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Case Studies in Tobacco Dependence

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Disclosures

- Hays
  - Research grant support from Pfizer (varenicline)
  - Off label recommendations- NRT (various manufacturers)
- Stevens
  - Unrestricted education grant support from American Legacy Foundation

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Objectives

- Identify the factors to assess and enhance motivation to stop using tobacco
- Describe pharmacologic treatment options for tobacco cessation
- Discuss treatment considerations for people diagnosed with a mental illness

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Brad, Age 46,
2 ppd
Began smoking age 16

History

- Mild hypertension
- Borderline Diabetes
- No SMI
- DUI at age 22 following car accident. Pt was "knocked out," but suffered no serious injury

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Brad, Age 46
2 ppd
Began smoking age 16

- First morning cigarette within 10 minutes of waking
- Frequently smokes 1 to 2 cigarettes in the night
- Describes strong withdrawal symptoms; Strong urge to smoke after 3-4 hours of abstinence

Prior Quit Attempts

- Hypnosis, acupuncture, “laser” therapy all in the past year (no abstinence)
- Quit 3 years ago (for 5 days) using OTC Patch
- Quit 8 years ago (for 3 days) cold turkey

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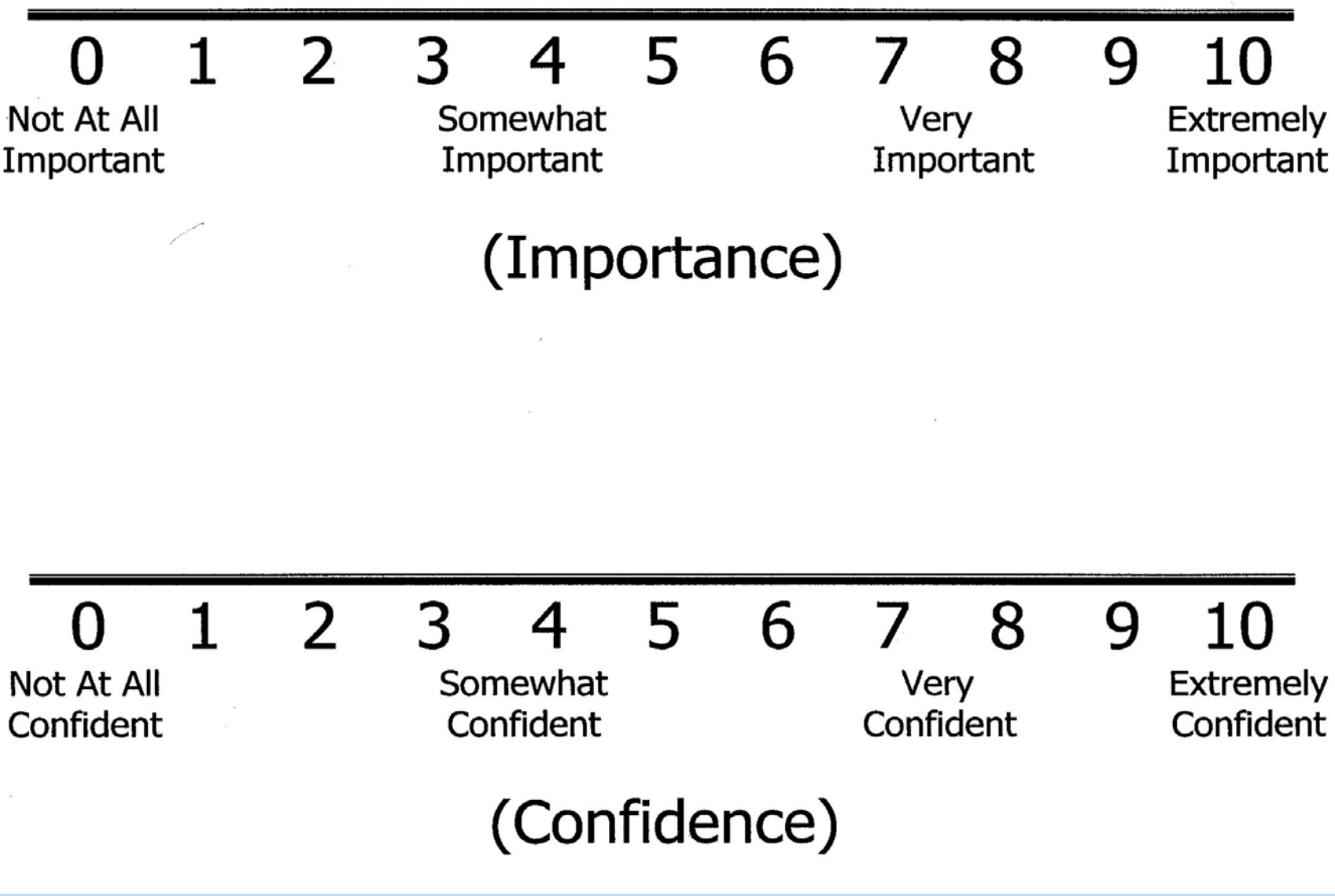

