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the PRUDENT prescriber

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Helping Smokers Quit: What Works

Two recent reviews (U.K.s [Health Technol Assess](#) 2021Oct; 25[59] 1-224; [JAMA](#) 2022 Feb 8; 327[6] 566-577); plus two US government-sponsored evidence reviews (the 2020 Surgeon General’s report on smoking cessation and the 2021 US Preventive Services Task Force [USPSTF] recommendation statement) offer substantial evidence that clinicians can help smokers quit. This article is an attempt to summarize these data.

Observations

- More deaths in the US are attributed to cigarette smoking each year than to any other preventable cause.
- An estimated 14% of adults in the US smoke cigarettes. In 2017, 5.3% of adults in Colorado used e-cigarettes and 3.5% used smokeless tobacco. In

2019, 29% of high school students in Colorado used electronic vapor products on at least one day in the previous 30 days.

- People who smoke cigarettes and stop smoking by age 40 recover the most—projected at up to a decade of life expectancy. But mortality benefits persist even for individuals who stop smoking after age 70 years.
- Approximately 70% of people who smoke cigarettes want to quit smoking, but only 20% want to do so in the next 30 days.
- Individuals who attempt to quit smoking make an average of approximately 6 quit attempts before achieving long-term abstinence.
- There is strong evidence and a broad consensus that all clinicians should ask all patients about tobacco use, advise all tobacco users to stop, and offer a brief office intervention. However, integrating these practices into routine clinical care is challenging.
- In 2018, approximately 55% of smokers reported having attempted to quit smoking in the past year. But of these, only 7.5% remained abstinent for one year. One reason for this low success rate is that only 31% of smokers trying to quit use any evidence-based treatment. Clinicians have an important opportunity to close this treatment gap by helping smokers access cessation therapies and resources.

Take Home

- The EAGLES clinical trial (Lancet. 2016; 387(10037): 2507-2520) provided direct comparisons of the efficacy of 12 weeks of treatment with the nicotine patch, varenicline (generic Chantix), and bupropion. Biochemically verified continuous abstinence rates for weeks 9 through 24 were 21.8% (varenicline), 16.2% (bupropion), 15.7% (nicotine patch), and 9.4% (placebo).
- Varenicline plus nicotine replacement therapy (NRT) was ranked first in the U.K.'s Health Technology Assessment (UKHTA). (Addiction, Published online October 11, 2021.)
- Given limited evidence of efficacy, increased cost, and the potential for more adverse reactions, a reasonable approach is to add a second medication class only when an initial drug does not produce complete abstinence rather than starting with 2 medication classes.
- All four sources agree that smokers who receive counseling, with or without medication, achieve higher rates of abstinence than those who do not receive counseling.
- The greater effectiveness of combination NRT compared with single NRT products has been established. (Cochrane Database System Rev 2019; 4 4:CDO13308)
- In clinical practice, the choice of medication should consider patients' preferences, cost, and medication side effects.
- Pharmacotherapy is typically prescribed for people who smoke when they are ready to attempt to quit, but medication can also be effective when

used by people who smoke and plan to reduce their cigarette intake to prepare for a quit attempt. In a randomized, double-blind, placebo-controlled trial of 1510 individuals who reported that they were not ready to quit smoking in the next month, but were willing to quit in 3 months, starting varenicline immediately produced a higher cessation rate than starting the drug on the planned quit date 3 months later (32.1% vs 6.9%) (JAMA. 2015; 313(7):687-694) NNT = 4.

Medications for Smoking Cessation: ~ One Month Supply

Drug	Dosing	Cost Rx	Cost OTC
varenicline	1 mg oral tabs #60, 1BID	\$206-\$273	
bupropion	150 mg ER, #60 1 BID	\$67	
Nicotrol Inhaler	10 mg/cartridge, #168 cartridges; 6-16 cartridges/day	\$490	
Nicotine patch	21 mg patch, #28, Apply once daily (various generic manufacturers)	\$22	
Nicoderm CQ patch	21 mg patch, #28, Apply once daily (GSK)	\$80	
Nicotine patch	21 mg patch, #28, Apply once daily (various generic manufacturers)		\$42-\$56
Nicorette gum	2mg per oral piece, #300 pieces. Use up to 24 pieces /day; average 9 pieces/day in initial 6 weeks	\$123	
Nicotine gum	2mg per oral piece, #300 pieces, .Use up to 24 pieces /day; average 9 pieces/day in initial 6 weeks (various generic manufacturers)		\$63-117



MY TAKE



- The USPSTF assigned the evidence for behavioral treatment and pharmacotherapy for smoking cessation an A grade, indicating a high level of certainty that these treatments had a significant net benefit.

- The 2008 5-step in-office smoking cessation framework has largely been replaced with a 3-step model that distributes tasks across members of the health care team to minimize physician workload.
- The components of 3-step models are (1) Ask, (2) Advise, and (3) Assist or Refer or Connect. In the Ask step, a member of the care team assesses tobacco use at each visit and documents it in the EHR.
- Tobacco use is best assessed with a general question such as “Do you ever use or smoke a tobacco product?” because not all tobacco users smoke cigarettes.
- I cannot recall saving many lives in my career as a family doc. Asking patients about tobacco use and following through with offering help may well have been my claim to life-saving fame.
- And don’t forget to remind patients about the CO QuitLine. Register at coquitline.org, or at 1-800-QUIT-NOW (784-8669). Over the counter smoking cessation meds are free for most CO residents when they work with the QuitLine.

