Appropriate Number of Definitive Drug Classes to Test in Outpatient Settings

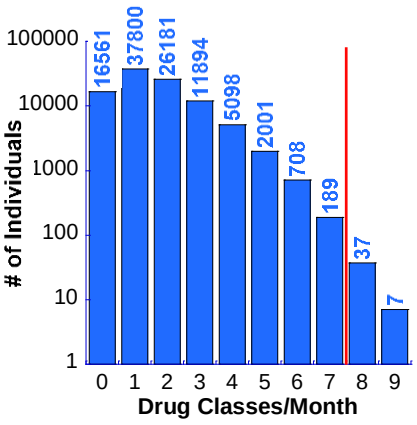
Too small a panel may miss clinically important exposures to dangerous substances. Too large a panel leads to great unnecessary expense, unusable information, and other pitfalls associated with over-testing.

Urine drug testing (UDT) is an important patient monitoring tool designed to help with monitoring prescription opioid therapy, screening for illicit drug use, and monitoring compliance with treatment programs. Historically commonly abused drugs are known as SAMHSA-5, a group targeted in federally regulated testing programs, including amphetamines, cannabinoids, cocaine, opiates, and phencyclidine (PCP). Additional categories that may be screened for according to SAMHSA's (Substance Abuse and Mental Health Services Administration) website include benzodiazepines, alcohol, opioids, and MDMA. Several guidelines also exist to assist physicians with prescribing and monitoring opioids. These guidelines often recommend that a preliminary ("presumptive") test be performed first, and then additional testing should be performed to confirm the results of the screenings ("definitive"). Not every preliminary test result needs to be confirmed since confirmation is only needed for unexpected screening results. In the case of chronic opioid therapy monitoring, urine drug testing is just one of the tools for patient management for clinicians; generally, urine drug testing results are used with clinical judgement and other opioid risk assessment tools, such as questionnaires.

Large drug panel screening lacks clinical superiority over standard sequential screening-confirmation.

How large a panel of drugs to test for in assessing a patient is a commonly asked question. Too small a panel may miss clinically important exposures to dangerous substances. Too large a panel leads to great unnecessary expense, unusable information, and other pitfalls associated with over-testing. Furthermore, there is a lack of guidance informing clinicians of the exact number of drugs to screen for or confirm in any specific patient. Basic clinical judgment, in combination with data from studies assessing patterns of abuse and misuse, must be used to answer the question of the optimal size of drug testing panels.

Fig. 1: Average Number of Drug Classes Per Month Per Member



In general, it is highly unlikely that clinicians would need to assess the presence or concentrations of more than 7 different drug classes in their patients. Very few patients are prescribed more than 4 drug classes simultaneously (**Fig. 1**) that require monitoring, such as opioids. The record of individuals (n = 101137) within the 2015 calendar year from one private insurance company revealed that ***99.96% of individuals were prescribed 7 drug classes or less per month on average*** **(Fig. 1)**. In fact, only a total of 44 individuals (out of more than 100,000) exceed the limit of drug testing as covered by code G0480 (indicated by the red bar in **Fig. 1**). Patients tend to abuse or misuse drug classes that they have experience with, such as opiates or stimulants. Moreover, statistical interpretation of screening results dictates that only results that conflict with the initial clinical impression should be confirmed with definitive testing. For example, in a hypothetical patient who is being monitored during opioid replacement therapy, it would be best to screen for SAMHSA-5 drugs as well as relevant opioids. It would only be necessary to confirm unexpected screening results; likely unexpected findings would be opioids, benzodiazepines or stimulants in these patients. Definitive testing confirmation of multiple drug classes would be rare, and definitive testing of more than 7 drug classes would be difficult to support on clinical grounds as evident in **Fig. 1**. Very

large panels of definitive drug tests performed ***without any prior screening tests*** are often not supported by clinical rationale, and there is a lack of data supporting such panels' clinical superiority over standard sequential strategies. Similar logic applies to testing for drugs of abuse in the other clinical situations outlined above, and it is for this reason that definitive testing for over 7 drug classes in a single setting does not meet criteria for medical necessity.

When it comes to ***definitive*** urine drug testing, rendering providers use a range of panel tests; some of which exceed the limit number of drug classes (seven) for code G0480. Data from two private insurers for the calendar year 2018 show a considerable range, depending on the rendering provider. **Figure 2** displays the usage of definitive drug testing for more than 7 drug classes on a single order (i.e. panel testing) for each rendering provider. The total number of units ordered by each particular provider is in red while the blue bar indicates the percent of definitive tests ordered that contained more than 7 drug classes. Specific labs disproportionately use panels with more than 7 drug classes. In fact, one single lab ("R") comprised 68.7% of all units of G0481 – G0483 submitted by all labs combined (**Fig. 3**).

Fig. 2: Definitive Testing More Than 7 Drug Classes Per Panel
(Minimum of 30 units)

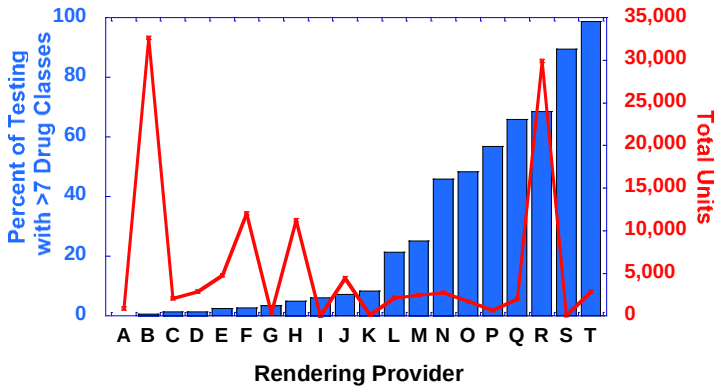
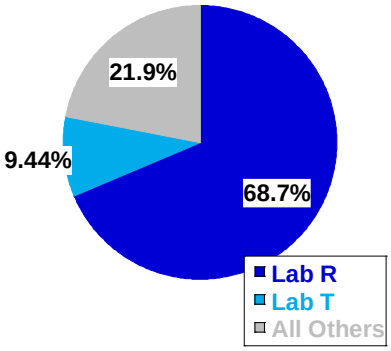


Fig. 3: Disproportionate Use of Panels with >7 Drug Classes



In summary, by reviewing the records of more than 100,000 individuals over the course of a year, we determined the average number of drug classes prescribed per individual per month. 99.96% of individuals were prescribed 7 drug classes or less on average (within the scope of the G0480 code), and the overall median number of drug classes prescribed monthly is 1. Only 44 individuals of more than 100,000 were prescribed more than 7 drug classes. The data support that large panels of definitive drug tests performed ***without any prior screening tests*** are lacking in clinical rationale and that standard sequential screening-confirmation strategies can be used to effectively monitor the patients in these populations. For one private insurance company in the 2018 calendar year, Avalon, by enforcing a sound, clinically rational limit of seven drug classes per individual per visit, ***saved just over $8,000,000***. In definitive drug testing, the size of the toxicology panel is important since a panel with too few analytes tested may result in drugs missed and a panel with too many analytes tested can result in over-testing and possible false-positives.

One private insurance company saved over $8,000,000 in a single year!

NOTE: Access Avalon's full white paper concerning this topic at https://www.avalonhcs.com/assets/documents/Toxicology%20White%20Paper%2020190606_final.pdf. For more information, please contact Barry Davis, Avalon Chief Growth Officer, at Barry.Davis@avalonhcs.com.