Importance - 9

- Reflect & elicit importance

- Listen for motivational statements (change talk)
  - ***D****ESIRE* ***A****BILITY* ***R****EASON* ***N****EED*

  - *"I really need to do this. I don't want to be 50 years old and still smoking."*

  - *"I'd have more money if I quit."*

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Confidence 4

- Affirm and point out strengths (prior quit attempts)
- Elicit “ability”
  - What other successes have you had?
  - What personal characteristics do you have that might help you with this?
    - Where does your determination come from?
  - How might you seek support?
  - Who will support your efforts?
    - How will she support you?
    - How will she know she’s supporting you?

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Counseling Process

- Information Exchange - Elicit-Provide-Elicit (E-P-E)
  - Addiction, Pharmacotherapy
  - Laser therapy, Hypnotism, Acupuncture
- Reassess Readiness
  - Strengthen Commitment
- Treatment Plan/Relapse Prevention
  - Cognitive-Behavioral
    - Thought process
    - Change routines
    - Behavioral Substitutes
- Follow-up

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Case- “Brad”

Which of the following recommendations will result in the best tobacco abstinence outcome 6 months from now?

1. Nicotine patch 21 mg per day for 8 weeks
2. Nicotine gum 2 mg as needed for 12 weeks
3. Nicotine lozenge 4 mg as needed for 4 weeks
4. Nicotine patch 21 mg per day plus nicotine lozenge 2 mg as needed for 12 weeks
5. Bupropion SR 150 mg twice daily for 7 weeks

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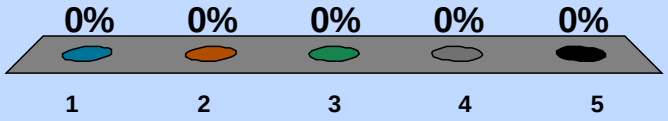

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Combination NRT Compared With Single Agent NRT

- Nicotine patch + short-acting NRT
  - Patch provides steady baseline
  - NG, NL NNS, NI respond to urges
- Withdrawal may be improved
- Overall abstinence rates at 6 mos. better
  - OR 1.35 (95% CI 1.11-1.63)*

*Cochrane Database of Systematic Reviews 2009

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COMBINATION THERAPY

- RCT of 1504 smokers in a research clinic
- Received 1 of 6 treatments for 8 weeks
- 6 brief counseling sessions
- 7-day point prevalence abstinence at 8 wks and 6 months

Piper M, et al. Arch Gen Psychiat 2009;66:1253-62.

