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Objectives-

- The guideline will provide advice on assessment, investigations, short term and long- term medical management of individuals presenting with alcohol dependence.
- The guideline will also provide advice on psycho-social interventions for patients with alcohol dependence.

Diagnosis

The diagnosis of alcohol dependence can be done using ICD-10 diagnostic criteria which are as follows.

<p>Table 1. Diagnostic criteria for alcohol dependence syndrome as specified in The ICD-10 Classification of Mental and Behavioral Disorders (adapted for alcohol)</p> <p>A cluster of physiological, behavioral, and cognitive phenomena in which the use of alcohol takes on a much higher priority for a given individual than other behaviors that once had greater value. A central descriptive characteristic of the dependence syndrome is the desire (often strong, sometimes overpowering) to take alcohol. There may be evidence that return to alcohol use after a period of abstinence leads to a more rapid reappearance of other features of the syndrome than occurs with nondependent individuals.</p> <p>A definite diagnosis of alcohol dependence should usually be made only if three or more of the following have been present together at some time during the previous year:</p> <p>(a) a strong desire or sense of compulsion to take alcohol;</p> <p>(b) difficulties in controlling alcohol-taking behavior in terms of its onset, termination, or levels of use;</p> <p>(c) a physiological withdrawal state when alcohol use has ceased or been reduced, as evidenced by: the characteristic withdrawal syndrome for alcohol; or use of alcohol (or a closely related substance with the intention of relieving or avoiding withdrawal symptoms);</p> <p>(d) evidence of tolerance, such that increased doses of alcohol are required in order to achieve effects originally produced by lower doses;</p> <p>(e) progressive neglect of alternative pleasures or interests because of alcohol use, increased amount of time necessary to obtain or take alcohol or to recover from its effects;</p> <p>(f) persisting with alcohol use despite clear evidence of overtly harmful consequences, such as harm to the liver through excessive drinking, depressive mood states consequent to periods of heavy alcohol use, or alcohol-related impairment of cognitive functioning; efforts should be made to determine that the user was actually, or could be expected to be, aware of the nature and extent of the harm.</p>

ASSESSMENT

This includes medical history, physical examination, mental status examination (MSE) and investigations. Assessment is targeted:

- To ascertain the diagnosis of alcohol dependence
- To establish rapport with the patient
- To assess complications associated with alcohol use (including physical and psychological)
- To assess level of motivation
- To assess support and resources available
- To assess suitable setting for management
- To assess need for referral

Screening:

As there is a significant time lag between emergence of alcohol dependence and treatment seeking for the same, it is important for the clinician to enquire about alcohol use from every patient to catch them early.

History taking:

Following information should be obtained during history taking.

- Socio-demographic details
- Pattern of alcohol use (Amount, timing, frequency, place, etc)
- Type of alcohol beverage used
- Duration of use
- Features of alcohol dependence (craving, tolerance, withdrawal, physical or psychological symptoms, etc.)
- Alcohol related complications (physical, psychological, familial, social, vocational, financial, legal)
- Past abstinence attempts
- Level of motivation (coming by self or family or on being referred by another specialist/ employer/ legal agency)
- Past history of any medical & psychiatric illness, family history

Physical examination:

Physical examination should be done to find out

-Features of alcohol intoxication: unsteady gait, difficulty standing, slurred speech, nystagmus, decreased level of consciousness (e.g. stupor, coma), flushed face, and conjunctival injection.

-Features of alcohol withdrawal: Tremors, sweating, nausea, vomiting, tachycardia or hypertension, psychomotor agitation and generalized seizures.

-Physical complications: associated with alcohol use. Eg. liver enlargement, pedal edema

Mental Status Examination (MSE):

- Assessment of general appearance and behavior, psychomotor activity, speech, affect, thought, perception, orientation, attention and concentration, memory, intelligence, abstraction, judgment, insight and level of motivation.

MSE is aimed at identifying the presence of any co-occurring psychiatric disorders and presence of complicated alcohol withdrawal.

