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# A Cross-Sectional Survey Evaluating Cladribine Tablets Treatment Patterns Among Patients with Multiple Sclerosis Across the US Enrolled in the MS LifeLines Patient Support Program

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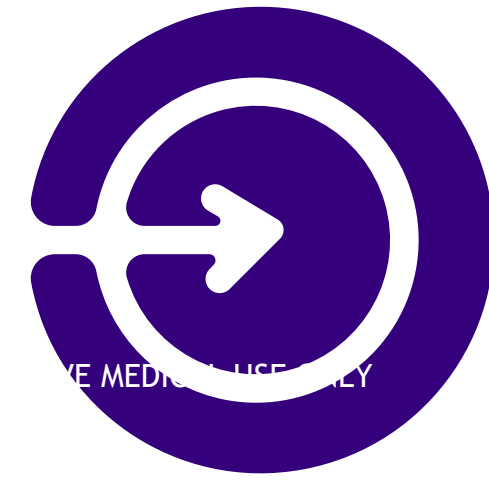
## Disclosures:

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## BACKGROUND

- Real-world evidence for cladribine tablets in patients with MS is emerging



## OBJECTIVE

**To better understand treatment patterns of cladribine tablets among patients with MS enrolled in the MS LifeLines patient-support program**



## METHODS

- Enrollees from MS LifeLines were invited to participate in an internet-based survey
- Participants were included if they self-reported physician-diagnosed relapsing MS, initiated cladribine tablets, and were aged  $\geq 18$  years
- Information collected included demographics, clinical characteristics, MS treatment/disease history, prior DMTs, and cladribine tablets treatment patterns
- Findings were analyzed descriptively



# RESULTS

## Baseline demographic and clinical characteristics

- Among 616 patients initiating cladribine tablets and completing the survey from May 12–July 2, 2021, mean (SD) age was 47.8 (11.9) years; 78.6% were female; 75.0% were non-Hispanic White, 9.9% were non-Hispanic Black, and 7.6% were Hispanic; and mean (SD) Charlson Comorbidity Index was 0.40 (0.88) **(Tables 1 and 2)**
- Mean (SD) number of DMTs taken since MS diagnosis was 3.6 (1.9), and 49.2% experienced a relapse in the prior year **(Table 3)**

**Table 1. Baseline demographic characteristics**

	Cladribine tablets	
	N=616	
	N/Mean	%/SD
<b>Age, years</b>		
Mean, SD	47.8	11.9
Median, min – max	48.0	19.0–77.0
<b>Gender</b>		
Male	484	78.6%
Female	132	21.4%
Non-Binary	0	0.0%
Other	0	0.0%
<b>BMI category</b>		
Underweight (<18.5)	17	2.8%
Normal weight (18.5 to <25)	193	31.3%
Overweight (25 to <30)	185	30.0%
Obese (≥30)	221	35.9%

\* Respondents could select multiple types of health insurance (i.e., were asked to “select all that apply”).

**Table 1. Baseline demographic characteristics (cont’d)**

	Cladribine tablets	
	N=616	
	N/Mean	%/SD
<b>Health insurance*</b>		
Private health insurance	379	61.5%
Medicare	165	26.8%
Medicaid or other state plan	72	11.7%
Insurance purchased through a state exchange (Obamacare/ACA)	15	2.4%
Other	36	5.8%
<b>Education</b>		
Less than college/university degree	228	37.4%
College/university degree	382	62.6%
Don't know/decline to answer	0	0.0%
<b>Annual household income</b>		
<\$25,000	94	17.5%
\$25,000 to <\$50,000	117	21.7%
\$50,000 to <\$100,000	164	30.5%
\$100,000 +	147	27.3%
Don't know/decline to answer	16	3.0%
<b>Race/Ethnicity</b>		
Hispanic	47	7.6%
Non-Hispanic White	462	75.0%
Non-Hispanic Black	61	9.9%
Asian or Asian American	6	1.0%
American Indian/Alaska Native	2	0.3%
Multi-race	8	1.3%
Some other race or origin	4	0.6%
Decline to answer	26	4.2%
<b>US Census region of residence</b>		
Northeast	110	17.9%
Midwest	149	24.2%
South	258	41.9%
West	99	16.1%

**Abbreviations:** ACA, Affordable Care Act; BMI, body mass index; CCI, Charlson Comorbidity Index; DMT, disease-modifying therapy; max, maximum; min, minimum; MS, multiple sclerosis; SD, standard deviation.