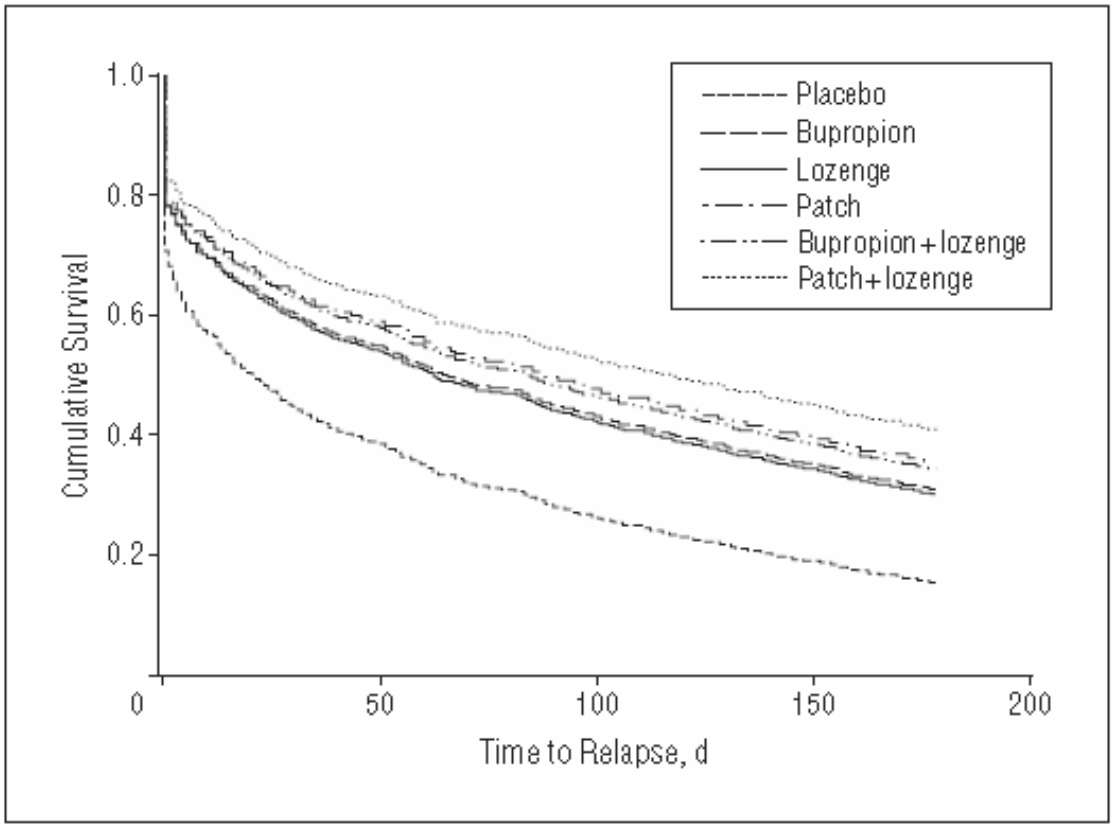

Figure 3. Survival curves for latency to relapse, or the number of days until the participants smoked on 7 consecutive days following the target quit day for the 6 treatment conditions.

Table 2. Carbon Dioxide–Confirmed Point-Prevalent Abstinence and Initial Cessation Rates[a]

	Rate, %					
Smoking Cessation/Abstinence	Placebo	Bupropion	Lozenge	Patch	Bupropion + Lozenge	Patch + Lozenge
Initial cessation[b]	69.4	82.2	81.3	87.7	84.5	91.5
Abstinence						
1 wk	23.3	34.5	29.2	40.5	37.4	43.4
8 wk, end of treatment	30.2	40.2	40.4	44.7	50.4	53.6
6 mo	22.2	31.8	33.5	34.4	33.2	40.1

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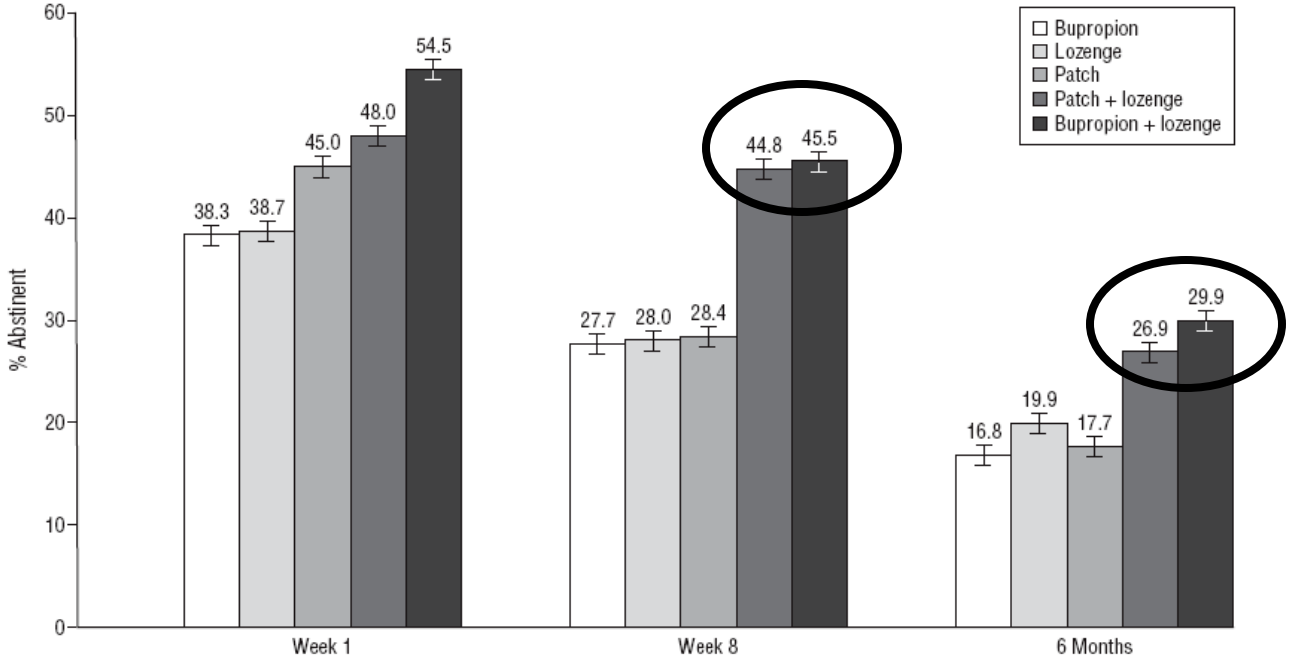
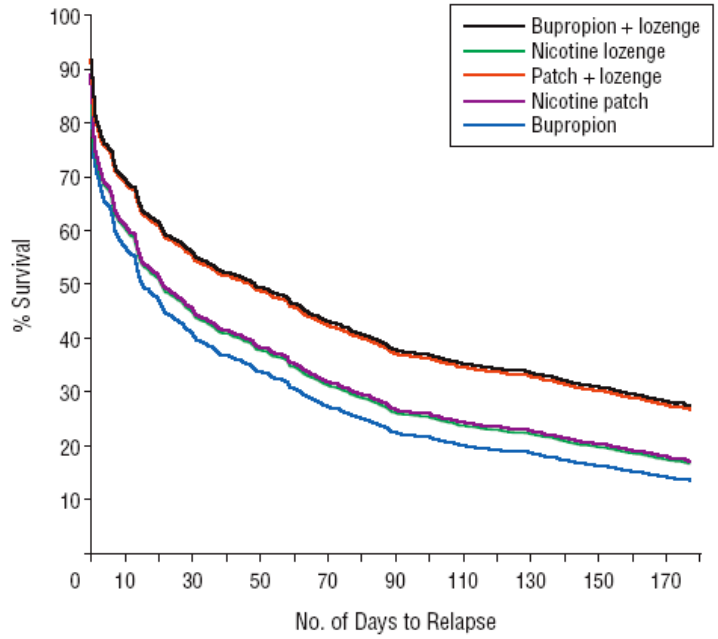