Investigations:

- Haemogram (including hemoglobin, total leucocytes count, differential leukocyte count, peripheral blood smear)
- Random blood sugar
- Liver function tests (serum bilirubin, SGOT, SGPT);
- Renal function test (serum creatinine, blood urea)

TREATMENT

Phases of treatment

- Initial short- term management phase (also known as detoxification)
- Long- term management phase

Short- term management phase

Treatment for alcohol dependence can be carried out in the out-patient as well as in-patient settings. Some of the indicators for in-patient management are as follows

- Presence of severe alcohol dependence (drinks over 30 units of alcohol per day or regularly drinks between 15 and 30 units of alcohol per day)
- Presence of or anticipated severe withdrawal or complicated withdrawal (withdrawal with seizures or delirium)
- Co-occurring significant physical and psychiatric illness
- Poor psychosocial support
- Distance from treatment centre that precludes regular follow up
- Failure of out-patient detoxification in past
- Pregnancy, children and adolescents and elderly

Simple alcohol withdrawal

- There is history of recent cessation of alcohol use that has been heavy and prolonged. -Alcohol withdrawal **typically develops 6 to 8 hours after the cessation of drinking**. -There is **presence of clinical features associated with alcohol withdrawal**.
- These include tremor of the outstretched hands, tongue or eyelids, sweating, nausea, retching or vomiting, tachycardia or hypertension, psychomotor agitation, headache, insomnia, malaise or weakness, transient visual, tactile or auditory hallucinations or illusions and grand mal convulsions.
- These clinical features should be clinically significant means due to these symptoms there is distress and dysfunction to the patient.

Complicated alcohol withdrawal

- Characterized by presence of seizures or delirium (known as delirium tremens) along with other features associated with alcohol withdrawal.
- The alcohol withdrawal seizures typically develop 12 to 24 hours after cessation of drinking. These are generalized and tonic-clonic in character.
- Delirium tremens is characterized by disturbance of consciousness, reduced ability to focus, to sustain, or to shift attention, a change in cognition (such as memory deficit, disorientation, or language disturbance), and perceptual disturbance, severe agitation and coarse tremors of limbs and body.

Medications

- **Benzodiazepines** are recommended as the first line of treatment of alcohol withdrawal.
- Long acting benzodiazepines (such as chlordiazepoxide and diazepam) are preferred over short acting benzodiazepine for this purpose.
- Short acting benzodiazepines (such as oxazepam and lorazepam) are preferred in liver damage, in elderly people.

The equivalent dose of different benzodiazepines that are commonly used in management of alcohol withdrawal are given in table.

Table 2 Approximate therapeutic dose equivalent of different benzodiazepines commonly used in management of alcohol withdrawal

Benzodiazepine	Dose equivalent (mg)
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Chlordiazepoxide	25
Diazepam	10
Lorazepam	2
Oxazepam	30

Treatment regimen

- I. Benzodiazepines for management of alcohol withdrawal can be administered using either of the following three administration regimens.

I A. Fixed dose schedule:

- This involves starting treatment with a standard dose determined by the recent severity of alcohol dependence and/or typical level of daily alcohol consumption, followed by reducing the dose to zero usually over 7 to 10 days.
- The starting dose of benzodiazepine can vary from 15 mg four times a day (q.d.s.) to 50 mg four times a day (q.d.s.) of chlordiazepoxide dose equivalent (or 10 mg three times a day to 25 mg three times a day of diazepam dose equivalent).
- The same dose is usually maintained over the next two days. The dose reduction is made at the rate of 20% every day or 25% every alternate day.

I B. Symptom triggered dosing:

- Benzodiazepine is administered according to the patient's level of withdrawal symptoms (ranging from 10-20 mg dose equivalent of diazepam per administration).
- Pharmacotherapy continues as long as the patient is displaying withdrawal symptoms and the administered dose depends on the assessed level of alcohol withdrawal.

I C. Front loading schedule:

- This involves providing the patient with an initially high dose of medication (30-40 mg dose equivalent of diazepam), and then using either a fixed dose schedule or symptom triggered dosing approach.

II Thiamine Supplementation:

Along with benzodiazepines, the alcohol withdrawal management includes general nursing care in form of maintaining hydration and nutritional status.