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# RESULTS

### Table 2. Baseline clinical characteristics

	Cladribine tablets	
	N=616	
	N/Mean	%/SD
<b>CCI Score</b>		
Mean, SD	0.40	0.88
Median, min – max	0	0–8
0	467	75.8%
1	85	13.8%
2	44	7.1%
3+	20	3.2%
<b>Comorbidities</b>		
Depression	229	37.2%
Migraines	187	30.4%
High blood pressure (hypertension)	153	24.8%
Generalized anxiety disorder	116	18.8%
High cholesterol	111	18.0%
Fibromyalgia	38	6.2%
Type 2 diabetes	31	5.0%
Ulcers (active/peptic stomach or duodenal)	27	4.4%
Psoriasis	26	4.2%
Any tumor	25	4.1%
Rheumatoid arthritis	23	3.7%
Chronic bronchitis	17	2.8%
COPD	12	1.9%
Mini-stroke/transient ischemic attack	12	1.9%
Ulcerative colitis	11	1.8%
Hemiplegia (limbs on one side of the body have severe weakness)	7	1.1%
Heart attack	6	1.0%
Moderate or severe kidney/renal disease	6	1.0%
None of the above	171	27.8%

### Table 3. MS disease history information

	Cladribine tablets	
	N=616	
	N/Mean	%/SD
<b>Type of MS*</b>		
RRMS	554	89.9%
Active SPMS	84	13.6%
Non-active SPMS	11	1.8%
PPMS	7	1.1%
CIS	2	0.3%
None of the above	0	0.0%
<b>Age at start of MS symptoms, years</b>		
Mean, SD	31.2	10.3
Median, min – max	30.0	2.0–64.0
<b>Age at time of MS diagnosis, years</b>		
Mean, SD	35.5	10.5
Median, min – max	35.0	7.0–69.0
<b>Age at start of DMT, years</b>		
Mean, SD	36.8	10.6
Median, min - max	36.0	12.0–69.0
<b>Number of DMTs ever taken</b>		
Mean, SD	3.6	1.9
Median, min - max	3.0	1.0–11.0
<b>Experienced an MS relapse in the past year</b>		
Yes	303.0	49.2%
No	313.0	50.8%
<b>Number of MS relapses over the past year</b>		
Mean, SD	1.1	1.9
Median, min - max	0.0	0.0–24.0
<b>Number of MS relapses over the past year among those with relapse</b>		
Mean, SD	2.2	2.3

\* Respondents could select multiple types of MS (i.e., were asked to “select all that apply”).

**Abbreviations:** CCI, Charlson Comorbidity Index; CIS, clinically isolated syndrome; COPD, chronic obstructive pulmonary disease; DMT, disease-modifying therapy; max, maximum; min, minimum; MS, multiple sclerosis; PPMS, primary progressive MS; RRMS, relapsing-remitting MS; SD, standard deviation; SPMS, secondary progressive MS.

