

# Patient Compliance

## Patient compliance (patient adherence) :

- ✿ The extent to which the patient adheres to medical advice

## Patient compliance includes:

- ✿ Taking medications
- ✿ Keeping appointments
- ✿ Undertaking recommended preventive measures
- ✿ Changing behavioral patterns

# Non compliance can be caused by:

- ✿ Failure to understand instructions
- ✿ Non comprehension
- ✿ Volitional non compliance

How big a problem is medication non compliance?

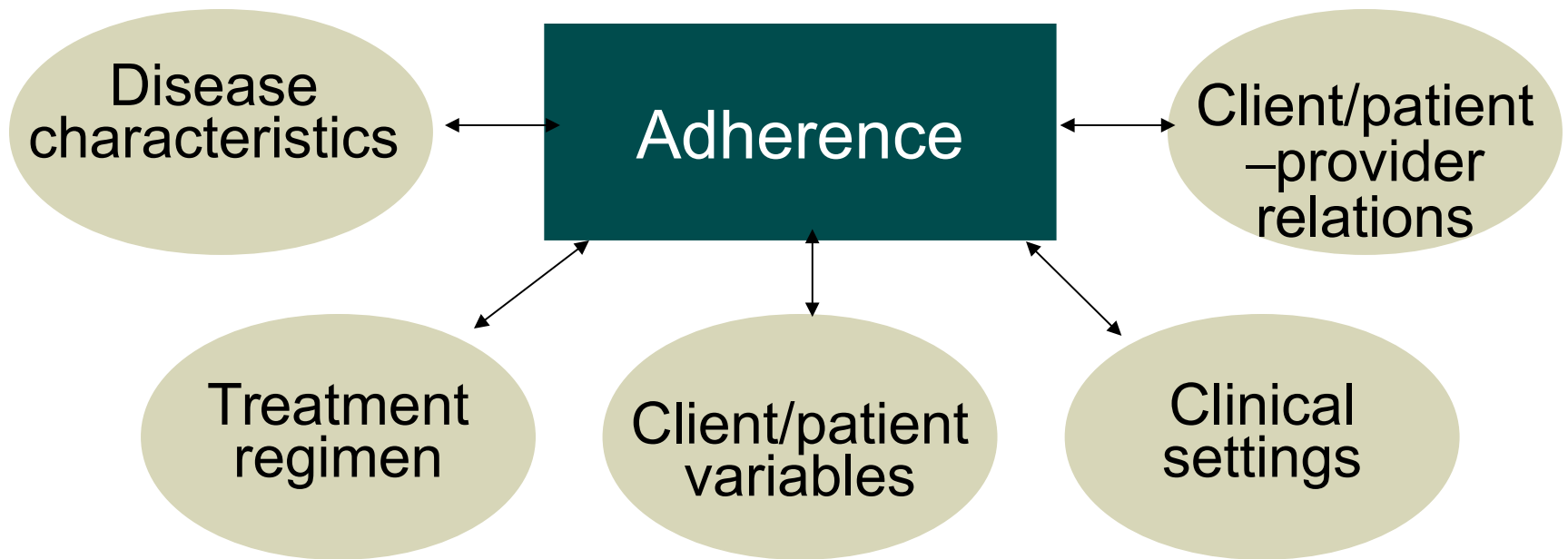
Up to 60% of all medication prescribed is taken incorrectly or not taken at all!

# Consequences of Poor Compliance

- For the individual—
  - Treatment failure
  - Drug resistance
  - More complex treatment, more toxicity, **more** uncertain **prognosis**
- From a public health perspective—
  - Transmission of resistant virus (subsequent ART failure)
- From a health economics perspective—
  - Negative impact on the established cost benefit
  - Increased morbidity and mortality



# Factors Influencing Client/Patient Compliance



**Source:** Horizons/Population Council, International Centre for Reproductive Health, and Coast Provincial General Hospital, Mombasa, Kenya. 2004. *Adherence to Antiretroviral Therapy in Adults: A Guide for Trainers*. Nairobi: Population Council.



