

Preventive Health and Health Services Block Grant

SUCCESS STORY 2018

Preventive Medicine Residency Program/Cal-EIS

Disease Detectives: Cal EIS Fellows Investigate Supplements

Public Health Issue: We take a lot for granted in the United States, including both the safety of dietary supplements and the continued existence of a well-trained public health workforce. Unfortunately, neither of these is guaranteed. Investment in training of epidemiologists to serve as public health disease detectives is critical. Master of Public Health training programs provide a solid foundation and book smarts, but graduates often lack the hands-on experience needed to succeed in the real world. Dietary supplements, such as vitamins, minerals, and botanicals, are not considered drugs and can be sold to the public without being tested for safety and effectiveness by the Food and Drug Administration (FDA). Over half of U.S. adults report taking dietary supplements, placing many Americans at potential risk.(1)

Intervention: The California Department of Public Health (CDPH) runs the California Epidemiologic Investigation Service Fellowship Program, or Cal-EIS, to provide 1-2 years of hands-on training to recent public health school graduates interested in a career in epidemiology.(2) Two Cal-EIS fellows, Jenna Tucker, MPH and Tessa Fischer, DVM, MPH, trained in CDPH's Food and Drug Branch, where they investigated reports of dietary supplements containing unapproved ingredients, including pharmaceuticals. They discovered that adulteration of dietary supplements is surprisingly common, with 776 adulterated supplements reported nationally in the last 10 years. The most common adulterants were sildenafil in sexual enhancement supplements, sibutramine in weight loss supplements, and synthetic steroids in muscle-building supplements.(1) The fellows worked closely with CDPH researchers to publish their important findings in a peer-reviewed medical journal to increase awareness of the adulteration of dietary supplements with pharmaceutical ingredients. The drug ingredients could cause serious health effects due to interaction with other medications or aggravation of underlying health conditions.

Impact: The Cal-EIS Fellowship Program trains approximately 12 Fellows per year.

The Program serves as the foundation of a win-win formula that provides public health trainees with real-world experience and hands-on learning opportunities while also providing CDPH with skilled investigators. Dr. Madhur Kumar, Cal-EIS preceptor and a co-author on the study, was grateful for her Cal-EIS collaborators, noting "I appreciate the Cal-EIS program and the support that fellows Jenna Tucker and Tessa Fischer have provided the Food and Drug Branch."

The journal article authored by Cal-EIS fellows received tremendous media coverage, which helped to spread the word nationally about risks associated with dietary supplements. The article was mentioned by 67 news outlets and received an attention score in the top 5% of all research outputs scored by Altmetric.(3)

Footnotes:

1. Tucker J, Fischer T, Upjohn L et al. Unapproved Pharmaceutical Ingredients Included in Dietary Supplements Associated With US Food and Drug Administration Warnings. *JAMA Netw Open*. 2018;1(6):e183337. doi:10.1001/jamanetworkopen.2018.3337
2. California Epidemiologic Investigation Service Fellowship Program. Available at www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/Pages/CaliforniaEpidemiologicInvestigationServiceFellowshipProgram.aspx.
3. Unapproved Pharmaceutical Ingredients Included in Dietary Supplements Associated With US Food and Drug Administration Warnings: Overview of attention for article published in *JAMA Network Open*, October 2018. Available at www.altmetric.com/details/49577596. Accessed November 14, 2018.