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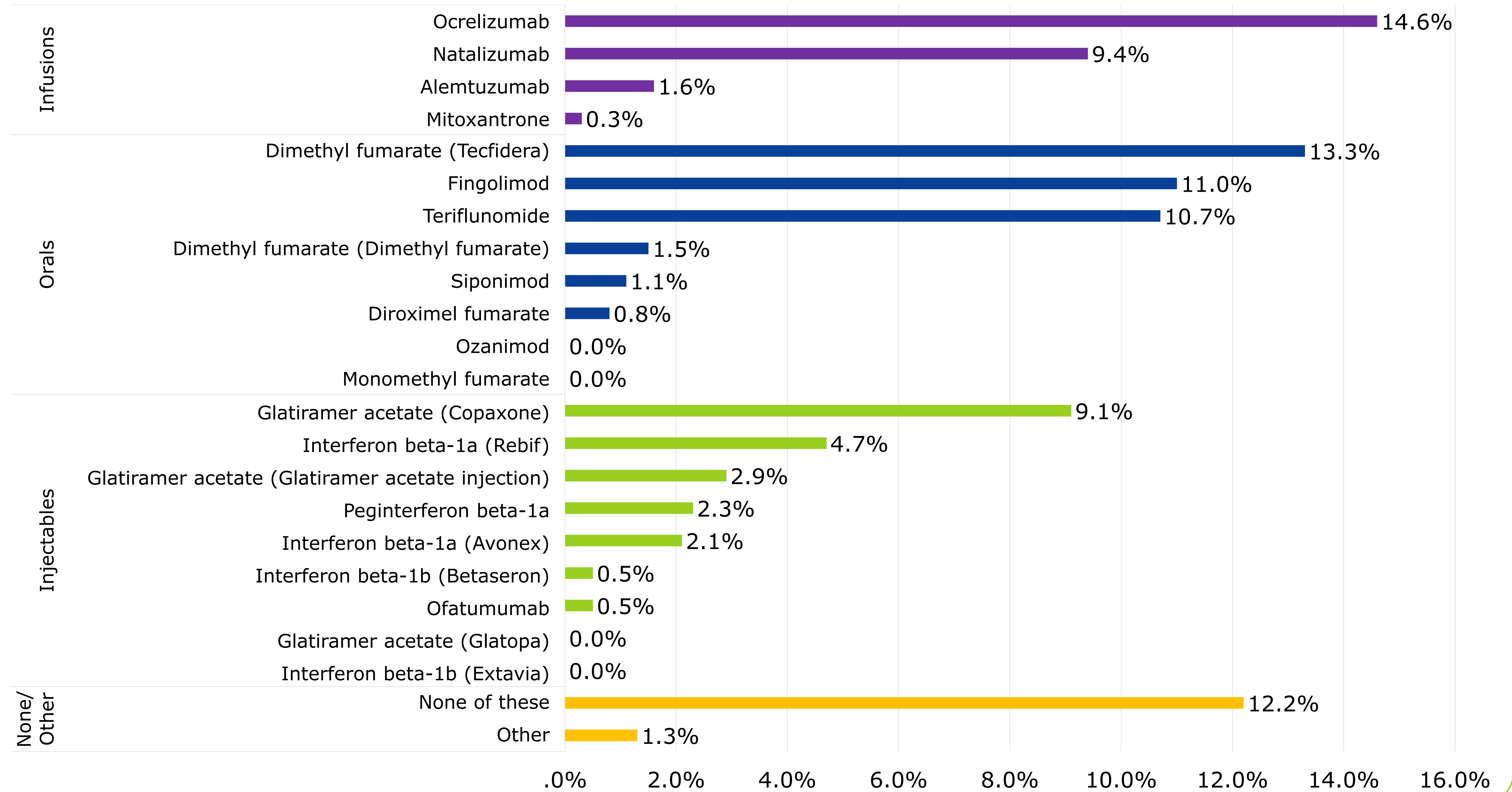


# RESULTS

## Switching to cladribine tablets

- Switches to cladribine tablets occurred from other oral (38.4%), infusion (25.9%), and self-injectable DMTs (22.1%) (**Figure 1**)
- Reasons for initiating cladribine tablets are presented in **Figure 2**