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# Medication noncompliance includes:

- ✿ Not filling a prescription
- ✿ Over medication
- ✿ Taking wrong medication
- ✿ Taking right medication in a wrong time
- ✿ Forgetting to take medication
- ✿ Deliberately under dosing or not taking medication

This can happen because of not giving explanations to the patient.

# Overall rates of noncompliance:

- ❁ 90% of elderly patients make some medication errors.
- ❁ 35% of elderly patients make potentially serious errors.
- ❁ 50% of all long term medications are abandoned in the first year.
- ❁ 75% of chronic care patients prescribed drugs either stop taking their medication at some point or don't take them as directed.
- ❁ Only 75% of patients who understand and agree with treatment are compliant.

# How much does noncompliance cause

- ✿ An estimated 125,000 lives could be saved annually with better medication compliance.
- ✿ The total annual cost of noncompliance is 100 billion \$\$ (45 billion in the health care industry).
- ✿ Noncompliance leads to 3.5 million hospital admissions annually, or 11% of all admissions.
- ✿ In the elderly 40% of all admissions are due to medication problems.
- ✿ Noncompliance is the greatest cause of re-admissions to hospitals.



- ❁ Noncompliance causes admission of 380,000 patients to nursing homes (23% of all admissions) and is the key factors in admissions.

Noncompliance in medication taking can be classified as:

- ❁ Errors of omission
- ❁ Errors of commission
- ❁ Dosage errors
- ❁ Scheduling errors

# Patient's noncompliance is important from at least 4 perceptions:

- ❁ Individual patient care.
- ❁ Public health efforts.
- ❁ Interpretation of the medical literature.
- ❁ Economic consequences.

When patients do not take their medications correctly:

## Patient care

- ❁ They may not get better.
- ❁ Can get sicker / worsen the disease.
- ❁ Can have a relapse.

# Health Effects:

- ⓧ Increase morbidity
- ⓧ Treatment failure
- ⓧ Exacerbation of disease
- ⓧ Increases frequent physician visits
- ⓧ Increases hospitalization
- ⓧ Death

# Economic Effects

- ⓧ Increases absenteeism
- ⓧ Lost productivity at work
- ⓧ Lost revenues to pharmacies
- ⓧ Lost revenues to pharmaceutical manufacturers



# Dimensions of compliance : some things we think we know

- Initial noncompliance or defaulting
  - ✿ 2% - 20%, possibly as high as 50%
  - ✿ Average 8.7%
- Refill compliance or persistence
  - ✿ Decreases over time
- Not all noncompliance is improper medication use
  - ✿ Rational noncompliance



# Importance of Compliance :

## Prevalence of noncompliance

- ✿ Rates vary from less than 10% to over 90% depending on the setting.
- ✿ Cross sectional studies of patients taking medications chronically show 20 – 70 % of noncompliance

### Example:

- ▮ among newly diagnosed hypertensive, 50% fail to follow throw with referred advice.
- ▮ Over 50% who began treatment drop out by 1 year.
- ▮ Reasons: believes, side effects, cannot take pills, patient did not trust the doctor.

- ❁ Higher rates for preventive care.
- ❁ Noncompliance increase with duration of therapy
- ❁ Highest for regimens that requires significant behavioral change (e.g. smoking cessation, weight loss)
- ❁ Missed appointments are more common for provider-initiated than patient-initiated visits.
- ❁ Asymptomatic patients are more likely to miss appointments.
- ❁ Lack of comprehension of a regimen (20% to 70% non compliance).

# Measurements of Compliance

## Methods of measurements

Approaches to assessing compliance behavior in patients

- ✿ Asking
- ✿ Medication counting
- ✿ Assay
- ✿ Supervision

Often necessary to use more than one method to arrive at a reasonably valid estimate of compliance in the individual patient.

