (Figure 1). Death (17.0%) and transfer to another ward (8.4%) were the main reasons for loss to follow-up. Baseline characteristics of the 9-month follow-up, death, and transfer to another ward subgroups were similar (data not shown).

Antipsychotic Deprescribing

Antipsychotic deprescribing was attempted as part of OPUS-AP at 1 or more follow-ups in 220 (64.0%) of the 344 residents still admitted at 9 months. Among those residents, complete cessation was observed in 116 (52.7%) and dose reduction in 72 (32.7%) for a total of 188 residents (85.5%, 95% confidence interval: 80.1%, 89.8%). Antipsychotic deprescription was also recorded in an additional 32 residents for clinical reasons other than OPUS-AP, such as palliative care, for a total of 220 residents with antipsychotics deprescribed.

Antipsychotic represcription occurred at 6 months in 7 of the 59 residents who had complete cessation from baseline to 3 months, and at 9 months in 7 of 36 residents with complete cessation of antipsychotics from 3 to 6 months. In an exploratory analysis, residents with antipsychotic represcription were of similar age, more often female, with greater CMAI scores, and presenting more frequently with hallucinations or delusions than residents with antipsychotic deprescribing.

Among the 344 residents still admitted at 9 months, 70 (20.3%) were noneligible for antipsychotic deprescribing at all follow-ups. The 2 main reasons were psychotic or aggressiveness symptoms (53.6%) and a diagnosis of major psychiatric illness (eg, schizophrenia, bipolar disorder, or major depressive disorder; 21.4%) where long-term antipsychotic administration is usually required.

In a last-observation carried forward sensitivity analysis, antipsychotic deprescribing was observed in 217 (84.1%) of 258 residents for whom it was attempted. In residents with successful vs unsuccessful antipsychotic deprescribing, that analysis also showed similar values for mean age (84.9 ± 8.6 vs 85.4 ± 7.7; $P = .70$), female sex (61.8% vs 63.4%; $P = .98$), baseline presence of hallucinations (8.6% vs 10.8%; $P = .75$), or delusions (11.0% vs 13.5%; $P = .59$) among residents with attempted antipsychotic deprescribing. Death was less frequent (n = 17, 7.5%, vs n = 8, 19.5%; $P = .04$) and baseline CMAI scores were lower (44.2 ± 13.8 vs 52.9 ± 21.7; $P = .04$) in residents who had their antipsychotics deprescribed.

Impact of Antipsychotic Deprescribing

In the 220 residents still admitted at 9 months and who had had their antipsychotics deprescribed, whether part of OPUS-AP interventions or not, benzodiazepine cessation was more frequent than initiation whereas cessation and initiation were similar for antidepressants, anticonvulsants, and first-generation antihistamines (Figure 2). Opioids initiation was more frequent in the no-deprescription group (Figure 2). In the antipsychotic cessation subgroup, a decrease of 30% or greater (improvement) in the CMAI score was observed more frequently than an increase of 30% or greater (worsening) (Table 2). Decreases and increases in falls were observed for similar numbers of residents (Table 2). Hallucinations and delusions were absent at baseline and 9 months in more than 85% of residents (Table 2).

Qualitative Analysis

In relation to the 12 long-term success factors identified by Lennox et al,[22] the OPUS-AP strategy was effective according to respondents (Table 1). Overall, the conditions leading to a long-term integration of the strategy are sound; some limitations in the scale-up phase can be expected such as a decrease in the intensity of the support for change in practices. It is easier to mobilize stakeholders in an experimental context rather than a routine one, especially if basic changes are not made to staff work organization (eg, work time of pharmacists or organization of work of long-term care aides). The effort required to collect the quantitative data, which produced robust evidence of efficacy, also requires the deployment of resources (ie, work time and, above all, the integration of clinical-data collection and analysis mechanisms into existing clinical tools). Finally, although these results clearly show that the strategy has an impact on the appropriate use of medication and demonstrates the presence of a number of conditions that are conducive to the long-term integration of the strategy, the accumulated evidence seems more convincing in relation to deprescribing than in relation to the routine incorporation of alternative strategies for basic approaches and nonpharmacologic interventions that prevent a return to inappropriate antipsychotic prescribing.