**Figure 1. Treatment switched from to cladribine tablets**

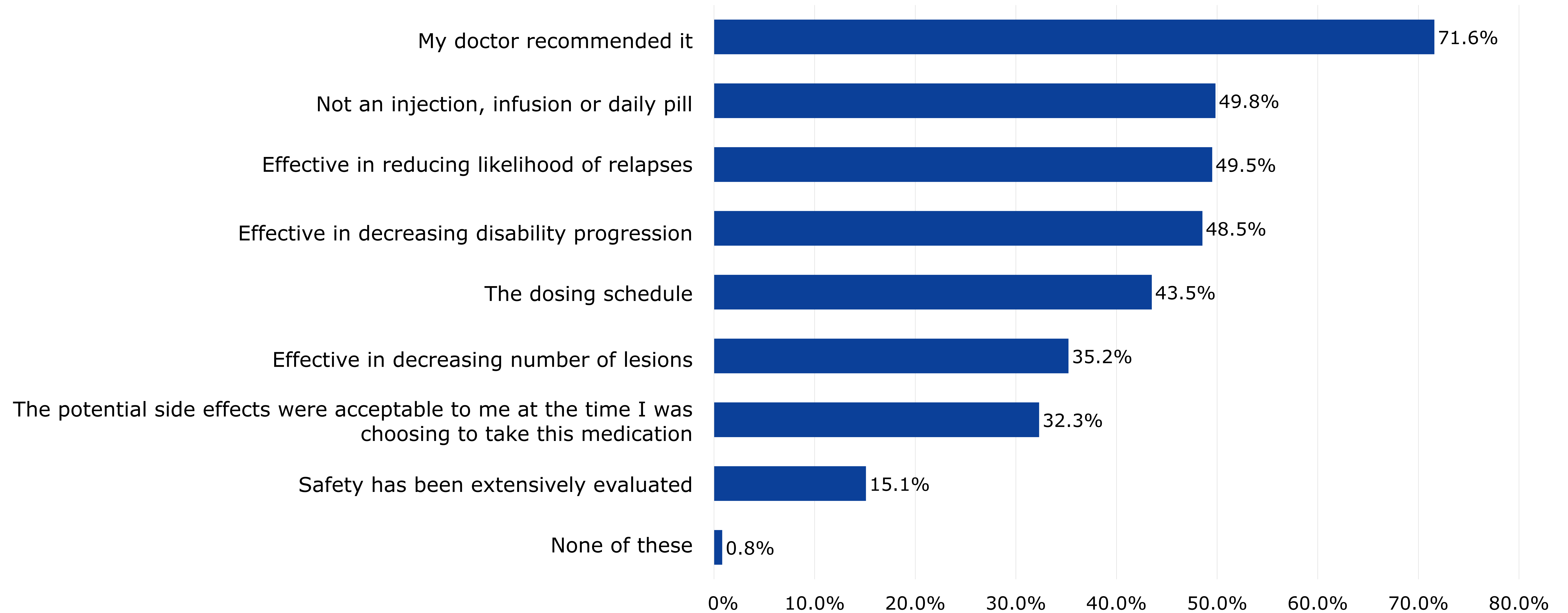


Abbreviations: DMT, disease-modifying therapy.



