AN EXAMINATION OF THE PRACTICE OF TAILORING SMOKING CESSATION PHARMACOTHERAPY IN A TOBACCO TREATMENT PROGRAM WITHIN MENTAL HEALTH AND ADDICTIONS SETTINGS.

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DECLARATION OF COMPETING INTERESTS

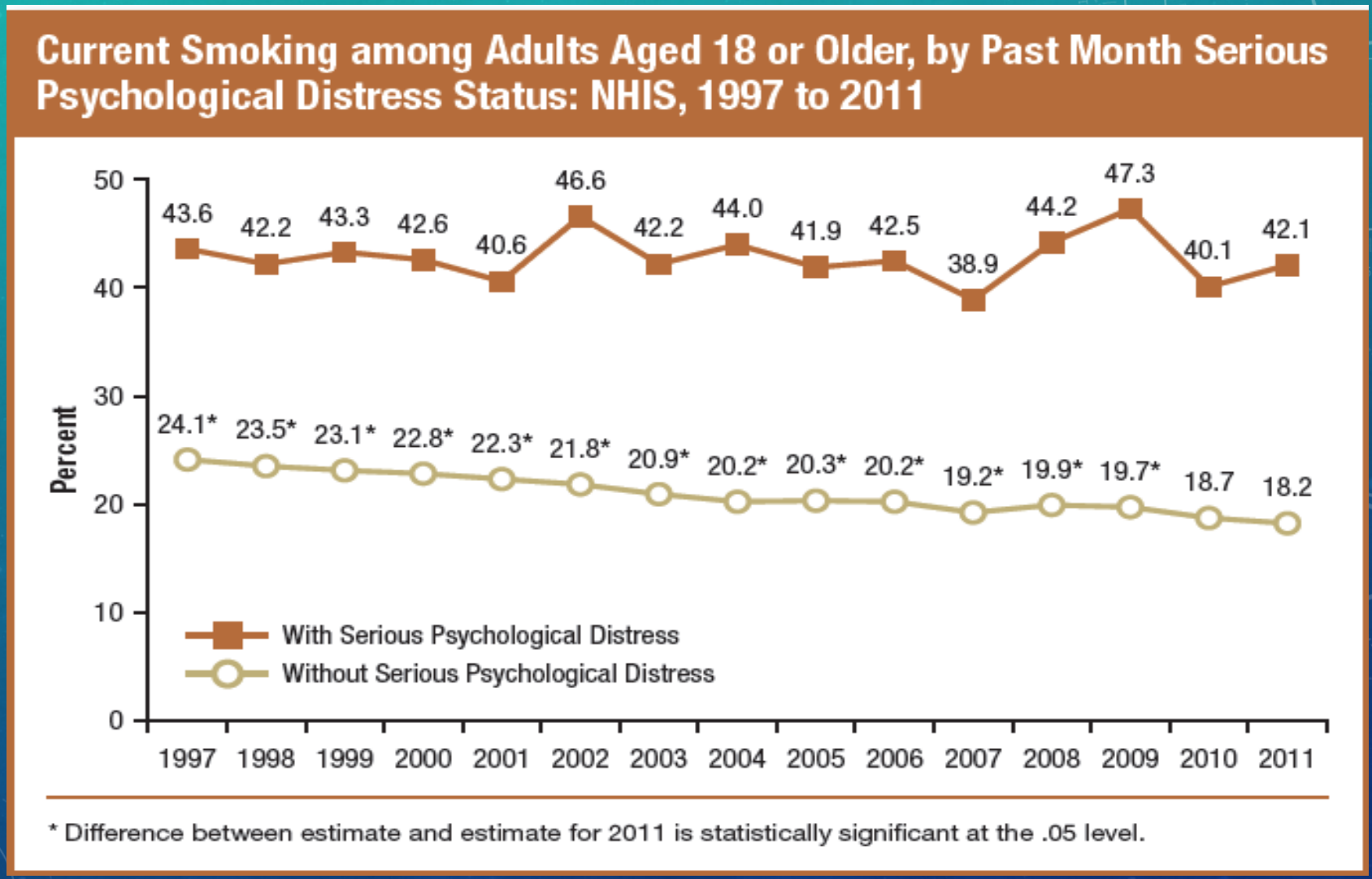
Dr Chizimuzo Okoli has received unrestricted research funding, speaker's honoraria, consultation fees or product from the following organisations/companies in the previous 12 months:

- Vancouver Coastal Health Authority
- The Breathing Association
- University of Kentucky
- Bluegrass.org