COMBINATION THERAPY

- RCT of 1346 smokers recruited from 12 primary care clinics in Wisconsin
- Received 1 of 5 active treatments for 8 weeks
- Referred for counseling via telephone “quitline”
- 7-day point prevalence at 8 wks and 6 months

Smith SS, et al. Arch Intern Med 2009;169:2148-55



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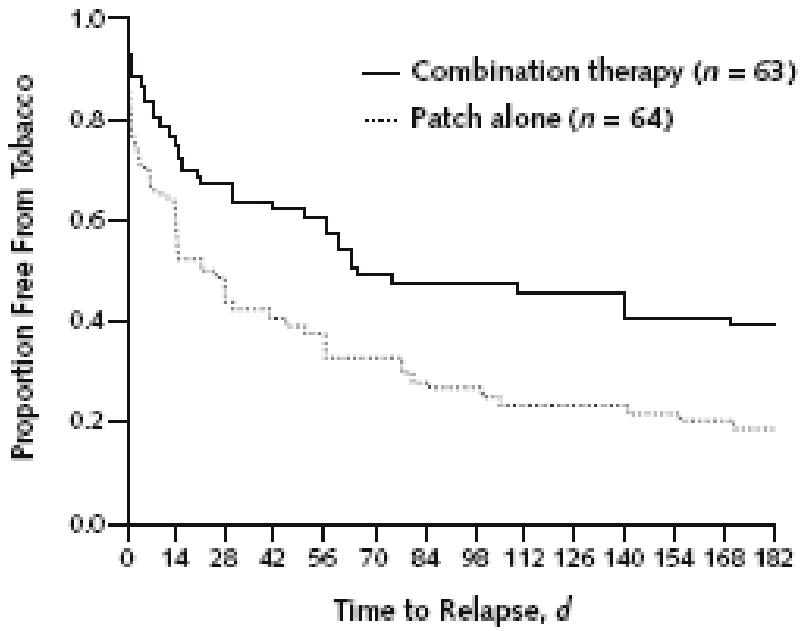
TRIPLE COMBINATION THERAPY

Steinberg MB, et al. Annals Intern Med 2009; 150:447-454.

Figure 2. Time to relapse, by treatment group.



- RCT of 127 smokers with known CVD, COPD, cancer, diabetes
- Compared triple combination (patch + bupropion + nicotine inhaler) to patch alone; no placebo treatment
- Triple therapy stopped based on symptoms (mean treatment duration 89 days); patch alone to taper and stop after 10 weeks (mean treatment duration 35 days)
- At 6 months 7 day point prevalence abstinence:
  - Triple Rx 35%
  - Patch 19%
  - (OR 2.57, 95% CI 1.05 to 6.32, p-value 0.04)

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The “off-label” Dilemma:
When Research, Guidelines and Labels Collide

- FDA approved label
  - NRT for 8 weeks
  - Single agents only
  - Patch 21 mg maximum
  - Bupropion alone
  - Never smoke while using NRT

- UPSPHS Guideline-2008
  - NRT for up to 6 months
  - Combined NRT
  - Higher patch dose
  - Bupropion + NRT

- Published research
  - NRT to reduce smoking
  - Varenicline + short acting NRT
  - Varenicline + bupropion