- It is recommended to give oral thiamine for minimum of three months.
- All patients in alcohol withdrawal should receive at least 250 mg thiamine by the parenteral route once a day for the first 3-5 days.
- Any parenteral administration of glucose during withdrawal management should not be done without addition of thiamine.

Nursing care

- **Restraints:** The critically ill patient experiencing moderate to severe alcohol withdrawal symptoms may require both chemical and physical restraints to avoid immediate threat behavior to self and others. Use of bed rails is advisable.
- **Managing behavioural disturbance:** If the patient is confused and disoriented or hallucinating, a supportive and reassuring approach is to be used and patient should not be confronted.
- **Managing environment.** The patient's room should be kept quiet everyone should move around quietly. Interaction should be minimal and questions limited.
- **Nutritional needs.** The patient may be malnourished, causing folate, thiamine, or vitamin B12 deficiency. If the patient is unable to eat, tube feedings or total parenteral nutrition (TPN) should be initiated early. If a feeding Ryle's tube is used it is taped at the nose and cheek area, with the tubing running toward the head and behind the bed.
- **Involving family:** A complete care plan should involve family members in a therapeutic alliance to provide optimal symptom relief and formulate acceptable behavior objectives for the patient.

Motivational Enhancement Therapy (MET)

It utilizes different principles as follows

- Expressing empathy through reflective listening
- Developing discrepancy between clients' goals or values and their current behavior
- Avoiding argument and direct confrontation
- Adjust to client resistance rather than opposing it directly
- Supporting self-efficacy and optimism

Management of alcohol withdrawal seizure:

- Effective management of alcohol withdrawal is preventive against emergence of withdrawal seizures.
- The alcohol withdrawal seizures can be managed by both short acting (lorazepam-considered to be more effective by some) and long acting (diazepam) benzodiazepines.
- Benzodiazepines can be given either orally or parenterally.

Management of delirium tremens

- Delirium tremens should be managed in inpatient setting. Safety of the patient against any physical harm should be ensured.
- Water and electrolyte balance and nutritional status should be maintained.
- The benzodiazepines are to be administered through parenteral route in sufficient dosages with an aim to make the patient clam and sedated.
- An initial dose of 10 mg diazepam is given intravenously. Further doses of 10 mg can be repeated every 5-20 min interval. The dose can be increased to 20 mg per bolus for the subsequent boluses if the first two boluses do not calm the patient down.
- Subsequently the patient can be shifted to oral benzodiazepines and the dose can be gradually tapered down.

Long-term management phase

- This phase begins after the initial withdrawal management from alcohol has been achieved
- The aim is to maintain abstinence from alcohol and to prevent and delay relapse

Medications used in long term management of alcohol dependence are summarized in table 3

Referral to secondary or tertiary care:

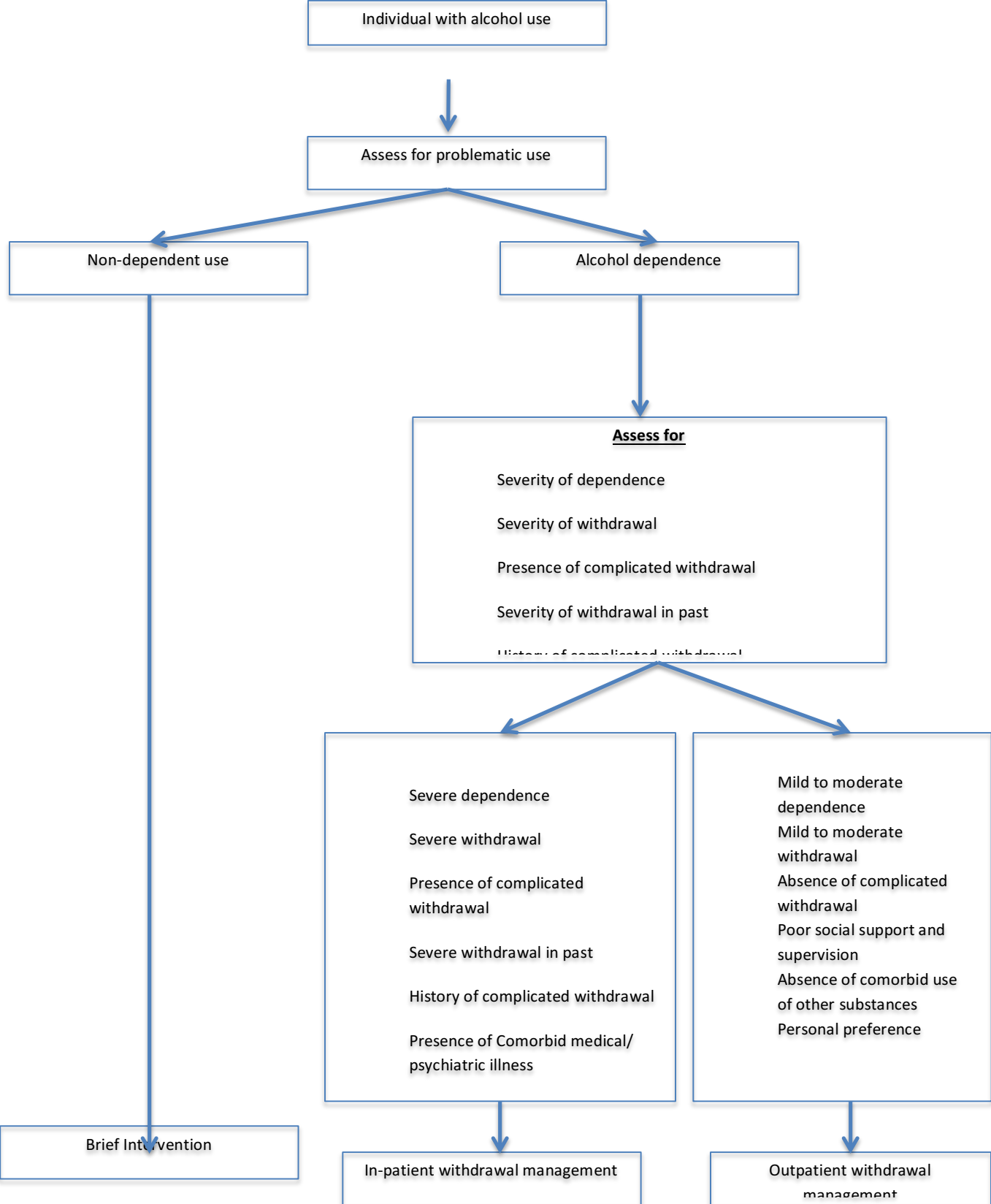
- Presence of co-morbid psychiatric condition that cannot be managed at the primary care or secondary care level
- Complicated withdrawal like delirium or withdrawal seizures
- Physical comorbidity of serious nature for which adequate infrastructure and support may not be available
- Presence of a co-morbid substance use disorder for which treatment is not available at primary/secondary hospital setting
- Non-availability of professionals to administer psycho-social interventions
- A complete care plan should involve family members to identify treatment options, appropriate supportive care beyond medication and monitoring may help decrease morbidity and mortality rates.
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Table 3 Medications used in long term management of alcohol dependence

Medicine	Common side-effects and contraindications to use	Dose	Frequency	Duration
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Acamprosate	Diarrhea with abdominal pain, nausea, vomiting, pruritus Contraindications- hypersensitivity reaction, pregnancy and breastfeeding, renal insufficiency (serum creatinine more than 120 micromoles per litre), severe hepatic failure FDA pregnancy category C	1332 mg/day (body weight < 50 kg) to 1998 mg/day (body weight > 50 kg)	TDS	One year
Disulfiram	Drowsiness, fatigue, abdominal pain, headache, nausea, diarrhea, allergic dermatitis, metallic or garlic like after taste Contraindications (absolute)- hypersensitivity reaction , pregnancy and breast feeding Contraindications (relative)- cardiovascular problems, severe personality disorder, suicidal risk, psychosis FDA pregnancy category C	250mg/day	OD	One year
Naltrexone	Nausea, headache, abdominal pain, reduced appetite and tiredness Contraindications- acute liver failure (caution is suggested when serum aminotransferases are four to five times above normal) FDA pregnancy category C	50 mg/day	OD	One year