Dr Milan Khara has received unrestricted research funding, speaker's honoraria, consultation fees or product from the following organisations/companies in the previous 12 months:

- Interior Health Authority
- Pfizer
- TEACH
- QuitNow Services
- Ottawa Heart Institute
- Johnson and Johnson
- Provincial Health Services Authority
- College of Physician's and Surgeon's of British Columbia

SIGNIFICANCE



Data from the National Health Interview Survey. Current smoking is defined as those who had smoked 100 cigarettes in their lifetime and smoked daily or some days at time of the interview. This illustration was obtained with permission from the SAMHSA CBHSQ Report, July 18 2013:http://www.samhsa.gov/data/sites/default/files/spot120-smokingspd_/spot120-smokingSPD.pdf

CLINICAL PRACTICE GUIDELINES:

"All smokers with psychiatric disorders, including substance use disorders, should be offered tobacco dependence treatment, and clinicians must overcome their reluctance to treat this population…. Treating tobacco dependence in individuals with psychiatric disorder is made more complex by the potential for multiple psychiatric disorders and multiple psychiatric medications."

(*Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline)*

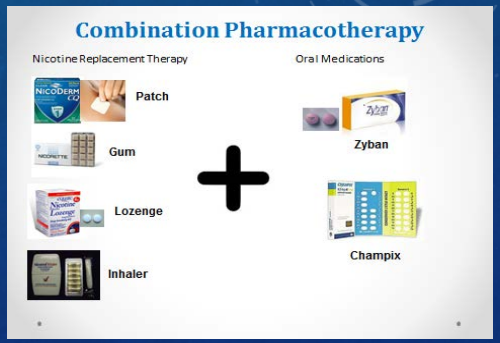
Fiore M, Jaén C, Baker T, et al. *Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline.* Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. ;2008

TREATMENT APPROACH

A 2013 Cochrane network meta analysis (N = 101, 804) found that compared to placebo the odds of quitting are:

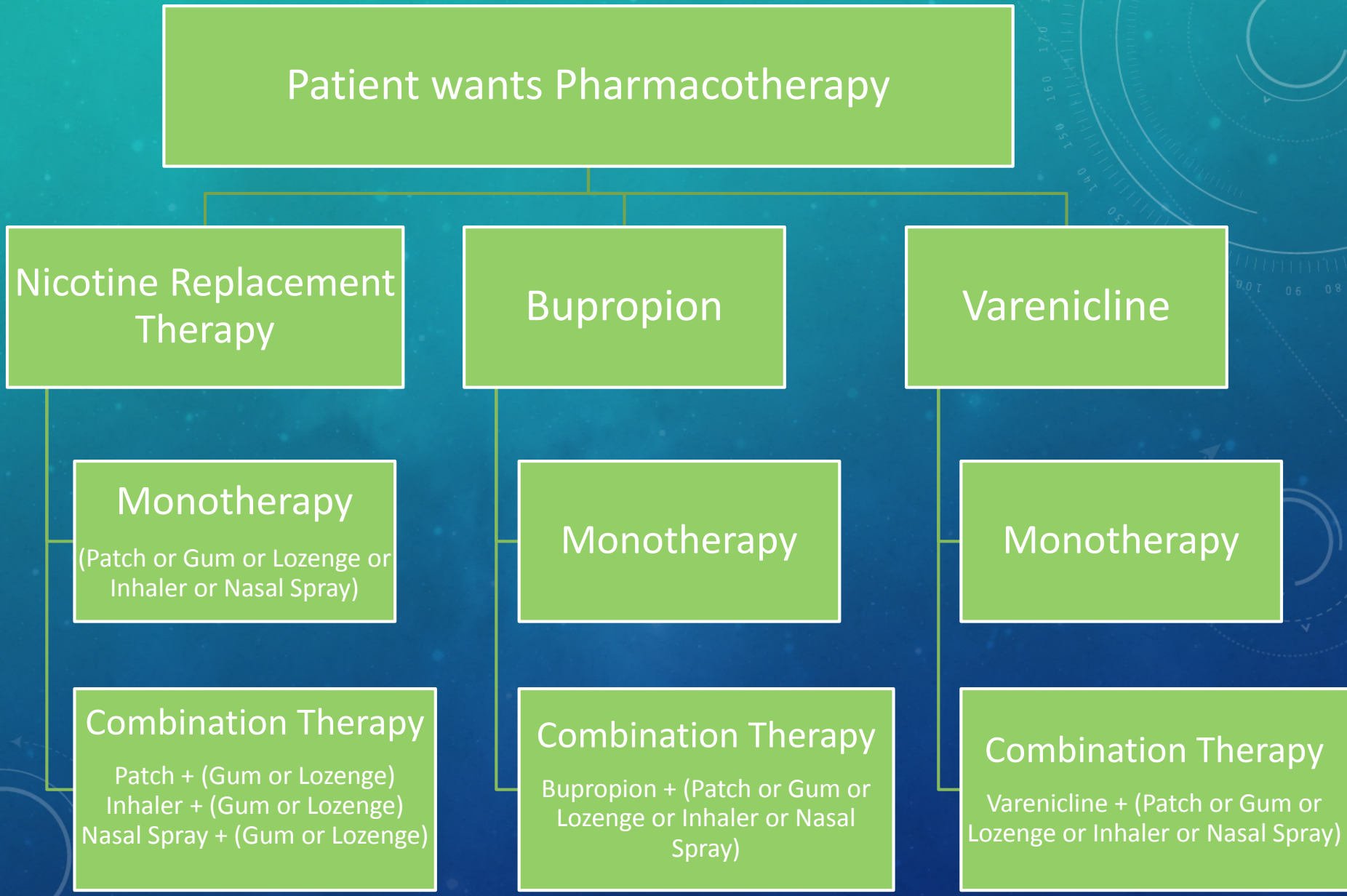
- 80% higher with single NRT or bupropion
- 2-3 times higher with varenicline
- 2-3 times higher with combination NRT