Discussion

Our study in LTC residents with MNCD showed successful antipsychotic deprescribing (cessation or dose reduction) in 85.5% of residents for whom it was attempted, with no increases in

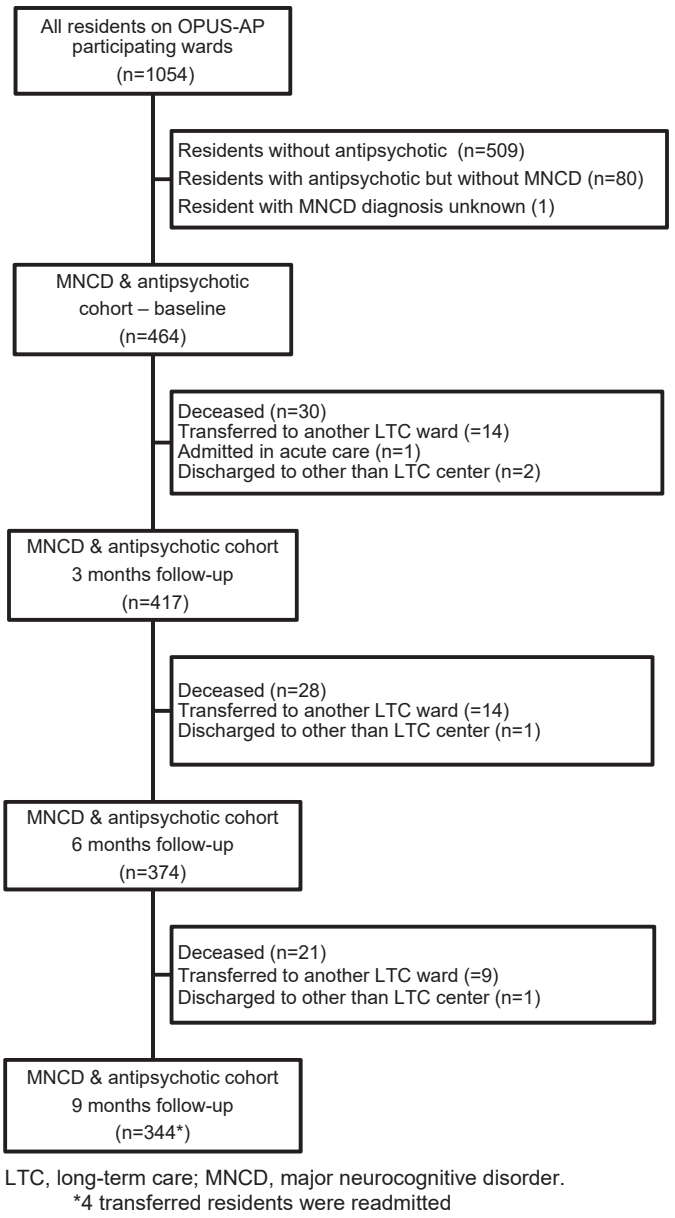

Fig. 1. Flow chart of residents in the study. T0, baseline assessment; T9, 9-month assessment.

benzodiazepine or antidepressant prescriptions and without global worsening of BPSD. These results are consistent with a 2018 Cochrane systematic review that concluded that antipsychotics can be successfully discontinued in older adults with MNCD with little or no impact on BPSD.[23] They are also consistent with the results of the Halting Antipsychotic use in Long-Term care (HALT) study conducted in 23 US nursing homes that showed a reduction in antipsychotic use of 81.7% over 12 months, without increases in benzodiazepine use or BPSD.[24] We also showed that antipsychotic deprescribing was achieved in 220 (64.0%) of 344 residents irrespective of their deprescribing eligibility status, slightly higher than the 54% deprescribing achieved in CFHI pan-Canadian Appropriate Use of Antipsychotics initiative.[9]