# RESULTS

**Figure 2. Reasons for initiating cladribine tablets (not mutually exclusive)**





## RESULTS

### Completion by treatment cycles and switching after cladribine tablets discontinuation

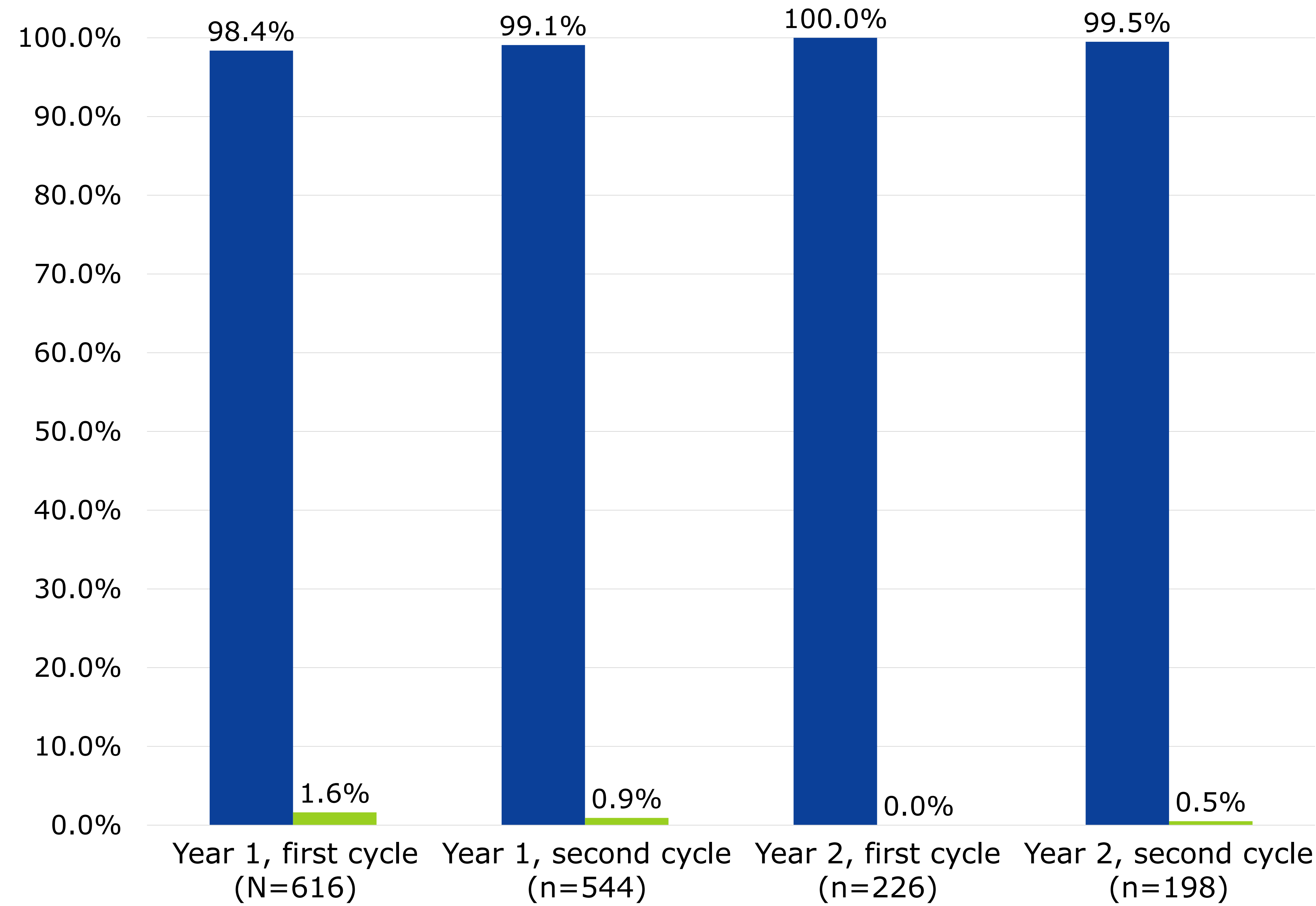
- As this was a cross-sectional survey, patients were at different timepoints of their 2-year cladribine tablets treatment regimen (**Figure 3**)
- Nearly all patients completed or were planning to complete their currently initiated treatment cycle, and very few required a switch to another DMT (**Figure 3**):
  - Year 1, 1<sup>st</sup> cycle (n=616; 100% initiated; 98.4% completed/planning to complete; 0.8% switched);
  - Year 1, 2<sup>nd</sup> cycle (n=544; 88.3% initiated; 99.1% completed/planning to complete; 1.1% switched);
  - Year 2, 1<sup>st</sup> cycle (n=226; 36.7% initiated; 100.0% completed/planning to complete; 0% switched); and
  - Year 2, 2<sup>nd</sup> cycle (n=198; 32.1% initiated; 99.5% completed/planning to complete; 1.0% switched)
- Of the 13 patients from the total cohort who switched to another DMT (2.1%), 46.2% switched to infusions, 30.8% switched to orals, and 23.1% switched to self-injectables (**Figure 4**)