- As of January 2016, Canadian product licenses have changed to reflect this evidence



Cahill K, Stevens S, Perera R, Lancaster T. Pharmacological interventions for smoking cessation: an overview and network meta-analysis. Cochrane Database of Systematic Reviews 2013, Issue 5. Art. No.: CD009329. DOI: 10.1002/14651858.CD009329.pub2. - See more at: http://www.nationalelfservice.net/mental-health/substance-misuse/new-cochrane-review-finds-that-nrt-bupropion-and-varenicline-are-effective-treatments-for-smoking-cessation/#sthash.0GTN4bei.dpuf

COMMON ALGORITHM FOR SC PHARMACOTHERAPY IN PRACTICE



BASED ON PATIENT RESPONSE, 3 RECOMMENDATIONS ARE:

- Maintain initial pharmacotherapy
- Augment initial pharmacotherapy (Adjunctive Therapy)
- Switch to a new pharmacotherapy

Choose type of pharmacotherapy because:

1. Evidence
2. Patient preference
3. Patient experience
4. Patient needs
5. Patient history
6. Patients clinical suitability
7. Potential drug interactions/side effects

Choose combination of pharmacotherapy because:

1. Failed attempt with monotherapy
2. Breakthrough cravings
3. Level of dependence
4. Multiple failed attempts
5. Experiencing nicotine withdrawal

Bader, P., McDonald, P. W., & Selby, P. (2008). An algorithm for tailoring pharmacotherapy for smoking cessation: results from a Delphi panel of international experts. *Tobacco control*, tc-2008.

