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MILLION VETERAN PROGRAM DATA POINT TO GENETIC PROFILE OF SMOKERS



Using MVP data on 209,000 Veterans, researchers pinpointed genetic locations linked to smoking and addictive behavior.

Tobacco smoking is a leading cause of mortality and disability in the world. About 3 in 10 U.S. military Veterans used some form of tobacco product during 2010 – 2015, according to the Centers for Disease Control and Prevention.

Smoking is moderately inheritable, and genetic variation contributes to people’s risk of becoming smokers. In the past two decades, studies have sought to identify risk variants in the human genome for smoking and related traits.

To date, the established genetic variants for smoking are located on chromosomes 15 and 8, and they account for only a small proportion of genetic vulnerability. The large number of risk loci (locations in the genome) has remained to be discovered. As it does for many other health conditions, MVP provides a powerful platform to identify new genetic variants responsible for smoking behavior.

A team of researchers led by Dr. Amy Justice from the VA Connecticut Healthcare System and Dr. Henry Kranzler from the Michael J. Crescenz VA Medical Center in Philadelphia have begun to identify some of these new genetic variants. They conducted a genome-wide association study of smoking in 209,000 MVP enrollees with European ancestry.

The team identified 11 genomic loci, including the already-known loci CHRNA5-A3-B4 on chromosome 15 for smoking. Ten of the 11 loci that the team found are new findings with respect to smoking. They include a variant in NEGR1 (Neuronal growth regulator 1), a gene that is highly expressed in the brain and has been previously linked to eating disorders. Importantly, the team replicated 4 of these new loci in a follow-up analysis using 336,000 genetic samples from UK biobank. The findings were presented at the American Society of Human Genetics conference in October 2018.

The results offer new insights into how genes affect cigarette smoking in U.S. Veterans of European descent, and they will help inform future research aimed at discovering risk genes for smoking in other ethnic populations. Ultimately, the research is helping to lay the foundation for new and better ways to help people quit smoking.

To learn about the American Cancer Society’s Great American Smokeout event on Nov. 15, 2018, visit www.cancer.org.

For more information on the Million Veteran Program, visit www.research.va.gov/mvp.

To learn about VA resources to help Veterans quit smoking, please see the other side of this sheet.

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VETERANS, TOBACCO, AND HEALTH

(adapted from mentalhealth.va.gov)

There is a long history of smoking and other tobacco use in the military. Many Veterans used tobacco while they served, particularly during deployment. Seven out of every 10 Veterans who smoke would like to quit — for both the physical benefits and their mental health. A majority of them are successful.

If you're one of those Veterans, or if the Veteran in your life is trying to quit, VA offers resources for making a quit plan and sticking to it.

VA's approach centers on the proven combination of medication and counseling, and we offer the following resources to help you on your journey:

- **Medications:** Using FDA-approved medications, such as nicotine replacement therapy, bupropion, and varenicline,
- **Counseling:** Combining smoking cessation medications with counseling offers you the best chance of quitting — and staying tobacco-free. VA offers tobacco cessation counseling, in person or over the phone, to talk about your tobacco use, ways to get tobacco out of your life, coping with triggers, and changing your lifestyle to remain tobacco-free. To learn more, contact your VA health care provider.
- **Smoking Quitline:** Tobacco quitlines can double your chances of quitting, compared with getting no support at all. Call to make your quit plan, get individual counseling, and develop strategies for preventing relapse. Quitline counselors offer continued support through follow-up calls, and
- **SmokefreeVET:** Need a little encouragement while you're quitting tobacco or smokeless tobacco? The free Smokefree-VET text message program will provide you with daily advice and support. Text VET to 47848 or visit smokefree.gov/VET to sign up. For messages in Spanish, text VETesp to 47848 or visit smokefree.gov/VETespanol.
- **Stay Quit Coach:** This mobile app was designed to help you quit smoking. Use it to develop a customized plan, taking into account your personal reasons for quitting. It will provide information, motivational messages, interactive tools for dealing with urges, and support to help you stay smoke-free.

Adapted from www.mentalhealth.va.gov/quit-tobacco/index.asp. Visit this website for live links to the resources discussed above.

Seven out of 10 Veterans who smoke would like to quit.



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