

# Prevalence of Drug Testing Among Family Medicine Residents and Students: Much Needed Data

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In this issue of the *Journal of Graduate Medical Education*, Bell and colleagues<sup>1</sup> address the question of prevalence of drug testing for residents and medical students. The authors found that, within a sample of family medicine residencies, most programs performed pre-employment testing of residents but not medical students. In response to positive drug tests, programs were equally likely to deny a residency position or provide a position after rehabilitation.

This paper adds to reports on this important topic. Data surrounding physician drug testing are sparse, and scientific inquiries like these are sorely needed. Up to one-third of physicians will be impaired at some point in their lives, either through drugs, alcohol, or mental health issues.<sup>2</sup> The best evidence we have suggests that physicians have a lifetime prevalence for substance use disorders of 10% to 15%, a rate similar to that of the general population.<sup>3</sup> Thus, physicians are not immune to the problem of drug abuse, either in their home life or in their care for patients. We have previously described a framework for protecting patients from impaired physicians that involves early identification through routine drug testing and rehabilitation of the potentially impaired individual.<sup>4</sup> In other high-risk industries that involve public safety, this type of testing is routine and well accepted.<sup>5,6</sup>

Drug testing of physicians is a topic that has drawn recent attention and political controversy. On November 4, 2014, Californians voted down a ballot measure, Proposition 46, the Medical Malpractice Lawsuits Cap and Drug Testing of Doctors Initiative.<sup>7</sup> In addition to other components, this measure would have required drug testing of physicians after an adverse event. Although we support

the framework and there is empirical evidence for physician drug testing, the California measure was ill-conceived, and the physician drug testing component was likely a cover to increase the medical malpractice limits within the state. Still, the measure makes it apparent that a public desire for patient protection and physician drug testing exists.

Bell and colleagues<sup>1</sup> established the prevalence of drug testing among training programs, with family medicine as the model. Although it is reassuring that nearly 70% of programs perform pre-employment testing, one-third of programs do not. Moreover, only about 10% of programs perform some amount of random drug testing. Although pre-employment testing is important, periodic random testing adds important information, improves the performance of pre-employment testing, and is routinely performed in other safety-sensitive industries (eg, aviation, nuclear regulatory, railway systems, criminal justice, and others).<sup>8</sup>

In this study, the health system rather than the residency program initiated the majority of the drug testing. Indeed, it is unclear whether many program directors were aware of the drug testing policies of the health systems in which their programs function. Perhaps health care systems have the infrastructure and policies in place to deal with testing results. Health care systems are responsible for the delivery of health care, so they are ultimately responsible for their employees, among them, medical students and residents.

Although most residency programs stated they used pre-employment drug testing, they did not describe how they defined this testing. Except for marijuana, it is unclear what type of drug test panel was used. The conventional National Institute on Drug Abuse 5 drug test panel is limited and inadequate to detect today's substances of abuse.<sup>9</sup> Health care provider organizations should standardize the selection of the drug test panels to match the population being screened.

Opponents of drug testing express concern over the accuracy of testing. Although the potential for false positives exists, confirmatory testing using gas chromatography-mass spectrometry yields a nearly 100% accurate result (defined as a correlation between measured and known concentration).<sup>10</sup> The risk for false positive results is further reduced by independent testing using split test

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DOI: <http://dx.doi.org/10.4300/JGME-D-14-00754.1>

samples, review by a medical review officer, and an in-depth evaluation of the individual when appropriate. Other industries have used these processes for years.<sup>11</sup>

Opponents of drug testing also cite the costs of testing programs. The individual cost of urine drug screens, with test panels that include most drugs used by unlicensed professionals, are low (\$15 to \$50 per urine sample).<sup>12</sup> In addition to the cost for the test panel, additional costs include sample collection (~\$30 to \$40 per sample), medical review officer (\$50 to \$84 per hour), quality control samples (~\$30 per sample), confirmatory independent gas chromatography-mass spectrometry testing (~\$25),<sup>13</sup> and program administration (varies). There are economies of scale for these costs. An anesthesiology program that included both pre-employment and random drug testing, using more advanced and expensive testing panels, estimated their costs to be about \$50,000 per year. These costs are balanced against the costs of impaired physicians and the benefits of drug testing, including reduced absenteeism, increased productivity, and decreased accidents.<sup>13</sup> This last benefit in health care is probably most important as it involves not only a financial cost but also the health and lives of our patients.

Finally, opponents of drug testing question the efficacy of drug testing for detecting and preventing drug abuse. The argument is that “physicians would not put their patients at risk by coming to work impaired, so why bother testing for drugs/alcohol.” This argument has 2 shortcomings. First, the best evidence suggests physician substance use occurs at a rate similar to that of the general population. Second, although physician professionalism does uphold their fiduciary relationship to their patients (a physician’s practice is the last place impacted by their impairment), chemical dependency, as a mental illness, will, if not detected early, ultimately undermine a physician’s practice and patient safety.<sup>14</sup>

From an effectiveness perspective, published results in health care suggest that programs are able to detect and deter drug use. For pre-employment testing at large urban medical centers, between 4% and 10% of samples are positive.<sup>15,16</sup> Among anesthesiology residents at 1 program, approximately 1% were positive.<sup>17</sup> In addition to detection of impaired physicians, an important benefit of drug testing is the potential deterrent effect. Some colleagues might seek assistance or employment elsewhere, knowing that they will be drug tested. Among health care workers at a large urban medical center, positive drug tests fell from 10.8% to 5.8% after a formal pre-employment testing program was put in place.<sup>15</sup> In the anesthesiology program previously cited, pre-employment and random drug testing led to a

decrease in positive samples from 1% to 0%.<sup>17</sup> More data in this area are needed.

Although possession of marijuana remains illegal under federal law, recent legalization of marijuana in some states adds a layer of complexity to the issue of drug testing. In many ways, marijuana, in those states where it is legal, might be viewed similarly to alcohol use. Whether or not marijuana is legal, providing patient care while impaired puts patients at risk; therefore, signs of impairment should trigger the need for drug testing. States that have laws regulating the use of marijuana often administer blood tests for tetrahydrocannabinol (THC) to determine a driver’s level of impairment. In both Colorado and Washington state, drivers who are found to have THC in their bloodstream at a level of  $\geq 5$  ng/mL are considered “under the influence,” and may be subject to penalty.<sup>18,19</sup> This practice might be acceptable in the medical practice setting as well.

In summary, Bell and colleagues<sup>1</sup> have added to the understanding of drug use and testing among physicians in the United States. Studies like this are needed in order to inform our policies around management of physician impairment and to identify areas that require further attention. These efforts help to improve the safety of our patients and the health of our colleagues.

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