



MEDICATION NON-ADHERENCE

Medication non-adherence can be defined as either the intentional or unwitting failure to take medications as prescribed.

The causes may be related to the patient, treatment, and/or health care provider.



ADHERENT

**COMPLYING WITH MORE THAN 80% OF THE PRESCRIBED
REGIMEN**

**PARTIALLY
ADHERENT**

**ADHERENCE TO MORE THAN 70% OF THE MEDICATION
REGIMEN**

**NON-
ADHERENT**



ISSUES IN NON-ADHERENCE

- △ Failed to fill a prescription
- △ Failed to refill a prescription
- △ Missed a dose
- △ Took a lower dose than prescribed
- △ Took a higher dose than prescribed
- △ Stopped a prescription early
- △ Took an old medication for a new problem without consulting a doctor
- △ Took someone else's medicine
- △ Forgot whether they'd taken a medication



MONITORING OF PATIENT MEDICATION ADHERENCE

An ideal measure of non-adherence should be objective, direct, pose little burden to the patient and provide actionable information about patient adherence to clinical team.



METHODS TO DETECT MEDICATION NON-ADHERENCE

1. Direct – objective

- Measure blood or urine levels of drugs – gives indication of short-term adherence, unless the drug has a long half-life
- Measure blood levels of marker – add marker to medicines and measure levels in the body. The ethical issue of the safety of the given marker is a matter of concern. For example, low-dose phenobarbitone gives both quantitative and qualitative data over the preceding few weeks with little intra and interindividual variation.

2. Indirect – objective

- Pill count – count the tablets remaining in the container. Vulnerable to overestimates of adherence.
- Prescription refill – accurate data monitoring system required.
- Electronic medication containers – opening and closure times of container recorded on a microprocessor in the lid of the container.

3. Health outcome measures – assessing therapeutic efficacy, for example, blood pressure control, asthma severity, survival, hospitalisation, etc.

4. Utilisation of healthcare services

- Clinic attendance – opportunity to counsel patients. Clinic non-attenders are more likely to be non-adherent.
- Appointment making
- Appointment keeping
- Preventive visits

5. Indirect – subjective (methods of questionable reliability)

- Patient interview – asking patients if they have adhered to the prescribed regimens
- Diary keeping



Examples of Methods/Instruments for Measuring Internal Barriers to Medication Nonadherence in Adults

Method/Instrument	Medication Nonadherence Phenotype					
	Establishing Relevance of the Behavior	Evaluating Risks and Benefits of the Treatment	Processing of Complex Information	Remaining Vigilant Toward Behavior	Holding Inaccurate, Irrational, or Conflicting Normative Beliefs About Medications	Perceived Lack of Therapeutic Effectiveness
Adherence estimator	√	√				
Medi-Cog scoring			√			
Morisky Medication Adherence Scale				√		
Beliefs about Medications Questionnaire (General)					√	
Beliefs about Medications Questionnaire (Specific)	√	√				
Ecologic Momentary Assessment			√	√		√



Interventions to improve adherence

INTERVENTIONS FOR UNINTENTIONAL NONADHERENCE

- △ Simplification of dosing regimens
- △ Reminders
- △ Improved communication between patient and physician
- △ Introduction or improvement of patient counseling
- △ Specific forms of drug packaging: weekly boxes and single-dose blisters with an indication of day and time
- △ Calendar packaging
- △ Modern technologies: **Real Time Medication Monitoring** (electronic medicine box which registers the date and time the box was opened); **Short Message Service (SMS)** for instantaneous delivery of short text messages to individuals at any time, place, and setting



BEHAVIORAL INTERVENTIONS FOR INTENTIONAL NONADHERENCE

△ **Motivational interviewing** is a method used to explore the reasons for barriers to medication intake. It helps patients to explore their ambivalence and can motivate them to resolve their problems as well as prevent future intake problems. It is a patient-centered method of communication and is intended to stimulate behavioral change



Nonadherence with medication is a complex and multidimensional health care problem.

A tailored pharmacist-based intervention targeted to the underlying causes of nonadherence seems to be an attractive method for supporting patients in their use of drugs.