Finding the 'Target Toker':
Targeted Marketing for Dispensaries

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Problem Statement

Given limited marketing budgets, toward whom should dispensaries/delivery services target their marketing to maximize profits and how can they identify them?

'Target Toker'

Cannabis Demand by Frequency of Use - Marijuana Policy Group

Frequency of use:	Usage Amounts: ('000 grams)			Share of ..	
Monthly	Low	Central	High	users	demand
<1	240	361	721	29.2%	0.3%
1-5	2,625	4,039	5,756	24.5%	3.3%
6-10	2,138	3,289	4,686	7.5%	2.7%
11-15	1,476	2,271	3,237	3.2%	1.9%
16-20	3,728	5,735	8,172	5.8%	4.7%
Total:	96,103	121,412	148,112	100%	100%

Relationship between Cannabis and Painkiller Overdose - American Medical Association

Independent Variable[a]	Estimate (95% CI)[b]
Medical cannabis law	−24.8 (−37.5 to −9.5)[e]
Prescription drug monitoring program	3.7 (−12.7 to 23.3)
Law requiring or allowing pharmacists to request patient identification	5.0 (−10.4 to 23.1)
Increased state oversight of pain management clinics	−7.6 (−19.1 to 5.6)

Solution

Build a classification algorithm that identifies individuals who are open to using cannabis but don't do so frequently and may abuse painkillers.

National Survey on Drug Use and Health

- Substance Use
- Age
- Gender
- Ethnicity
- Health
- Income
- Marital Status

Training Model Scores for the Target Toker Class

Classifier	Recall	Precision	F1-Score
KNN	0.73	0.70	0.72
Logistic Regression	0.66	0.64	0.65
Decision Tree	0.85	0.59	0.70
Random Forest	0.84	0.74	0.79
SVM	0.88	0.60	0.71
Naive Bayes	0.60	0.59	0.60
Bagging Classifier	0.80	0.76	0.78
Dummy	0.49	0.49	0.49
Random Forest (Test)	0.83	0.73	0.78

Am I a 'Target Toker'?

Discussion and Next Steps

- Additional Feature Engineering
- Improve UX of Web Application
- Design Marketing Campaign
- Evaluate Impact

Thank you.