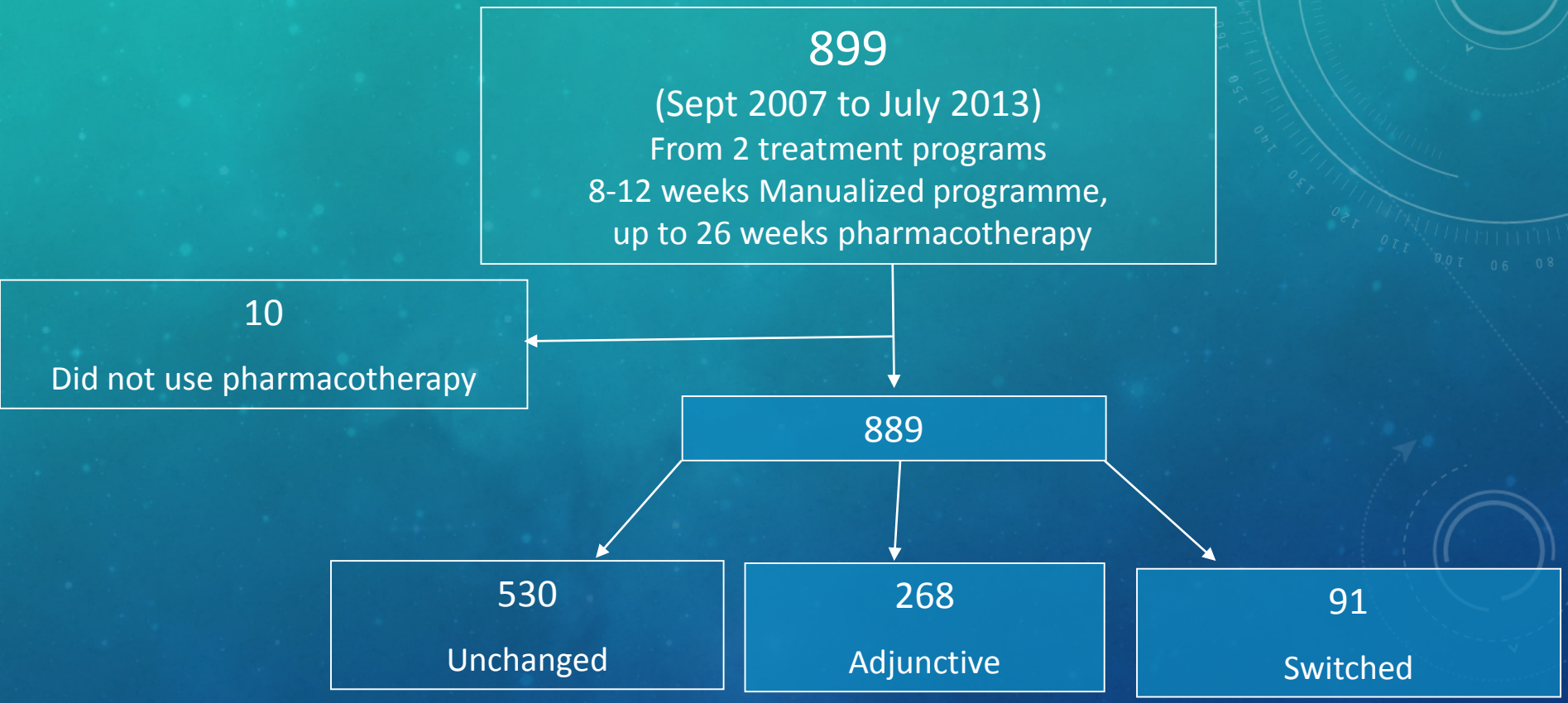
SPECIFIC AIMS

To examine:

- **Demographic** and **programmatic** factors associated with tailoring (i.e., adjunctive therapy vs. switching)

- **Smoking cessation** rates at end-of-treatment based on tailoring of pharmacotherapy