In OPUS-AP, the baseline 51.7% prevalent use of antipsychotics in LTC residents with MNCD is greater than the published 48% prevalence for Canada in 2013.[25] In 2015, the Canadian Institute for Health Information reported a rate of 27.5% of potentially inappropriate use of antipsychotics in the participating LTC centers in Canada.[8] In OPUS-AP, at baseline, 40.2% of the residents with MNCD were receiving an antipsychotic in a calculation that excluded residents with a psychiatric diagnosis and psychotic and aggressiveness symptoms. A 2017 viewpoint on antipsychotic use in US nursing homes raised unanswered questions for which OPUS-AP provides an important contribution, namely, the impact of antipsychotic deprescribing on behavioral issues and the shift to other medications with sedating properties.[7] An interrupted-time-series analysis of a 2009-2014 Medicare cohort showed a decline or stabilization in the use of psychotropic medications with the exception of an increase in mood stabilizers.[26]

In a secondary analysis, we observed a significant difference in mortality in residents with successful (7.8%) vs unsuccessful (19.5%) antipsychotic deprescribing. Even though the aim of this study was not to measure mortality, and bearing in mind the limitations in the assessment of possible confounders, this result is coherent with the increased risk of mortality associated with prolonged antipsychotic medication in LTC residents with MNCD. Our results are consistent with those of the DART-AD study that showed an absolute reduction of 7% in mortality at 12 months in residents randomized to antipsychotic cessation vs continuation.[27] Another hypothesis is that more severe BPSD is associated with a decreased prognostic per se.[28] In that secondary analysis, baseline CMAI scores were higher in residents with unsuccessful (52.9%), than successful (44.2%), antipsychotic deprescribing. This is also coherent with reports from the literature that show that deprescription could be more difficult in subjects with more severe BPSD.[3,4,6] Additional studies are needed to evaluate the short-term impact of antipsychotic deprescribing on mortality.

As was found with the Australian Halting Antipsychotic Use in Long-Term Care[29] project, our study has shown the importance of training on nonpharmacologic approaches and on the management of BPSD when it comes to changing practices. Whereas that study emphasized a train-the-trainer approach, our study shows how training activities are effectively supported and sustained by the huddle strategy, which helps teams build and disseminate a shared culture on the optimal use of medication. Moreover, Conklin et al[30] stress that some clinicians do not read the guides and prefer instead to rely on peer knowledge sources, which is reinforced by these huddles. Furthermore, the absence or misunderstanding of the deprescribing protocol is reinforced by weak access to empirical information.[4] However, this study shows the importance and efficacy of an ongoing data collection instrument to produce a feedback effect that helps clinicians become aware of the power of the OPUS-AP approach.

Strengths and Limitations

The main limitation of our study is the lack of quantitative data on the implementation of resident-centered approaches and nonpharmacologic interventions for the management of BPSD, although qualitative data indicates that this was significant. In residents with a psychiatric diagnosis and who were judged ineligible for antipsychotic deprescribing, the delusions and hallucinations questions of the NPI and the CMAI questionnaires were not completed. In this population, which is at greater risk of symptom recurrence, this prevented comparison with residents who were judged eligible for antipsychotic deprescribing. We relied on the documentation of MNCD in the medical chart. Lastly, REDCap is not integrated with the clinical tools, which questions the routinization of the feedback's positive effect on the change of practices. The main strength of our study is the pragmatic approach, making OPUS-AP a reproducible strategy in usual care. Also, the conduct of OPUS-AP in all of the 24 Québec institutions with an LTC center supports the feasibility of its implementation in the