# Methods of Measuring Compliance

- Self-reporting
- Pill counts
- Pharmacy records
- Provider estimate
- Pill identification test
- Electronic devices—MEMS
- Biological markers—Viral load
- Measuring medicine levels—TDM





# Methods of Measuring Compliance

Method	Advantages	Disadvantages	Potential Bias
Physician's assessment	<ul style="list-style-type: none"> <li>Simple, cheap, requires no structured tool</li> </ul>	<ul style="list-style-type: none"> <li>Subjective, inaccurate: estimates affected by doctor-patient relationship</li> </ul>	<ul style="list-style-type: none"> <li>No particular bias</li> <li>Study showed correct est. in only 40%</li> </ul>
Patient self-report	<ul style="list-style-type: none"> <li>Simple, cheap, qualitative assessment possible</li> </ul>	<ul style="list-style-type: none"> <li>Subjective, inaccurate: poor patient recall, lack of candor</li> </ul>	<ul style="list-style-type: none"> <li>Overestimates adherence</li> <li>Most widely used currently</li> </ul>
Pill counts	<ul style="list-style-type: none"> <li>Simple, cheap, objective</li> </ul>	<ul style="list-style-type: none"> <li>Pill dumping, pill sharing, timing of doses unknown, bottles needed</li> </ul>	<ul style="list-style-type: none"> <li>Overestimates adherence</li> </ul>



# Methods of Measuring Compliance

Method	Advantages	Disadvantages	Potential Bias
Pharmacy refill records	<ul style="list-style-type: none"> <li>▪ Objective</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pill dumping, pill sharing, timing of doses unknown; good records, patient tracking, and overtime needed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Overestimates adherence</li> </ul>
Drug level monitoring	<ul style="list-style-type: none"> <li>▪ Objective</li> </ul>	<ul style="list-style-type: none"> <li>▪ Expensive, requires lab, invasive, unknown timing of doses; PK profile of population needed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can over- or underestimate depending on behavior immediately prior to test; genetic variations in drug metabolism</li> </ul>
Electronic drug monitoring (EDM)	<ul style="list-style-type: none"> <li>▪ Objective, data on timing of doses, monitoring over longer periods</li> </ul>	<ul style="list-style-type: none"> <li>▪ Pill dumping, pill sharing, timing of doses unknown</li> </ul>	<ul style="list-style-type: none"> <li>▪ Underestimates adherence; taking out multiple doses for later use</li> </ul>



# Patient Considerations

Factors believed to affect compliance:

- ✿ Patient knowledge.
- ✿ Prior compliance behavior
- ✿ Ability to integrate into daily life / Complexity of the particular drug regimen.
- ✿ Health beliefs and perceptions of possible benefits of treatment (self efficiency)
- ✿ Social support (including practitioner relationships)

## Health Beliefs:

- ✿ How serious is my disease
- ✿ What are the sequences of being careless in treating the disease
- ✿ Self efficiency

## Factors which NOT believed to be associated with compliance:

- ✿ Age, race, gender, income or education.
- ✿ Patient intelligence.
- ✿ Actual seriousness of the disease or the efficiency of the treatment.



# Patients in Higher Risk:

## 1. Asymptomatic conditions

- ✿ Hypertension.

## 2. Chronic conditions

- ✿ Hypertension, arthritis, diabetes.

## 3. Cognitive impairment

- ✿ Dementia, Alzheimer.

## 4. Complex regimens

- ✿ Poly pharmacy.

## 5. Multiple daily dosing

## 6. Patient perceptions

- ✿ Effectiveness, side effects, cost.

## 7. Poor communication

- ✿ Patient practitioner rapport

## 8. Psychiatric illness

- ✿ Less likely to comply.

# Factors associated with compliance

## Environmental factors

- ✿ Good social support, assistance of family.
- ✿ Depending on cultural norm about gender.
- ✿ Social class.
- ✿ Previous experiences of similar disease among relatives or friends can affect one's compliance.



Appointment keeping is positively correlated with appointment scheduling system that:

- ✿ Reduce waiting time.
- ✿ Give individual rather than block appointment.
- ✿ Minimize the time between scheduling and the actual appointment date.
- ✿ Make referrals to specific doctors rather than to clinics.



# Strategies and Tools to Compliance

## Pretreatment strategies—

- Identify the potentially nonadherent client/patient and address the barriers to adherence during counseling before first ARV prescription.
- Identify an adherence partner or buddy, or a peer educator.
- Ask the client/patient to demonstrate adherence ability.
- Identify reminders or tools to help in taking pills.



