

# Clinical diagnostic tests for detecting intoxication and impairment with alcohol and other drugs in hospitalised patients: a scoping review

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## Background/Aims:

Accurate identification of alcohol and other drug (AOD) intoxication in hospital settings is essential for safe clinical decision-making, yet clinicians often rely on subjective observation rather than objective measurement. This scoping review mapped evidence about how clinical/behavioural methods for intoxication detection (e.g., structured behavioural instruments, clinical observation, administrative coding systems) compare to objective measures (e.g., breathalysers, blood tests) in inpatient settings.

## Methods:

A [pre-registered](#) systematic search of five databases (Ovid MEDLINE®, Ovid Embase®, Elsevier Scopus®, Ovid PsycINFO®, EBSCO CINAHL®) supplemented by grey literature was conducted. The review followed the Arksey and O'Malley framework with JBI refinements and was reported according to PRISMA-ScR.

## Results:

Twenty-one studies from 31,153 double-screened records met inclusion criteria (published 1980 – 2022). Settings included emergency departments, trauma settings, and addiction treatment facilities across 26 countries. Most examined alcohol intoxication detection only. Methods assessed included structured instruments (e.g., Alcohol Symptom Checklist), ICD-10 Y91 clinical assessment codes, unstructured clinical judgement, and patient self-report.

Across studies, correlations between observation-based assessments and blood alcohol concentration were poor to moderate ( $r = 0.09-0.84$ ). Accuracy was consistently impaired by tolerance and alcohol dependence. Structured tools outperformed unstructured judgement, yet even validated observational instruments could not reliably identify intoxication at clinically

significant blood alcohol levels in dependent drinkers. Unstructured clinical judgement demonstrated systematic bias by patient demographics. The accuracy of clinical intoxication detection varied substantially across countries; in one multi-country study alone, ICD-10 Y91 concordance ranged from TAU-B 0.35–0.76 across 17 countries.

**Conclusions:**

Observation-based assessments alone are unreliable when detecting AOD intoxication in hospital patients. These methods may be compromised by tolerance, dependence, clinician bias, and contextual and training factors. Current findings have implications for clinical practice, patient safety, and AOD policy, particularly in services without routine access to objective testing. Further synthesis including an additional 20 studies is underway.

**Disclosure of Interest Statement:**

N/A