Megan Feeney[1], Benzi M. Kluger[2], A. Jon Stoessl[3], Danny Bega[4], Steven Gilbert[5], Andre Hosang[5], Elizabeth Ogren[5], Karlin Schroeder[1], Christiana Evers[1], James C. Beck[1]

1) Parkinson's Foundation, New York, NY, USA; 2) University of Rochester, Rochester, NY, USA; 3) University of British Columbia, Vancouver, CANADA; 4) Northwestern University, Chicago, IL, USA; 5) Parkinson's Foundation Research Advocate, New York, NY, USA

Parkinson.org

Objective

To identify themes in cannabis use among people with Parkinson's disease to inform medical recommendations and the design of future clinical trials.

Background

Parkinson's disease (PD) is a neurodegenerative disorder, largely affecting the aging population. Symptomatic management of PD is complex and many symptoms, especially non-motor symptoms, are not effectively addressed with current medications. In the US, cannabis has become more widely available for medical and recreational use, permitting those in the PD community to try an alternative means of symptom control. However, little is known about the attitudes towards and experiences with cannabis use among those living with PD nor is it known what are the perceived effects of cannabis on PD symptomology.
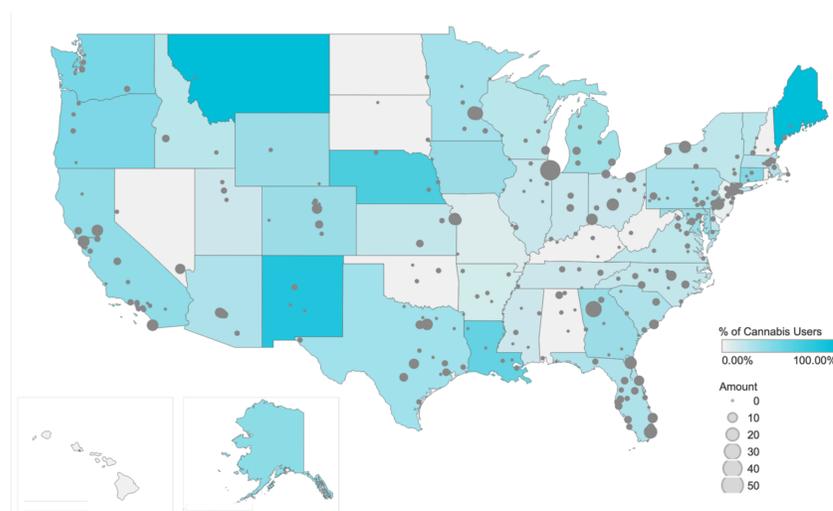

Figure 1: A Geographic representation of survey participants. Blue shading within a state depicts the percentage of respondents who were cannabis users. Montana and Maine all had 100% use from the survey participants. Rhode Island was the only state without survey respondents.

Methodology

An anonymous, 24-question survey was built using REDCap and received IRB approval. 7,607 people with Parkinson's disease were contacted through email and invited to complete the electronic survey. The survey remained open for three weeks. 1,064 completed responses were analyzed using frequency statistics, chi-square analysis, t-tests and thematic analysis of open-ended text.

| Table 1: Reasons for Cannabis Use	
Reason for use, n	261
PD medical, n (%)	166 (63.6)
Other medical, n (%)	24 (9.2)
Non-medical, n (%)	12 (4.6)
Both medical and non-medical, n (%)	56 (21.5)
Don't know, n (%)	3 (1.1)
PD reason for use, n	222
Specific PD symptoms, n (%)	96 (43.2)
Symptoms in general, n (%)	104 (46.8)
Medication side effects, n (%)	14 (6.3)
No reason, n (%)	8 (3.6)
Where respondent learned about cannabis, n	246
Doctor, n (%)	27 (11.0)
Internet/news, n (%)	75 (30.5)
Media/Ads, n (%)	19 (7.7)
PD foundation, n (%)	6 (2.4)
PD support groups, n (%)	15 (6.1)
Friends or other people with PD, n (%)	64 (26.0)
Family, n (%)	22 (8.9)
Other, n (%)	18 (7.3)
Recommendation from a licensed provider, n	246
No, n (%)	168 (68.3)
Yes, n (%)	78 (31.7)
Provided information about recommendations for use, n	246
No, n (%)	138 (56.1)
Yes, n (%)	108 (43.9)
Source of information about recommendations for use, n	108
PD provider, n (%)	10 (9.3)
Another licensed doctor, n (%)	27 (25.0)
Staff at a dispensary, n (%)	24 (22.2)
Friends or other people with PD, n (%)	24 (22.2)
Family, n (%)	8 (7.4)
Other, n (%)	15 (13.9)
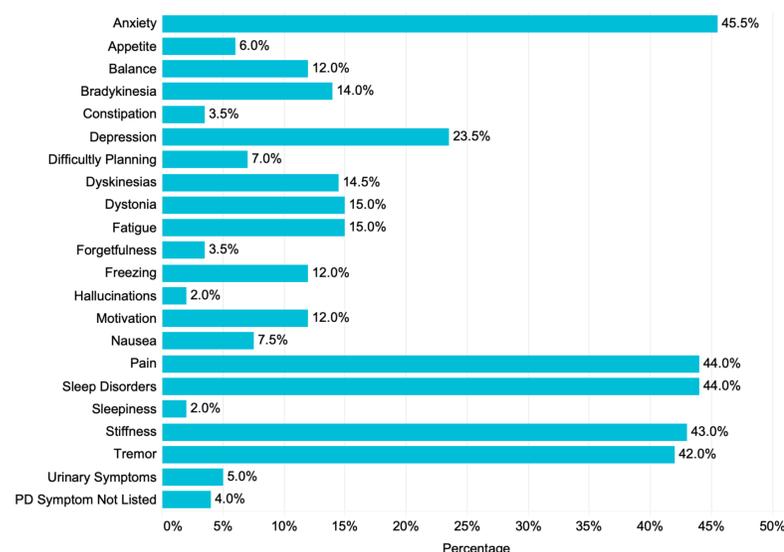
Figure 2: Cannabis use for selected PD symptoms. Each cannabis user for PD medical reasons (just PD and both PD and non-medical, n = 200) was asked, "For which of the following symptoms do you use marijuana or cannabis to improve?"