SAMPLE FOR EVALUATION

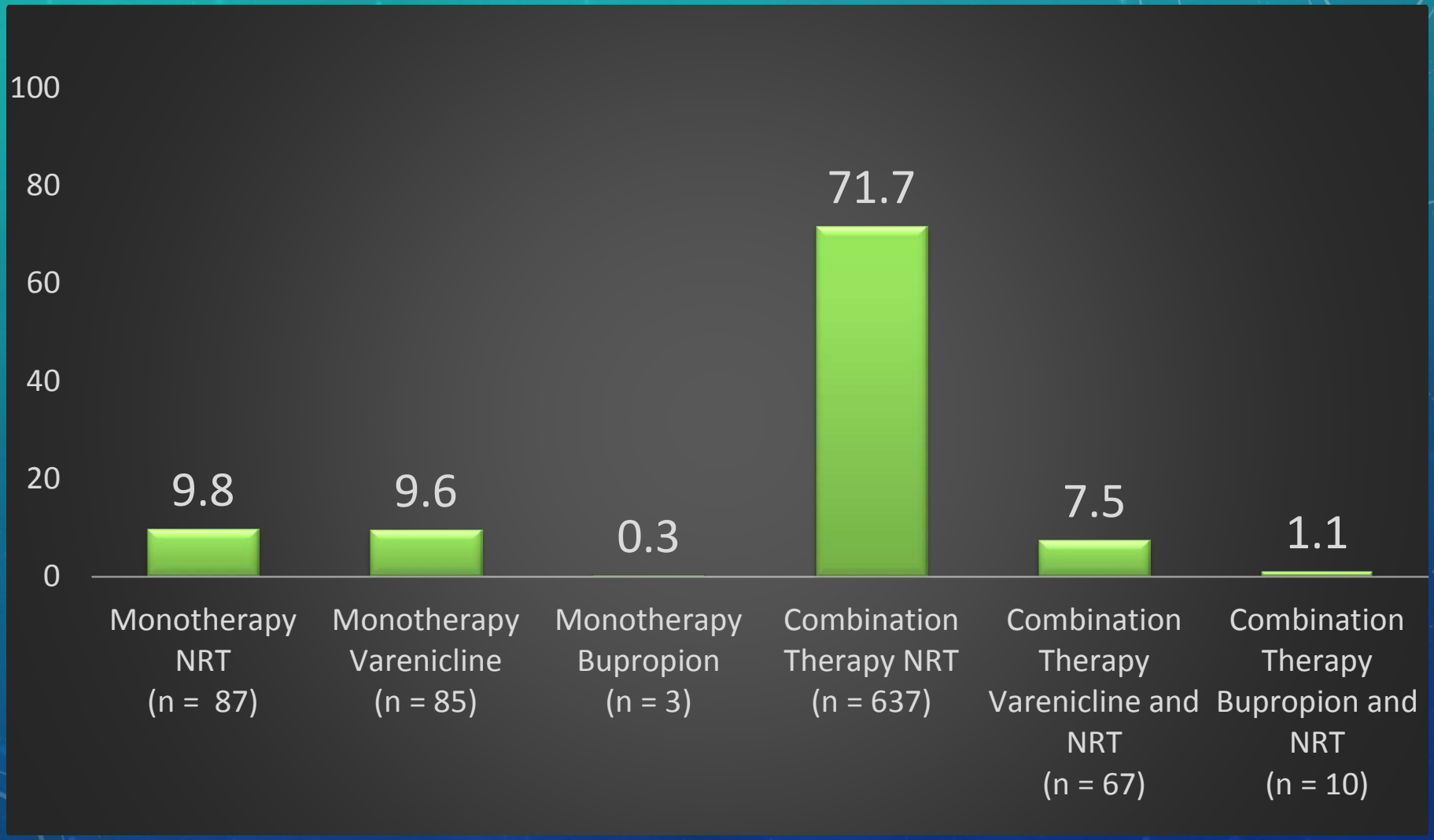


SAMPLE CHARACTERISTICS (N = 889, 55% MALE)