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FDA proposed label changes for OTC NRT-2013

www.fda.gov/consumer

- **OK to use >one NRT**
- **OK to reduce to quit**

OK to continue NRT even if still smoking past quit date

OK to use NRT beyond 12 weeks of treatment

Current Drug Facts Labeling	Proposed Drug Facts Labeling
Warnings:	
Do not use • if you continue to smoke, chew tobacco, use snuff, or use [a different NRT product] or other nicotine containing products	None. The "Do not use" statement would be deleted.
Directions:	
• stop smoking completely when you begin using the [NRT product]	• begin using [the NRT product] on your quit day
• it is important to complete treatment. Stop using [the NRT product] at the end of [a specified number of] weeks. If you still feel the need to use [the NRT product], talk to your doctor	• it is important to complete treatment. If you feel you need to use [the NRT product] for a longer period to keep from smoking, talk to your health care provider

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Medication Plan: Other options

- NRT with higher dose nicotine patch
- Varenicline
  - Likely superior to other monotherapy options
- Bupropion relatively contraindicated because of his closed head injury history

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Current Treatment Recommendations

- Nicotine patch dose should “match” heaviness of smoking
- Long-term abstinence improved; RR of 1.15 (95% CI: 1.01 to 1.30) [Cochrane systematic review 2009]
- Treatment-related AE’s are uncommon

Cotinine	Cigs per day	Patch dose
<200 ng/ml	< 15	14-21 mg/d
200-300 ng/ml	16-40	21-35 mg/d
>300 ng/ml	> 40	35-42+ mg/d

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The Pearl

- Pharmacotherapy is effective for treating tobacco dependence
- Combination treatment results in superior abstinence compared with single agent therapy for many smokers
- Use combinations in smokers who have tried and relapsed with monotherapy AND in smokers with important comorbidity

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Louise – Age 50, Divorced
3+ ppd
Began smoking age 14

- Several serious quit attempts including residential tx
- Ongoing attempts result in significant reduction of cpd, but usually not total abstinence. A few quit attempts lead to abstinence for several days to a few weeks. Longest abstinence 4 weeks.

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Louise – Age 50, Divorced
Began smoking age 14
Over 3 ppd

History

- Seizure Disorder
- Schizoaffective Disorder
- Migraines
- Obstructive Sleep Apnea
- COPD-Asthma
- GERD
- Traumatic Brain Injury

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Treatment Strategies

- Cognitive-Behavioral Techniques
  - Strength-based focus
- Empathic Redirection
  - Reflect, reinforce values, strengths & goals
  - Renegotiating vs. setting the agenda
- Ongoing support & encouragement
- Collaboration internal & external

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Case- “Louise”

Which of the following statements is true about tobacco dependence in people with serious mental illness?

1. People with serious mental illness do not want to stop smoking
2. Treatment of tobacco dependence will cause decompensation of serious mental illness
3. Treatment of tobacco dependence will cause relapse to alcohol and drugs
4. Stopping smoking should be a low priority health issue for people with serious mental illness
5. Bupropion treatment will double the chances for long term smoking abstinence

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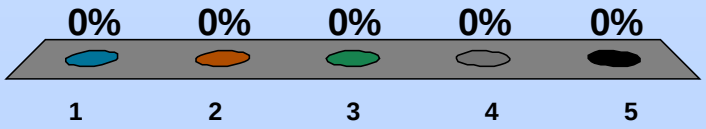
Case- “Louise”

Which of the following statements is true about tobacco dependence in people with serious mental illness?

1. People with serious mental illness do not want to stop smoking
2. Treatment of tobacco dependence will cause decompensation of serious mental illness
3. Treatment of tobacco dependence will cause relapse to alcohol and drugs
4. Stopping smoking should be a low priority health issue for people with serious mental illness
5. Combined behavioral and first-line medication treatment will double the chances for long term smoking abstinence



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Cigarette smoking and serious mental illness

(Lasser et al. JAMA 2000;284:2606-2610)

- 22% never diagnosed with a mental illness currently smoke.
- 35% diagnosed with a mental illness sometime in their life currently smoke.
- 41% diagnosed with a mental illness in the past month currently smoke
- 44% of all cigarettes smoked in the US are by people with a ‘past-month’ mental illness diagnosis.

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Vital Signs: Current Cigarette Smoking Among Adults Aged ≥18 Years with Mental Illness — United States, 2009–2011

MMWR 2013; 62: 81-87

- National Survey on Drug Use and Health
  - 138,000 respondents 2009-2011
  - “Any mental illness” (AMI) defined by
    - Psychological distress (Kessler-6)
    - Disturbance in social adjustment and behavior (WHO Disability Assessment Schedule)
  - Scale scores correlate with DSM-IV diagnoses based on modeling from clinical diagnostic interviews with NSDUH sample

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NSDUH results

MMWR 2013; 62: 81-87

- About 20% of US adults had AMI
- Smoking prevalence 36% (with AMI) and 24% (without AMI)
- Adults with AMI
  - Heavier smokers
  - Quit less often
  - More men than women
  - Tended to be younger (< 45)
  - Tended to be poorer (Smoking: 48% if below poverty line; 33% if above poverty line)