Clinical Pathway of Management of Alcohol Dependence



Quality Standards for Management of Alcohol Dependence

Standard	Statement
Quality Standard 1 Screening	All patients reporting to health facility should be screened for presence of alcohol dependence.
Quality Standard 2 Assessment	All patients reporting current alcohol use and scoring high on the screening tests or having problems due to alcohol use should be assessed for presence of alcohol dependence and physical complications associated with long term alcohol use .
Quality Standard 3 Investigations	All patients with alcohol dependence should be assessed for presence of physical complications using laboratory investigations.
Quality Standard 4 Short term management	All patients with alcohol dependence should be offered short term management (detoxification) in the out-patient, or the inpatient setting.
Quality Standard 5 Long term management	All patients with alcohol dependence should be offered long term management.

Quality Standard-1 - Screening for alcohol dependence	
1. Statement	All patients reporting to health facility should be screened for presence of alcohol dependence.
2. Rationale	Problematic use of alcohol is a common medical disorder that can go undetected even among those seeking treatment for some unrelated medical disorder. Hence, all patients in contact with health care systems should be screened for presence of alcohol dependence.
3. Quality Measure	
3a. Structure	Availability of screening instruments (scales) and trained health professionals at the medical facility.
3b. Process	Proportion of patients seeking medical care being screened for problematic alcohol use. Numerator - Number of patients screened for problem drinking amongst those seeking care. Denominator - Total number of patients seeking medical care.
3c. Outcome	Proportion of patients who are likely to have problematic alcohol use. Numerator - Number of patients who are likely to have problematic alcohol use. Denominator –Total number of patients screened for problematic alcohol use.
4. What Quality Measure means for each audience	Service Provider –Ensure that all patients seeking medical care are screened for problematic alcohol use. Health Administrator - Ensure that adequate screening facility is available at the designated facility. Patient and Community – Patients and caregivers should participate in the screening process.
5. Data Source	Out-patient register In-patient register
6. Definitions	Health Facility - Any public health care facility (PHC, CHC, District Hospitals, Tertiary care Centers/ Teaching Hospitals) or their equivalent in private sector

Quality Standard-2 - Assessment for alcohol dependence	
1. Statement	All patients reporting current alcohol use and scoring high on the screening tests or having problems due to alcohol use should be assessed for presence of alcohol dependence.
2. Rationale	Patients with current alcohol use and scoring high on the screening test or having problems due to alcohol use are likely to be dependent on alcohol and consequently require medical intervention.
3. Quality Measure	
3a. Structure	Availability of trained health professionals at the medical facility.
3b. Process	Proportion of patients reporting current alcohol use and scoring high on screening test or having problems due to alcohol use assessed thoroughly for presence of alcohol dependence. Numerator- Total number of patients assessed thoroughly for presence of alcohol dependence. Denominator- Total number of patients reporting current alcohol use and scoring high on screening tests or having problems due to alcohol use.
3c. Outcome	Proportion of patients who have alcohol use in dependent pattern. Numerator- Total number of patients who have alcohol use in dependent pattern. Denominator –Total number of patients assessed for alcohol use in dependent pattern.
4. What Quality Measure means for each audience	Service Provider –Ensure that all patients with current alcohol use and scoring high on screening tests or having problems due to alcohol use seeking medical care are screened for problematic alcohol use. Health Administrator- Ensure that trained health professionals are available at the designated facility. Patient and Community – Patients and caregivers should participate in the assessment process.
5. Data Source	Out-patient register In-patient register
6. Definitions	Health Facility- Any public health care facility (PHC, CHC, District Hospitals, Tertiary care Centers/ Teaching Hospitals) or their equivalent in private sector