# RESULTS

### Figure 3. Cycle of cladribine tablets completion

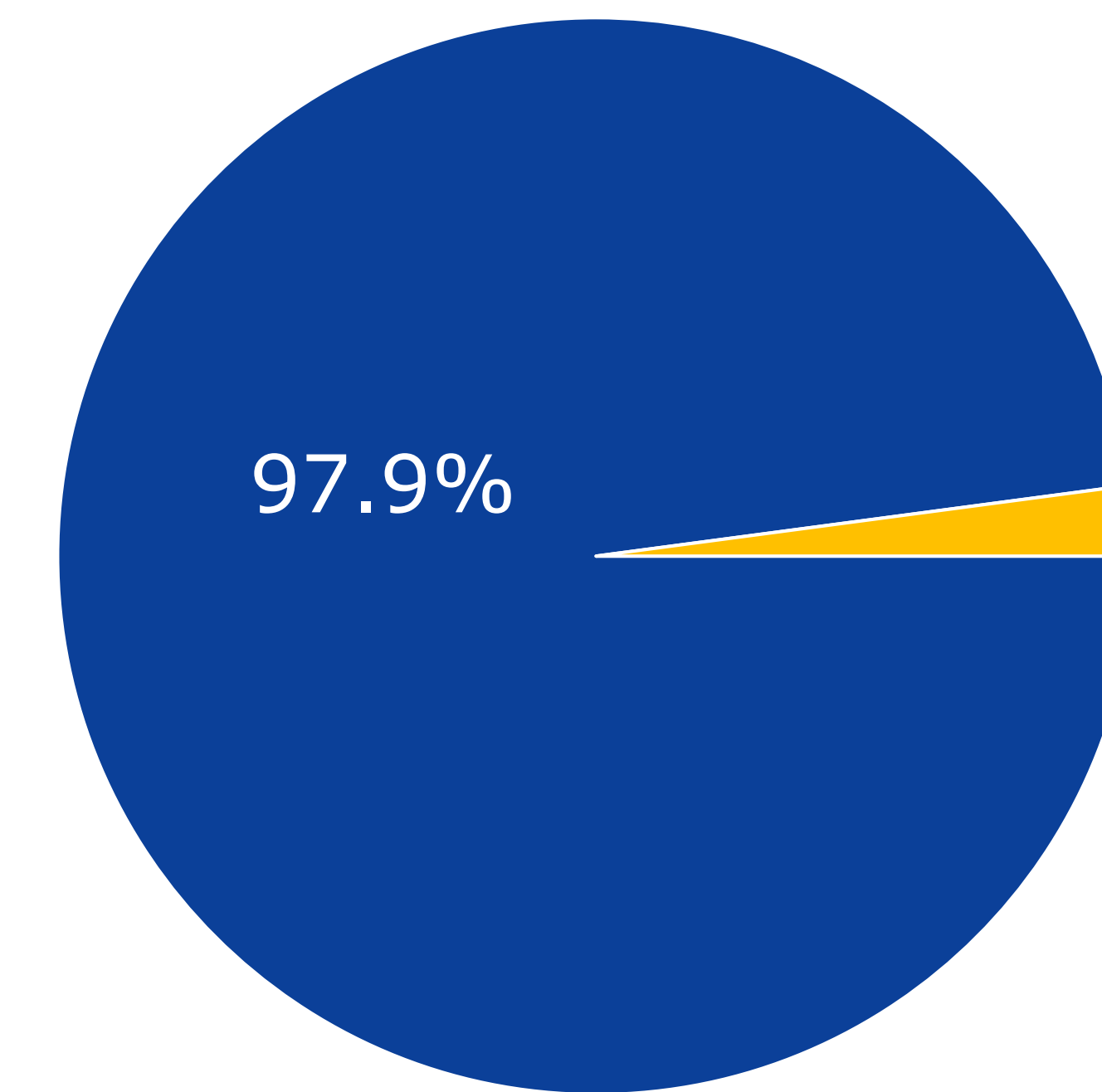


■ Completed/currently taking but plan to complete\* ■ No, I did not complete this cycle

\*In this cross-sectional survey, patients reported completion up to and for their current cycle of the 2-year cladribine tablets treatment regimen. Sample sizes presented under each treatment cycle reflect the number of patients who have initiated the treatment cycle.