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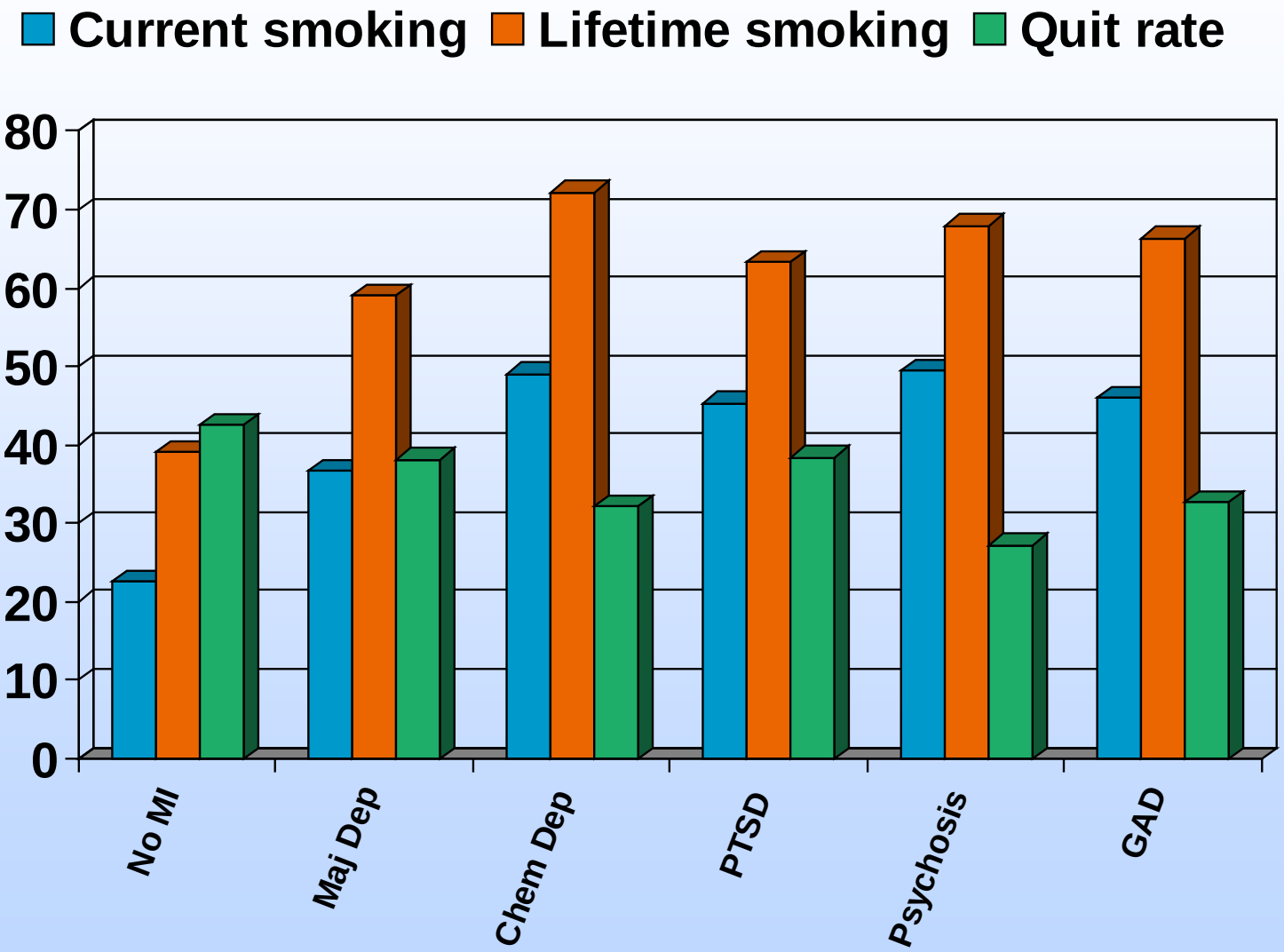
Smoking and psychiatric comorbidities (Lasser et al. JAMA 2000)



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More Medical Co-Morbidities

1074 Schizophrenics vs. 726,262 Controls
Mean Age = 40

Increased Risk of …

Peripheral Vascular Ds	2.11
COPD	1.88
Asthma	1.80
Diabetic Complications	2.11
Multiple Diabetic Comp.	1.62

Carney CP. *J Gen Intern Med.* 2006;21:1133-1137.