Quality Standard-3 - Investigations for alcohol dependence	
1. Statement	All patients with alcohol dependence should be assessed for presence of physical complications using laboratory investigations.
2. Rationale	Patients with alcohol dependence are likely to experience the physical complications associated with alcohol use. Also it is important to exclude the possible medical causes of delirium observed during alcohol withdrawal. Finally, it is important to monitor for emergence of side effects associated with medicines used for managing alcohol dependence. Hence it is important to assess these patients with appropriate laboratory investigations.
3. Quality Measure	
3a. Structure	Availability of laboratory facilities at the medical facility.
3b. Process	Proportion of patients advised investigations for presence of physical complications associated with alcohol use, possible medical causes of delirium observed during alcohol withdrawal and monitoring for emergence of side effects of medicines used for managing alcohol dependence. Numerator- Total number of patients advised investigations. Denominator- Total number of patients being managed for alcohol dependence.
3c. Outcome	Proportion of patients with deranged biochemical investigation results. Numerator- Total number of patients who have deranged biochemical investigation results. Denominator –Total number of patients investigated.
4. What Quality Measure means for each audience	Service Provider –Ensure that all patients with alcohol dependence are recommended appropriate laboratory investigations. Health Administrator- Ensure that adequate laboratory services are available at the facility. Patient and Community – Patients and caregivers should participate in the investigations.
5. Data Source	Out-patient register In-patient register Laboratory register
6. Definitions	Health Facility- Any public health care facility (PHC, CHC, District Hospitals, Tertiary care Centers/ Teaching Hospitals) or their equivalent in private sector

Quality Standard-4 - Short term management of alcohol dependence	
1. Statement	All patients with alcohol dependence should be offered short term management (detoxification) in the in-patient or the out-patient setting.
2. Rationale	Patients with alcohol dependence are likely to experience withdrawals when they quit alcohol use. Hence it is important to offer medical management for alcohol withdrawals. Also it is important to prevent emergence of complicated alcohol withdrawal and manage the same whenever they emerge.
3. Quality Measure	
3a. Structure	Availability of short-term management facilities (in patient and out patient) at the medical facility.
3b. Process	Proportion of patients offered short-term management for alcohol dependence. Numerator - Total number of patients offered short-term management for alcohol dependence. Denominator - Total number of patients diagnosed with alcohol dependence.
3c. Outcome	Proportion of patients who receive short-term management for alcohol dependence. Numerator - Total number of patients who receive short-term management for alcohol dependence. Denominator - Total number of patients diagnosed with alcohol dependence.
4. What Quality Measure means for each audience	Service Provider –Ensure that all patients with alcohol dependence are offered short-term management. Health Administrator - Ensure that adequate short-term management facilities (pharmacological and non pharmacological; from in-patient and out-patient setting) are available at the facility. Patient and Community – Patients and caregivers should participate in the short-term management.
5. Data Source	Out-patient register In-patient register Pharmacy register
6. Definitions	Health Facility - Any public health care facility (PHC, CHC, District Hospitals, Tertiary care Centers/ Teaching Hospitals) or their equivalent in private sector

Quality Standard-5 - Long term management of alcohol dependence	
1. Statement	All patients with alcohol dependence should be offered long term management.
2. Rationale	Patients with alcohol dependence are likely to relapse even after a successful short-term management. Hence it is important to offer long term management to all these patients.
3. Quality Measure	
3a. Structure	Availability of long-term management facilities at the medical facility.
3b. Process	Proportion of patients offered long-term management for alcohol dependence. Numerator- Total number of patients offered long-term management for alcohol dependence. Denominator- Total number of patients diagnosed with alcohol dependence.
3c. Outcome	Proportion of patients who receive long-term management for alcohol dependence. Numerator- Total number of patients who receive long-term management for alcohol dependence. Denominator- Total number of patients diagnosed with alcohol dependence.
4. What Quality Measure means for each audience	Service Provider –Ensure that all patients with alcohol dependence are offered long-term management. Health Administrator- Ensure that adequate long-term management facilities (pharmacological and non pharmacological) are available at the facility. Patient and Community – Patients and caregivers should participate in the long-term management.
5. Data Source	Out-patient register In-patient register Pharmacy register
6. Definitions	Health Facility- Any public health care facility (PHC, CHC, District Hospitals, Tertiary care Centers/ Teaching Hospitals) or their equivalent in private sector