Results

24.5% of survey respondents (n = 261) reported using cannabis in the past six months. Cannabis users were an average of 3 years younger than non-users (69 ± 8.6 vs 72 ± 8.1 years; p < 0.001). Cannabis was primarily used to address PD (63.6%) vs. other diseases and was most often used to treat anxiety (45.5%), pain (44.0%) and sleep disorders (44.0%). Users commonly reported cannabis use in the evening (25.3%) or at bedtime (26.4%). When asked about the type of cannabis used, most respondents did not know (22.2%). Users reported most often learning about cannabis from the internet (30.5%) and friends or other people with PD (26.0%). Among cannabis users, 23.0% stopped using cannabis in the past six months (n = 60), primarily due to a lack of symptom improvement (35.5%).

Among non-users (n = 803), the primary identified reason against cannabis use was a lack of scientific evidence supporting efficacy (59.9%). Non-users were more likely than users to report higher satisfaction with prescription medications treating their non-motor symptoms (p < 0.005).
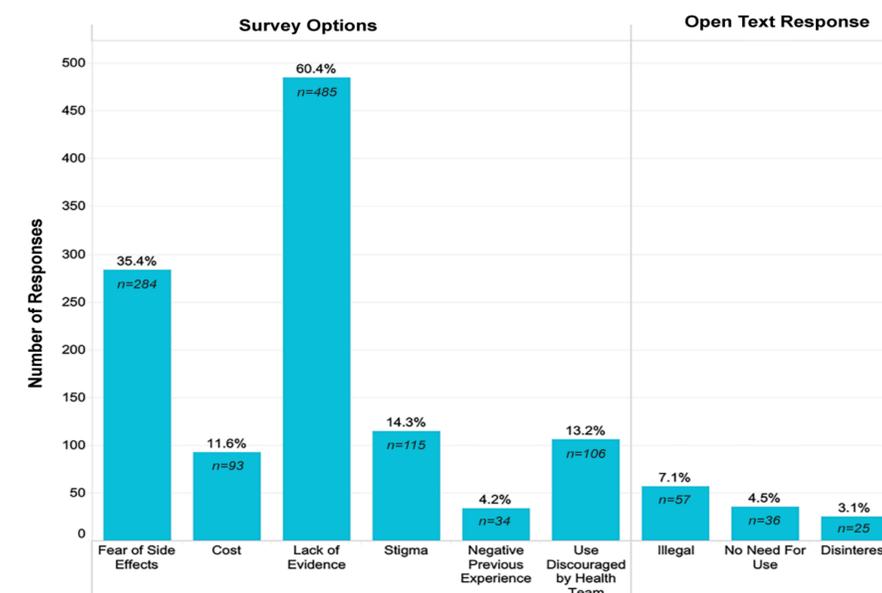

Figure 3: Primary reasons for not using cannabis in the past 6 months (n=803). Responses were either pre-identified in the survey as listed in the category labels or individuals selected "other" and their open text response was analyzed thematically.

Conclusion

Understanding what the PD community thinks of and how they use cannabis to treat their PD can help identify areas of potential symptom benefit, inform medical recommendations and aid in the design of future clinical trials exploring cannabis as a treatment for PD. For further reading, please see our pre-print on medRxiv.