# Strategies and Tools to Compliance

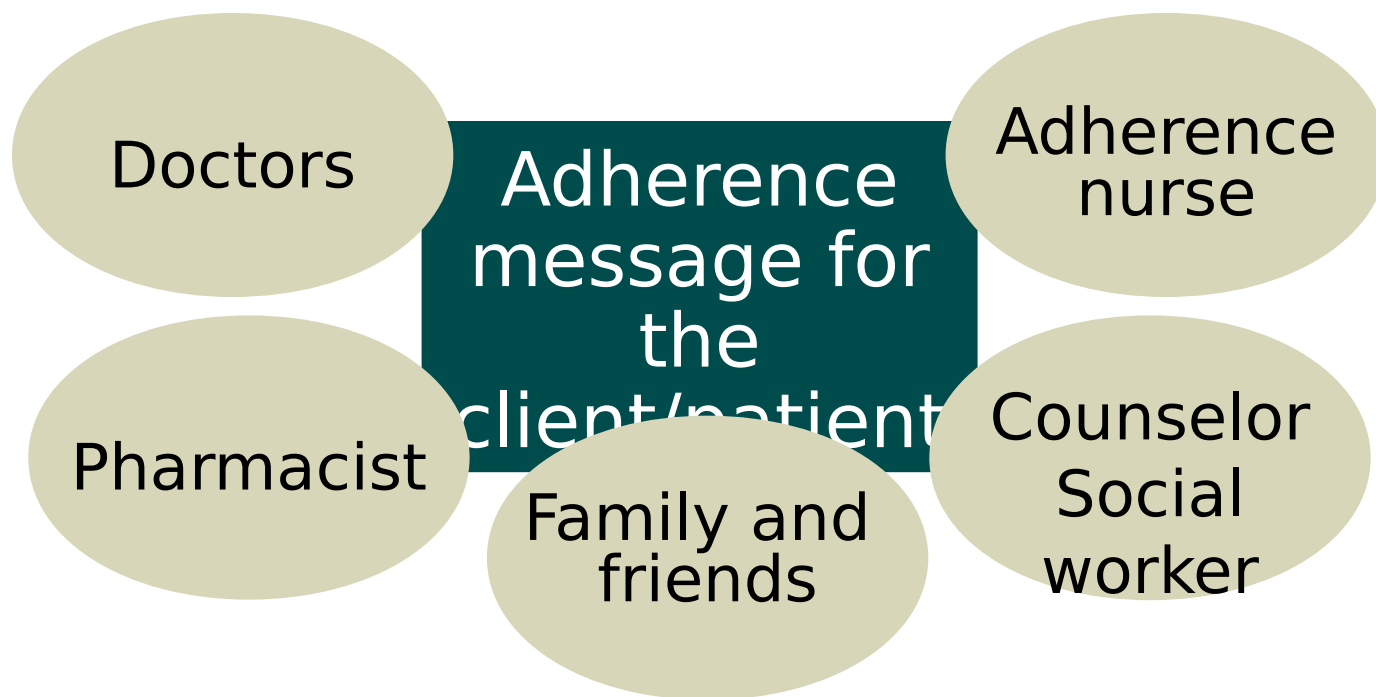
## Ongoing treatment strategies—

- Generate daily-due review and refill list, and “flag” absent clients/patients.
- Refer to community-based health care workers and NGOs.
- Use DAART or modified DOT (practiced at health centers, CBOs, or at client’s/patient’s home).
- Use incentives and enablers (e.g., having income-generating projects for caregivers, providing transport on clinic days, or providing food).



# Compliance Counseling: Multidisciplinary Team

Same message from all!



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# Compliance Counseling: Purpose

- Help clients/patients develop an understanding of their treatment and its challenges.
- Prepare clients/patients to initiate treatment.
- Provide ongoing support for clients/patients to adhere to treatment over the long term.
- Help clients/patients develop good treatment-taking behavior.
- Help clients/patients set goals for their treatment.