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Reduced life expectancy in SMI

- 20 years shorter life span in schizophrenia versus the general population
- Tobacco caused diseases are more common in schizophrenia than the general population
- Higher standardized mortality rates than general population for:
  - Cardiovascular disease 2.3
  - Respiratory disease 3.2
  - Lung Cancer 3.0

Brown et al., 2000; Br J Psychiatry

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Cause of Death in After Alcohol Dependence Treatment*

Hurt RD, et al. JAMA 1996

Tobacco related	43.1%
Alcohol related	27.9%
Tobacco & Alcohol related	3.6%
Non-tobacco, non-alcohol	24.9%
Other drug related	0.5%

*Retrospective cohort study of 845 people treated in Mayo Clinic Inpatient Addictions Program 1972-1982 and followed though 1992. Cause of death determined through medical record and death certificates.

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Smoking and Mental Illness — Breaking the Link

Judith J. Prochaska, Ph.D., M.P.H.

NEJM 2011;365:196-198.

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Smoking and Mental Illness — Breaking the Link

Judith J. Prochaska, Ph.D., M.P.H.

NEJM 2011;365:196-198 (July 21, 2011).

Recommended Treatments for Tobacco Dependence and the Evidence Base for Use in Smokers with Mental Illness.*

Treatment Strategy	Findings in Smokers with Mental Illness
Clinician advice to quit and referral	In one trial in clinically depressed smokers, yielded abstinence rate of 19% at 18 months of follow-up.[1]
Individual cessation counseling	At 18 months of follow-up, individual counseling with access to cessation pharmacotherapy achieved abstinence in 18% of smokers with PTSD[3] and 25% of those with depression.[1]
Group cessation counseling	Group counseling plus nicotine replacement achieved 19 to 21% abstinence at 12 months of follow-up in outpatients with serious mental illness; tailoring content for smokers with schizophrenia was equally effective.
Quit-lines	The nearly 25% of callers to the California quit-line who had major depression were significantly less likely than nondepressed callers to have quit smoking at 2 months of follow-up.
Nicotine replacement: patch, gum, lozenge, inhaler, nasal spray	One trial found nicotine gum particularly helpful among depressed (as compared with nondepressed) smokers (36% abstinence at 3 months). In acute care settings, nicotine replacement reduced agitation in smokers with schizophrenia and was associated with lower rates of leaving inpatient psychiatric settings against medical advice. Extended use of a nicotine patch reduced relapse risk among smokers with schizophrenia. A case series documented that nicotine nasal spray was used appropriately by smokers with schizophrenia and supported cessation.
Bupropion	An effective cessation aid in smokers with or without current or past depression. A meta-analysis of 7 trials in 260 smokers with schizophrenia showed significant effects at 6 months of follow-up.[4] According to a case study, two smokers with bipolar disorder quit smoking with no adverse effects on mood.
Varenicline	Three case series involving medically stable outpatients with schizophrenia reported significant smoking reduction, 8-to-75% quit rates, improvements on some cognitive tests, and no serious adverse effects; individual case reports reveal mixed effects in smokers with schizophrenia or bipolar disorder. Three randomized, controlled trials in smokers with schizophrenia or depression are in process.

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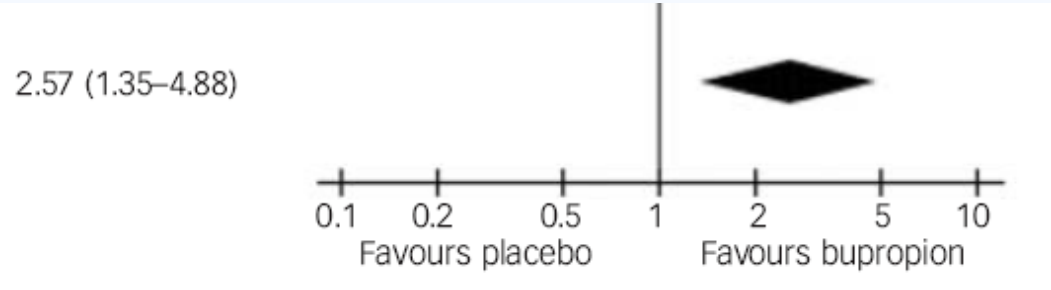
Efficacy and safety of bupropion for smoking cessation and reduction in schizophrenia: systematic review and meta-analysis

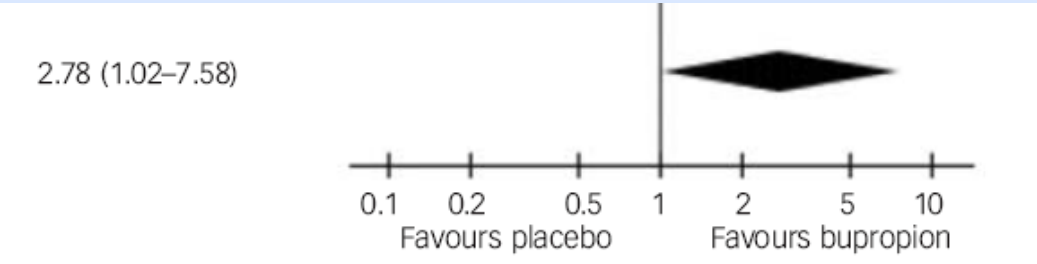
Daniel Tai-yin Tsoi, Mamta Porwal and Angela Claire Webster

BJP 2010, 196:346-353.