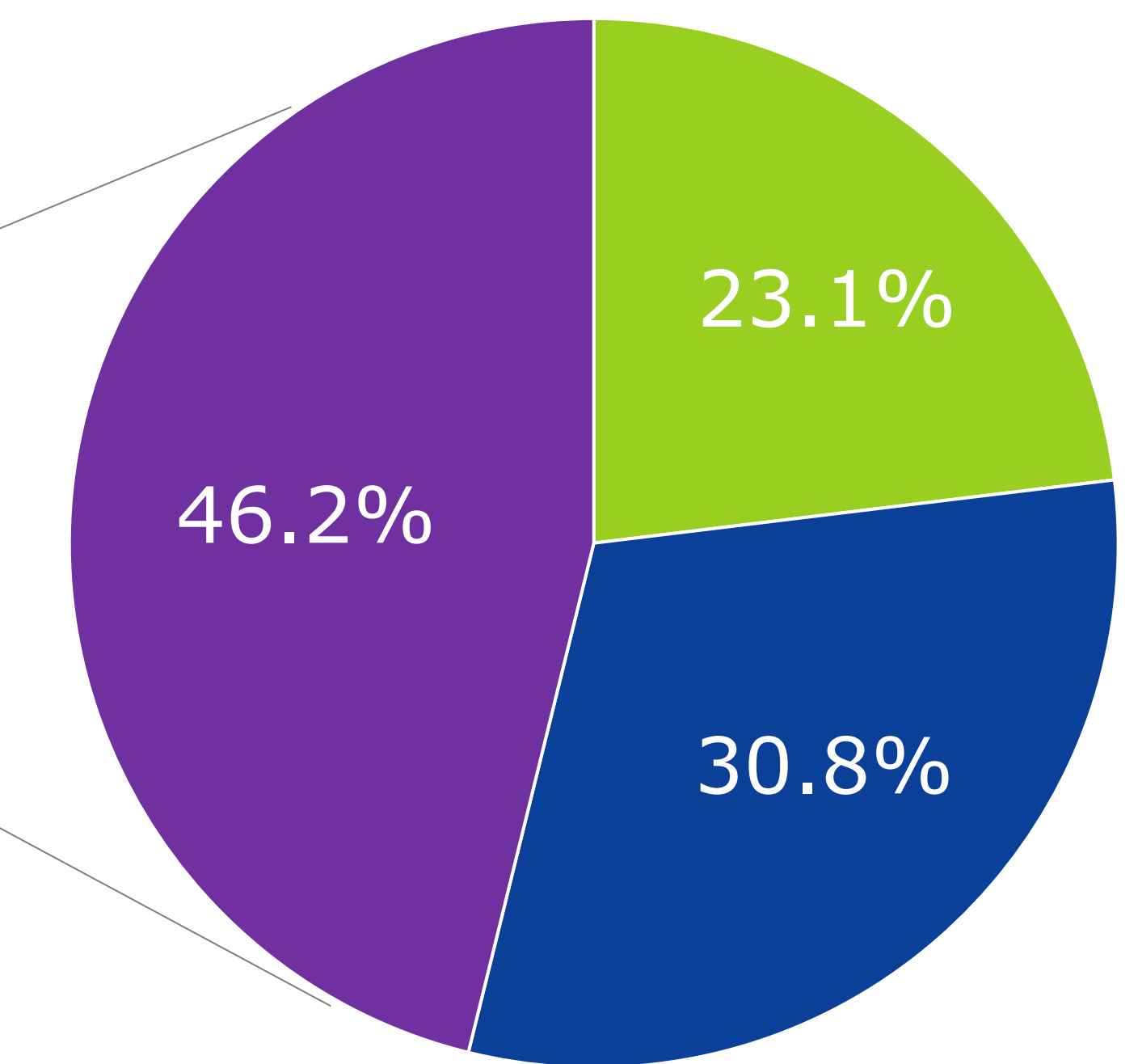
### Figure 4. Switching to DMTs after cladribine tablets discontinuation

Switching to DMT following cladribine tablets discontinuation (N=616)



■ Did not switch ■ Switched

DMT type switched to following cladribine tablets discontinuation (n=13)



■ Injectable DMT\* ■ Oral DMT ■ Infused DMT

\* Injectable DMT includes 2 patients (15.4%) who received ofatumumab and 1 patient (7.7%) who received peginterferon beta-1a.



## CONCLUSIONS



**Patients with MS switched to cladribine tablets from other oral DMTs (38.4%), infusion DMTs (25.9%), and self-injectable DMTs (22.1%)**



**Most patients (71.6%) switched to cladribine tablets due to doctor recommendation, and roughly half (43.5–49.8%) indicated the dosing schedule, administration, or efficacy of cladribine tablets were a reason for switching**



**In this cross-sectional survey of patients at different timepoints during their cladribine tablets treatment regimen, few patients switched to another DMT (2.1%)**