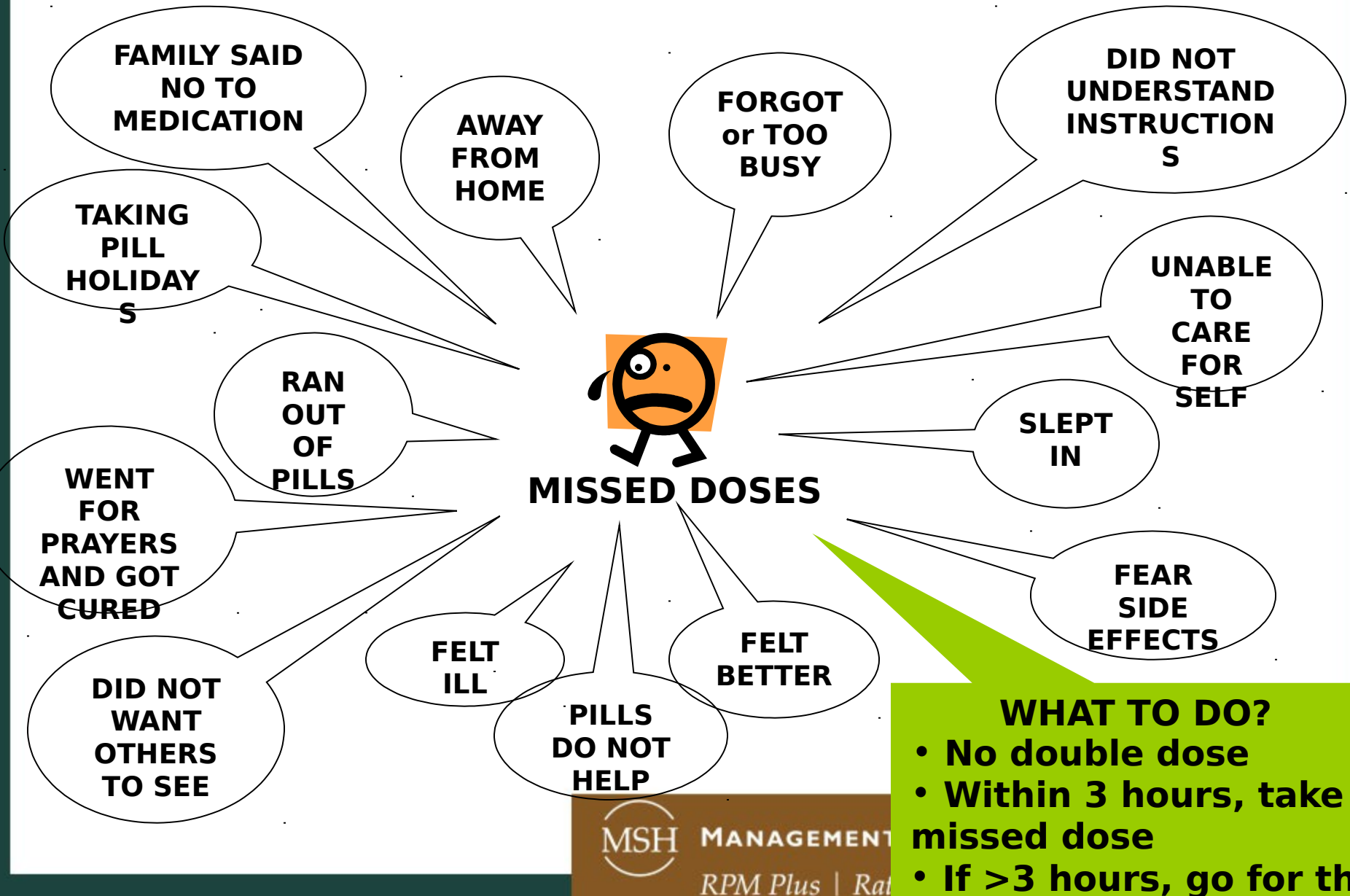


# Compliance Counseling: Nature

- Needs to occur before and be ongoing throughout treatment period sessions.
- Involves highly personal and intimate matters and behavior.
- Requires recognition of barriers to and challenges of adherence.
- Needs reinforcement or constructive intervention as appropriate.
- Avoids negative-messaging, judgmental attitudes, and “pill policing.”
- Encourages participation by family and friends.



# Counseling for Compliance Problems





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