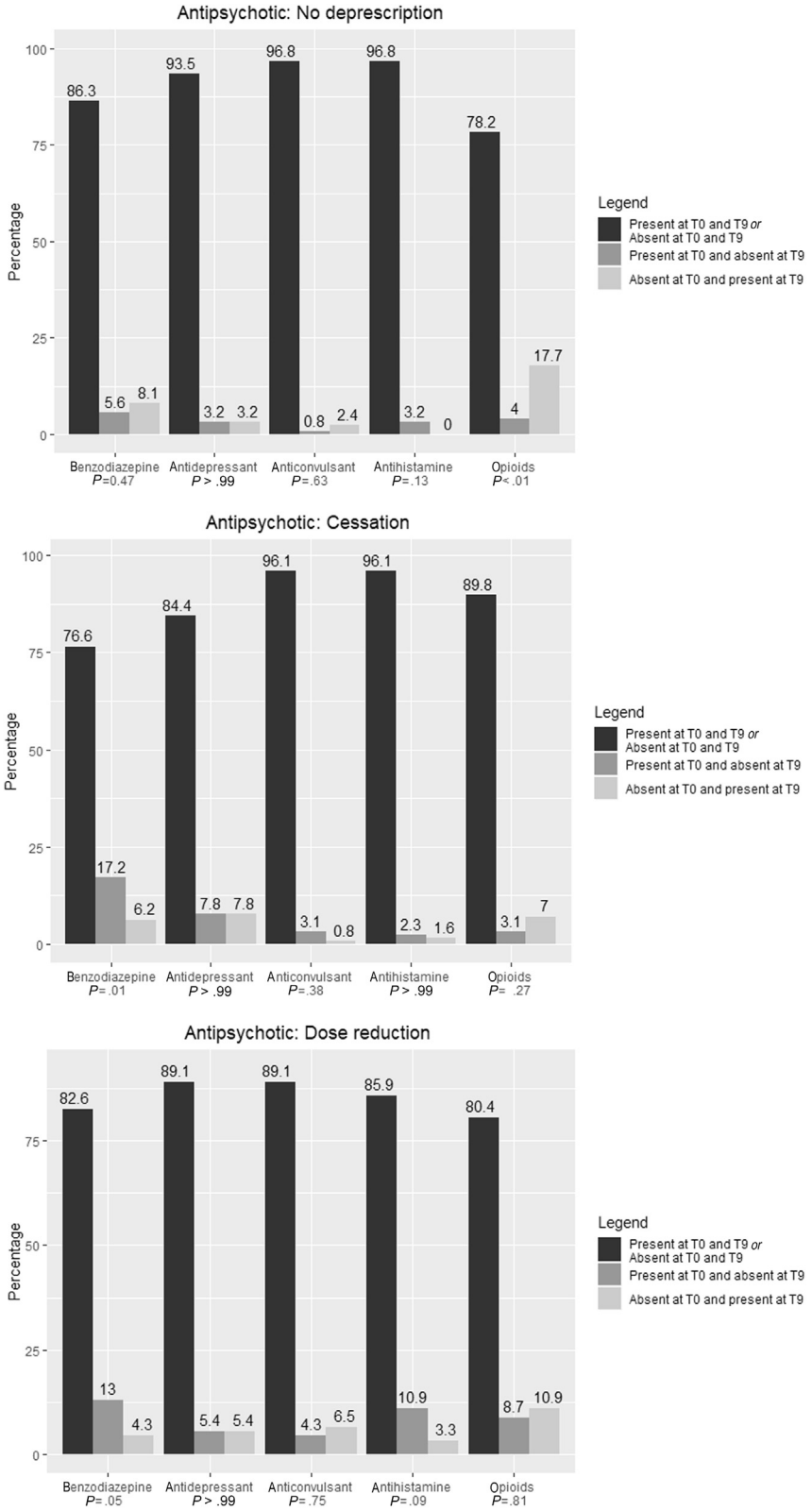

Fig. 2. Impact of antipsychotic deprescribing on selected medications—9 months (T9) compared with baseline (T0) use of medications. Baseline use of medications: Antipsychotic no deprescribing: benzodiazepine 51 (41.1%), antidepressant 92 (74.2%), anticonvulsants 32 (25.8%), first-generation antihistamine 11 (8.9%), opioids 39 (31.5%). Antipsychotic cessation: benzodiazepine 41 (32.0%), antidepressant 76 (59.4%), anticonvulsants 17 (13.3%), first-generation antihistamine 11 (8.6%), opioids 31 (24.2%). Antipsychotic dose reduction: benzodiazepine 43 (46.7%), antidepressant 68 (73.9%), anticonvulsants 24 (26.1%), first-generation antihistamine 16 (17.4%), opioids 31 (33.7%).