7 RCT's; N=260 subjects



Abstinence at end of treatment (8-12 weeks)



Abstinence at 6 month follow-up

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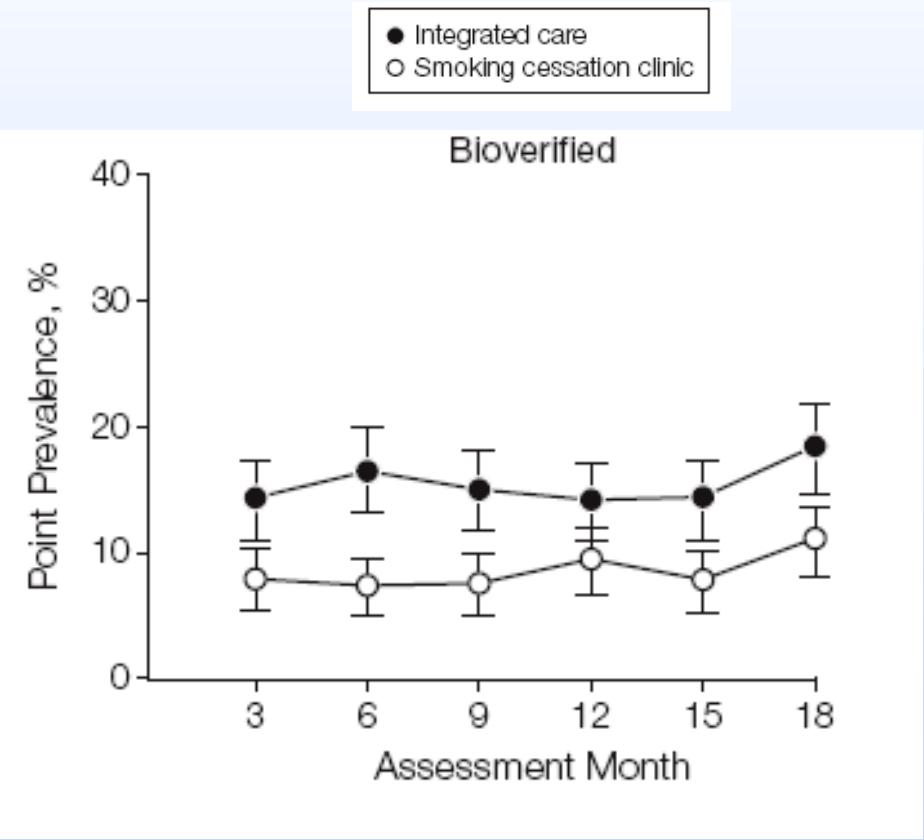
Integrating Tobacco Cessation Into Mental Health Care for Posttraumatic Stress Disorder

A Randomized Controlled Trial

McFall M, et al. JAMA 2010;304:2485-93.



- 943 smokers attending PTSD clinics at 10 VA Medical Centers
- RCT comparing tobacco dependence care integrated into PTSD treatment vs. referral
- Integrated care superior
- PTSD symptoms improved in both quitters and smokers
- Continuing smokers scored lower on QOL measure (PHQ-9) at follow-up

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Why do people with mental illness smoke?

- Self-medication of psychiatric symptoms
- Smoking may uncover latent mental illness in predisposed
  - Smoking increases risk of major depression
  - Smoking increases risk of anxiety disorder
- Common predisposition for tobacco dependence and mental illness
- Tobacco use and other drug/alcohol abuse may reinforce each

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Special considerations for tobacco dependence treatment in serious mental illness (SMI)

- **Tobacco-disease interaction**
  - May diminish negative symptoms in psychotic disorders
  - Short-term improvement in concentration and attention
  - Ineffective as adjunct in mood, anxiety and psychotic d/o
- **Tobacco-drug interaction**
  - Nicotine may enhance metabolism of drugs used to treat SMI
  - Drug doses may need adjustment after tobacco abstinence
- **Drug-drug interaction**
  - NRT may enhance metabolism of drugs used to treat SMI
  - Minimal effect in clinical trials
- **Length of therapy**
  - Treatment length 6 months or longer may be needed
- **Social**
  - Cost of tobacco may crowd out meds, transportation, food, etc.
  - Stigma, isolation

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The Pearl

- Tobacco dependence among people with mental illness…
  - High prevalence
  - High dependence
  - Causes morbidity and excess mortality
  - Stigmatizing
- Tobacco dependence can be successfully treated using proven treatment principles of counseling, pharmacotherapy and integrated care

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