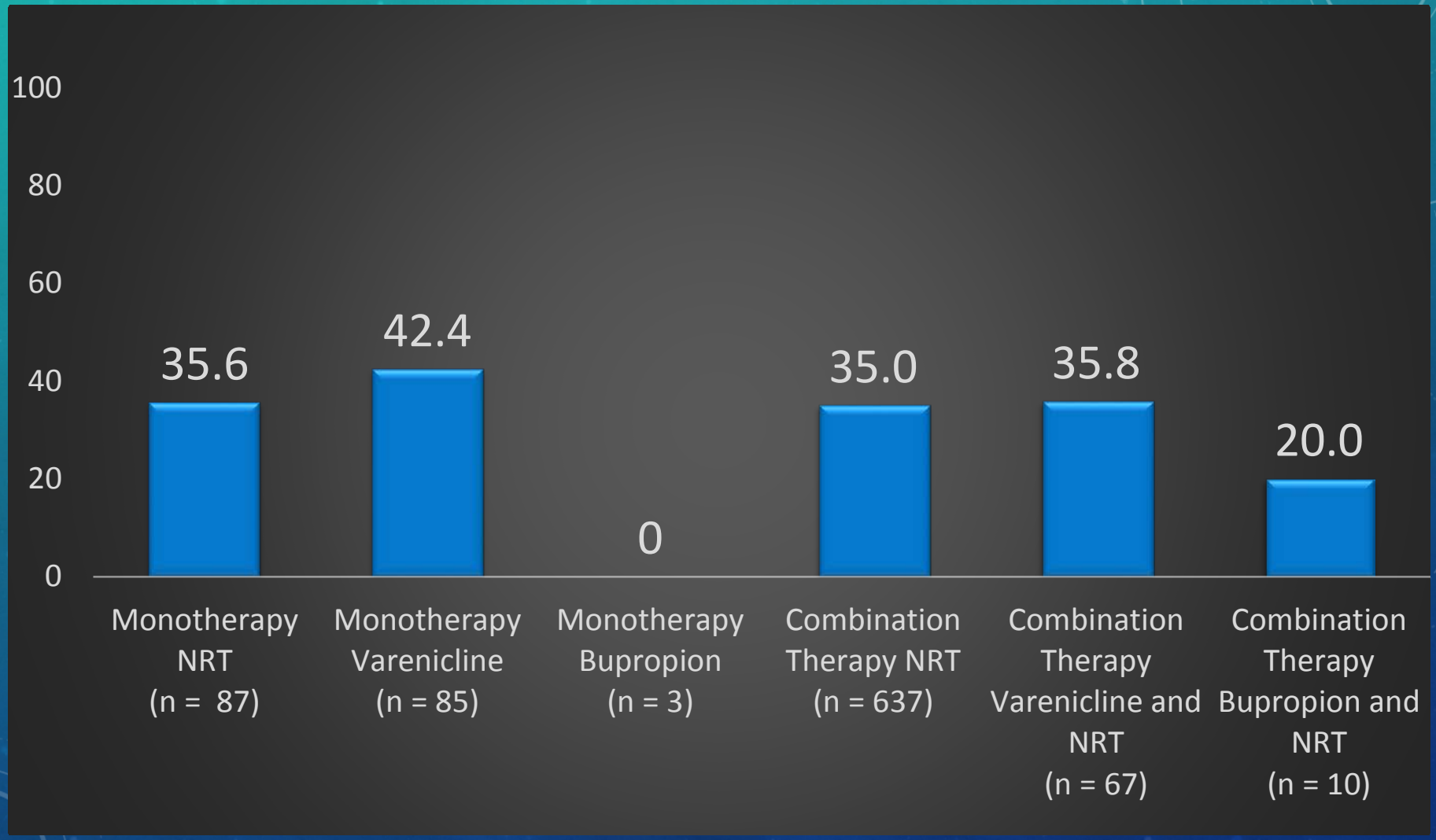
	Unchanged M (SD)	Adjunctive M (SD)	Switched M (SD)
Age (years)	48.1 (11.5)	48.2 (11.1)	51.1 (9.7)
Age at smoking initiation (years)	15.3 (5.5)	16.3 (6.9)	15.0 (6.3)
Importance of quitting (scale of 0 'low' to 10 'high')	9.0 (1.4)	9.0 (1.4)	9.2 (1.2)
Confidence in quitting (scale of 0 'low' to 10 'high')	7.2 (2.4)	7.4 (2.2)	7.5 (2.3)
Number of cigarettes smoked/day***	19.6 (10.5)	19.4 (10.4)	24.3 (11.2)
Fagerstrom Test for Nicotine Dependence* (scale of 0 'low' to 10 'high')	5.8 (2.1)	5.5 (2.3)	6.2 (2.2)
CO level at baseline* (ppm)	20.6 (14.4)	19.7 (13.3)	24.2 (12.3)
Duration in program (weeks)	14.9 (6.6)	16.0 (7.1)	15.3 (5.9)

Group differences are calculated using ANOVA's (with Levene's tests for homogeneity of variance) for continuous variables with * $p < .05$, ** $p < .01$, and *** $p < .001$

PHARMACOTHERAPY USED BY END OF TREATMENT (N = 889)