Use of Medications that Can Elevate BP From the “Less is More” School

This observational study from Boston’s Beth Israel Deaconess Medical Center utilizing the US National Health and Nutrition Examination Surveys (NHANES) assessed the frequency of use of medications that can elevate blood pressure. The sample of 28,000 US adults, self-reported medication use between 2009 and 2018. Over the counter meds were not included. Participants were considered to have hypertension if they self-reported a formal hypertension diagnosis or if BP was > 130/80 mm Hg at a NHANES visit. ([JAMA Intern Med](#) 2021 Nov 22)

Results:

1. ~15% of all participants and 18.5% of hypertensive participants were using medications that might elevate blood pressure.
2. The use of medications that may raise BP was associated with greater odds of uncontrolled hypertension among adults **not** concurrently taking anti-hypertensives (odds ratio, 1.24), but not among patients concurrently taking anti-hypertensives.
3. The use of medications that may raise BP was associated with greater use of anti-hypertensives, among both adults with controlled hypertension and adults with uncontrolled hypertension.

Prevalence of Use of Medications That May Raise BP Among US Adults, 2009-2018

	US Adults 27,599	Adults with hypertension 14,629
Use of meds that will raise BP		
1 med	12.3%	14.9%
2 or more meds	2.5%	3.6%
Classes of drugs that can elevate BP		
Antidepressants (SNRIs and TCAs)	6.7%	8.7%
NSAIDs	4.9%	6.5%
Steroids	1.4%	1.9%
Estrogens (Higher dose BCPs)	1.4%	1.7%
Stimulants	1.1%	0.9%
Testosterones, anti-obesity agents, decongestants, antipsychotics, immunosuppressants	Less than 0.5% for each of these drug categories	Less than 0.5% for each of these drug categories



MY TAKE



- This nationally representative study population included 27,599 adults (mean age, 46.9 years; 50.9% women; 11.3% Black individuals; 14.8% Hispanic individuals; 65.3% non-Hispanic White individuals) of whom 49.2% had hypertension and 35.4% had uncontrolled hypertension.
- The study suffers from excluding over the counter meds and thus underestimating the effect that OTC NSAIDs and decongestants have on elevating BPs.
- Consider alternative approaches when possible.
 - Use SSRIs instead TCAs and SNRIs.
 - Use low dose (20-30 mcg ethinyl estradiol) or a progesterone only form of contraception.
 - Consider topical NSAIDs or acetaminophen in place of systemic NSAIDs.

The authors of the study suggest, *“Clinicians caring for patients with hypertension should routinely screen for medications that may cause elevated BP and consider*

de-prescribing, replacing them with safer therapeutic alternatives, and minimizing the dose and duration of use when alternatives are not available."

Second MRNA Covid-19 Booster: The Israeli Experience

Methods:

In a National Israeli Registry (560,000 patients, ages 60-100) researchers compared the number of COVID related deaths over a 40 day period in a group with a second booster with a group with only one booster. (DOI: <https://doi.org/10.21203/rs-1478439/v1>)

Results:

I crunched their numbers with the following NNI (number of patients with one booster needed to immunize with a second booster to prevent one Covid-19 death.)

- Over all ages 60-100 years, NNI = 1,423
- Ages 60-69 years, NNI= 4651
- Ages 70-79 years, NNI = 6666
- Ages 80-100 years NNI =302

Strengths of study

- Big "N" from an integrated medical records system with lots of demographic data including comorbid conditions that could be adjusted for
- Definitive endpoint: death from COVID

Weaknesses of study

- Short follow up of 40 days
- Sorting out death "from" or "with" Covid-19 not always clear cut



MY TAKE



- The study did not look at vaccine morbidity.
- The numbers needed to immunize are almost always in the hundreds or thousands for an immunization to prevent many common infectious diseases, let alone death. So the large numbers are not unreasonable. The

study suggests a modest protection against death compared with the first booster.

- Far and away, this study offers the best idea we have of the effect size of a second booster in older adults.

Newly Approved Generics

Although the days of single digit monthly prices for newly approved generics are mostly gone, the table below spells financial relief for some patients.

Branded Drug Cost for one month	Generic Drug Cost for one month	Comments
Bystolic \$170	nebivolol \$30	Both branded and generic are flat priced
Chantix 1mg \$463	varenicline \$192	Costs are for the first month's starter kit
Dexilant \$324	dexlansoprazole \$125	30mg and 60mg flat priced for both. Recall PPIs esomeprazole, lansoprazole and omeprazole are available OTC for \$9-\$17/mo. Generic pantoprazole (Protonix) available for \$12/mo.
Narcan \$130	naloxone nasal spray \$47	Cost is for one box containing two 4mg nasal sprays. In Colorado and 23 other states, naloxone is available without a prescription at many pharmacies.
Restasis \$634	cyclosporine \$178	60 vials of 0.4 ml of the 0.05% suspension

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