

Urinalysis typically targets psychoactive drugs other than alcohol and is used for that purpose in this study.¹⁸ Immunochromatographic (ICG) tests, such as the AbuSign DOA 4 type used here, are readily available and relatively inexpensive.¹⁹ ICG-type instruments utilize high-specificity monoclonal and polyclonal antibodies and their reaction in the presence of target drugs. Such tests provide an effective method for detecting the presence of a wide variety of drugs, for example, marijuana, cocaine, phencyclidine (PCP), amphetamines, opioids and their metabolites. If these substances or their by-products are present in detectable urine concentrations, then they will react with drug-specific antibody-dye conjugates. The ICG test, although a popular screening method for drugs of abuse, is potentially prone to easy sample adulteration. In this study, however, mitigating influences against adulteration include its voluntary nature and the hospital environment, where from the patient perspective, such data collection is routine and expected. The drugs for which urinalysis screened specifically were cocaine, marijuana, amphetamines, methamphetamine, benzodiazepines, barbiturates, PCP, and opioids. For reasons of quality control, urine specimens were only sought when they could be obtained within 48 hours of patient entry into the ER. Cost precluded confirmation of positive test results using gas chromatography/mass spectrometry, an issue that is likely to be most serious for amphetamines and methamphetamine because metabolites of certain over-the-counter medications can mimic them.²⁰

For some analyses, opioids were distinguished as being Schedule II (e.g. meperidine) or Schedule IV controlled substances (e.g. propoxyphene), as defined under Title 21, United States Code, Section 812,1996.²¹ But no distinction was made in the urinalysis. Urinalysis results for opioid use also covered use of heroin.

ER Medical Records: The ER medical record provided the final data source for this study. Using participating patients' ID numbers, information from the questionnaire was linked subsequently with medical record-tagged diagnostic data. This was mainly done to convert presenting problems to provider diagnoses.

Data Entry and Analysis

A SAS data entry screen was used to enter the data for analysis on The University of Tennessee's mainframe computer. A 10% sample of questionnaire data was double-entered as a reliability check.

Several statistical procedures were utilized for data analysis. Difference of means and proportions using the Student's t-test and Chi-square, respectively, were employed in profiling subjects differentiated by demographic characteristics and health status. Generation of statewide prevalence estimates of drug use, dependence, and need for treatment among ER patients took account of sampling fractions used in each hospital and the proportion of ER volume contributed by selected hospitals at the regional level.