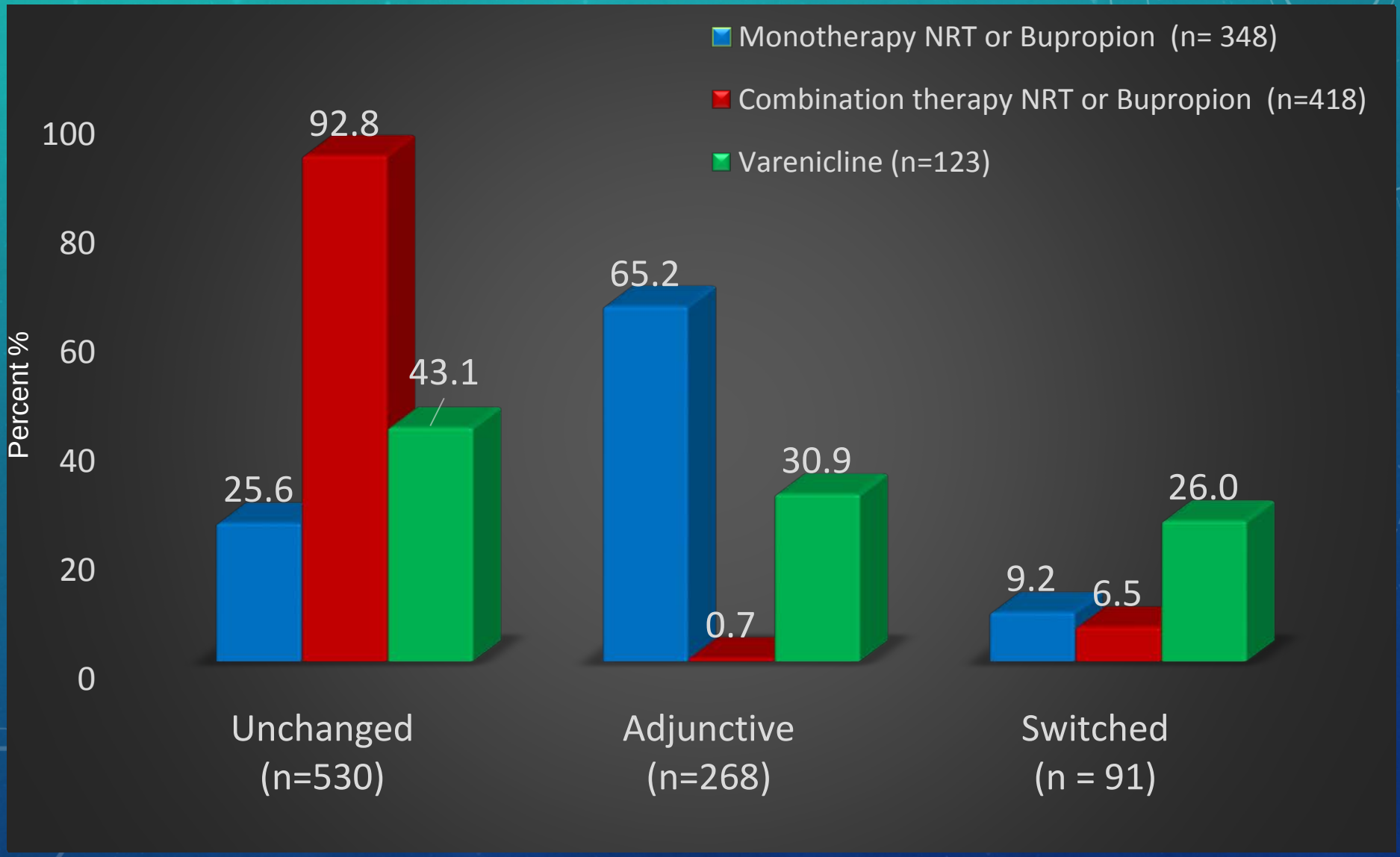


SMOKING CESSATION AT END OF TREATMENT BY PHARMACOTHERAPY

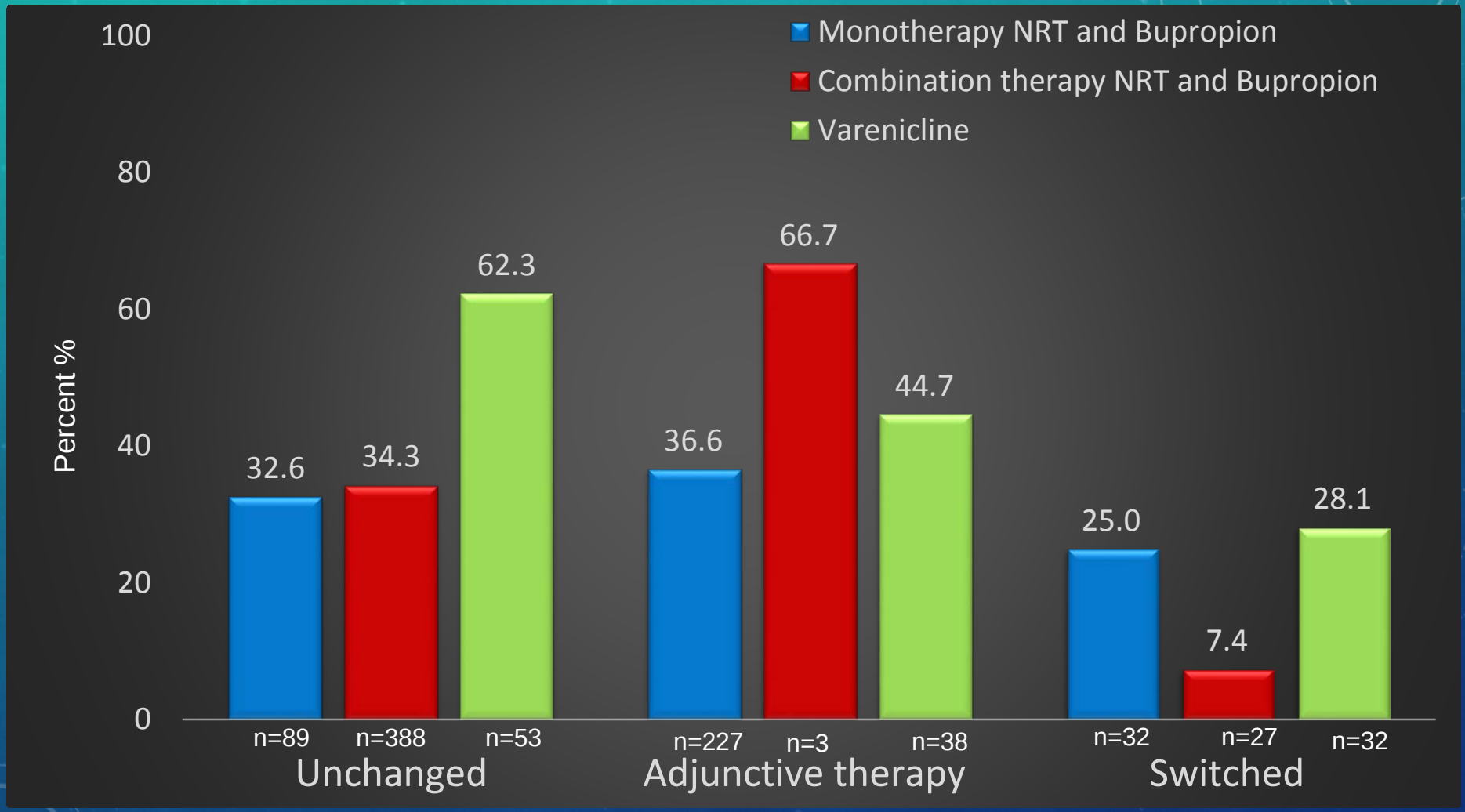


Not statistically significant differences between groups $\chi 2=3.90$ (df = 5), p = .562

CHANGES IN PHARMACOTHERAPY FROM BASELINE TO END OF TREATMENT



SMOKING CESSATION OUTCOMES BY TYPE OF PHARMACOTHERAPY AT BEGINNING OF TREATMENT AND TREATMENT GROUP



Statistically significant differences in the Unchanged group Fisher's Exact $\chi 2=15.78$ (df = 2), $p < .0001$

No statistically significant differences in the Adjunctive Therapy or Switched groups

Effect of type of pharmacotherapy on successful smoking cessation by tailoring

	Unadjusted (N=889)		Adjusted[b] (n=805)	
Pharmacotherapy grouping[a]	OR	95%CI	OR	95%CI
Monotherapy NRT or Bupropion (referent)	1.0	--	1.0	--
Combination NRT	1.02	.64-1.61	1.14	.66-1.96
Varenicline	1.24	.72-2.14	1.96*	1.01-3.80
Tailored grouping				
Unchanged (referent)				
Adjunctive	1.05	.46-2.38	.83	.06-12.72
Switched	.45**	.27-.77	.33**	.17-.63

Note: [a]. OR= Odds Ratio, 95% CI = Confidence Interval