Table 2
Impact of Antipsychotic Deprescribing—9 Months Compared With Baseline

	Antipsychotic No Deprescribing, (n = 124) n (%)	Antipsychotic Cessation, (n = 128) n (%)	Antipsychotic Dose Reduction, (n = 92) n (%)
Cohen-Mansfield score			
Baseline, mean (SD)	52.8 (17.0)	43.1 (13.4)	49.1 (15.4)
9 months			
<30% change	62 (73.8)	91 (76.5)	55 (72.4)
≥30% increase	8 (9.5)	6 (5.0)	11 (14.5)
≥30% decrease	14 (16.7)	22 (18.5)	10 (13.2)
	$P = .29$	$P < .01$	$P = .83$
Hallucinations			
Baseline	12 (9.7)	10 (7.8)	9 (9.8)
9 months			
Present at T0 and T9	6 (7.2)	4 (3.4)	4 (5.3)
Absent at T0 and T9	65 (78.3)	107 (89.9)	65 (85.5)
Present at T0–absent at T9	5 (6.0)	6 (5.0)	3 (3.9)
Absent at T0–present at T9	7 (8.4)	2 (1.7)	4 (5.3)
	$P = .77$	$P = .29$	$P > .99$
Delusions			
Baseline	26 (21.0)	12 (9.4)	13 (14.1)
9 months			
Present at T0 and T9	12 (14.3)	3 (2.5)	5 (6.6)
Absent at T0 and T9	60 (71.4)	106 (89.1)	60 (78.9)
Present at T0–absent at T9	7 (8.3)	8 (6.7)	6 (7.9)
Absent at T0–present at T9	5 (6.0)	2 (1.7)	5 (6.6)
	$P = .77$	$P = .11$	$P > .99$
Falls			
Baseline	25 (20.2)	15 (11.7)	25 (27.2)
9 months			
No change*	57 (67.1)	100 (83.3)	55 (72.4)
Increase	12 (14.1)	8 (6.7)	10 (13.2)
Decrease	16 (18.8)	12 (10.0)	11 (14.5)
	$P = .45$	$P = .25$	$P = .83$

SD, standard deviation; T0, baseline assessment; T9, 9-month assessment.
*No change: present at T0 and T9 or absent at T0 and T9.

vast majority of LTC centers in Québec. Lastly, quantitative and qualitative assessments showed converging results.

Implications for Further Research

Phase 2 of OPUS-AP started in April 2019 with a significant spread to 10,601 residents in 129 LTC centers in Québec. Key findings from phase 1 applied to phase 2 include the importance of staff training. A train-the-trainer strategy from the phase 1 clinicians for newly participating phase 2 staff will greatly increase the number of trained staff members. Other lessons learned include the designation of a dedicated project manager at each institution, the increased involvement of all partners, especially families, and the collaboration between all work shifts including the night and weekend shifts. In 2020, phase 3 will be conducted in all 313 public LTC centers in Québec with a similar training approach. The evaluation approach will change from a closed to an open cohort of all residents. Three main indicators will be used: (1) prevalence of antipsychotic, benzodiazepine, and antidepressant prescriptions; (2) characteristics of the residents (psychiatric diagnoses and psychotic and aggressiveness symptoms); and (3) presence and implementation of a resident-centered intervention plan.

Conclusions and Implications

Phase 1 of OPUS-AP, conducted in a representative sample of provincial LTC centers, showed that antipsychotic deprescribing can be achieved in a majority of LTC residents with MNCD without worsening of BPSD with the concomitant implementation of a resident-centered approach and nonpharmacologic interventions.

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