[a] The pharmacotherapy groups are based on the final pharmacotherapy treatment after adjunctive therapy and/or switching. This involves those on single NRT such as gum/lozenge/inhaler/patch (n = 87) or bupropion (n=3), those on combination patch and NRT (n=637) or Bupropion and adjunctive NRT (n=10), those on Varenicline without (n=85) or with adjunctive NRT (n=67)

[b]All analysis adjusted for demographic (gender and age), tobacco use and dependence history (age of initiation, FTND, cigarettes smoked per day, expired CO level at baseline), length of success in prior cessation attempt, motivation to quit (importance and confidence), substance and mental disorder histories, length of treatment in program (in weeks).
Hosmer and Lemeshow Goodness of fit test = $\chi 2=14.07$ (df = 8), p .080

* p< .05, ** p<.01, and *** p<.001

SUMMARY/CONCLUSIONS

- In our analysis, 60% of individuals maintain original pharmacotherapy regimen, 30% receive adjunctive therapy, and 10% switch to other medications.
- Those who switch are more likely to have higher nicotine dependence.
- Those who switch are significantly less likely to succeed in cessation as compared to those who maintain original regimen
  - This finding may be more indicative of greater challenges in treatment as opposed to actual medication effects
- In real world settings, tailoring practices may ‘even out’ the effectiveness of pharmacotherapy

QUESTIONS??