

Studying and Improving Medicine Use in Developing Countries

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Three Types of Medicine Use: Content Covered

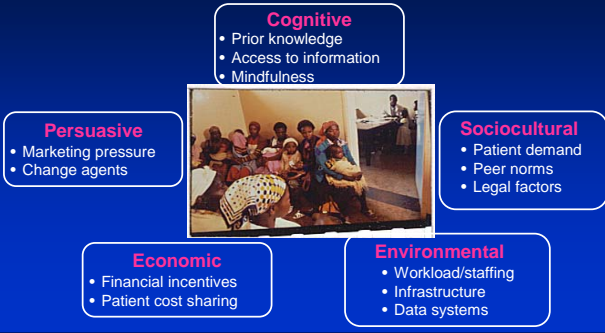
- Health provider prescribing behaviors
- Patient adherence
- Consumer self-medication

Content Covered

- Definitions
- Factors/variables that influence
- Theoretical models
- Measures/measurement techniques
- Strategies to improve use



Factors Influencing Use of Medicines Are Complex



What Influences Medicine Use By Consumers Household and Community Levels

- **Household Level**
 - Perceived need for medicines
 - Ideas about safety and efficacy
 - Uncertainty resulting in poly-pharmacy
 - Division of drug consumption roles
 - Cost of medicines
 - Literacy levels
 - Power of medicines
- **Community Level**
 - Drug use culture
 - Drug supply systems
 - Information channels



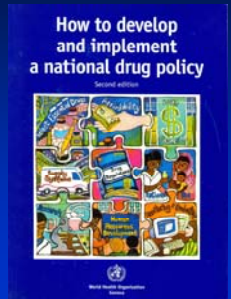
What Influences Medicine Use By Consumers Health Institution Level

- **Health Institution Level**
 - Extent to which health workers are consulted
 - Quality of health worker prescribing
 - Quality of consultation
 - Quality of dispensing
 - Medicine availability (supply)
 - Cost of medicines



What Influences Medicine Use By Consumers National and International Level

- **National level**
 - Implementation of essential drugs policy
 - Drug promotion
 - Financing and reimbursement
 - Consumer advocacy
 - Media
 - Public education
- **International Level**
 - Health consequences of global trade agreements
 - Donor support for essential drugs programs
 - Global consumer advocacy
 - Internet



Why Investigate Medicine Use

- Inappropriate Medicine Use (WHO)
 - Not using medicine the way intended by the prescriber
 - Self-medication with prescription drugs
 - Misuse of antibiotics
 - Overuse of injections (medicines)
 - Overuse of relatively safe medicines
 - Unsafe use of herbal medicines
 - Use of non-essential combination drug products
 - Use of needlessly expensive medicines
 - Adherence to medication regimens

Investigating Drug Use in Health Facilities

- Objectives of a Medicine Use Study
 - Describing current treatment practices
 - Comparing performance of individual facilities or prescribers
 - Periodic monitoring and supervision of specific drug use behaviors
 - Assessing the impact of a drug use intervention



Core Study Indicators

- Prescribing Practices
 - Average number of drugs per encounter
 - Percentage of drugs prescribed by generic name
 - Percentage of encounters with an antibiotic prescribed
 - Percentage of encounters with an injection prescribed (or given)
 - Percentage of drugs prescribed from essential drugs list or formulary
- Patient Care
 - Average consultation time
 - Average dispensing time
 - Percentage of drugs actually dispensed
 - Percentage of drugs adequately labeled
 - Patient's knowledge of correct dosage (and drug name and regimen)
- Facility-specific
 - Availability of essential drugs list or formulary
 - Availability of key drugs

Additional Indicators for a Drug Study

- Percentage of patients treated without drugs
- Average drug cost per encounter
- Percentage of drug costs spent on antibiotics
- Percentage of drug costs spent on injections
- Percentage of prescriptions in accordance with treatment guidelines
- Percentage of patients satisfied with the care they received
- Percentage of health facilities with access to impartial drug information

Objectives of Field Visits

- In general, to learn about the various products and services offered at each pharmacy
- Specific objectives:
 - To learn about: staffing, volume, regulations, policy & procedure, quality assurance, budgeting/financing, procurement practices, pricing, clinical services, drug use, dispensing practices, other issues
 - Compare prices for select list of core drugs to international standard using WHO/HAI methodology



Investigating Drug Use in the Community

- Knowledge and beliefs about illness and drugs
- Care-seeking behaviors
- Treatment behaviors (drug and non-drug)
- Drug use behaviors (drug consumption patterns)
- Household drug inventories
- Drug purchasing patterns and behaviors (eg, sources, prices)
- Sources of drug information and information seeking



ARV Adherence: Self Report Instrument

- 1: Do you ever forget to take your meds?
- 2: Are you sometimes careless about taking your meds?
- 3: Sometimes if you feel worse, do you stop taking your meds?
- 4: Thinking about last week, how often have you not taken your medicine? (never, 1-2 times, 3-5 times, 6-10 times, > 10 times)
- 5: Did you not take any of your medicines over the past weekend?
- 6: Over the past 3 months, how many days have you not taken any medicine at all (range)?

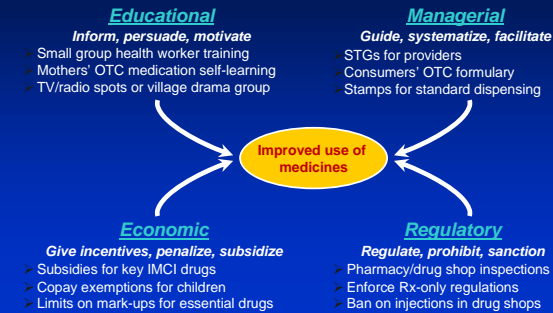
Non Adherence = 'Yes' to #1, 2,3 or 5; > 2 missed doses on #4, > 2 no-med days in past 3 months.

Grupa Espanol Para el Estudio Multifactoria de la Adherencia

ARV Adherence: Patient Self-Report Visual Analogue Scale – Botswana & Tanzania

When did you take your medicine yesterday?	
	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Name of medicine	<p>A horizontal line with a sun icon at 12 (Midday) and a moon icon at 24 (Night). The line is divided into Morning (6-12), Midday (12-18), Evening (18-24), and Night (24-6). A wavy line indicates a schedule with peaks at 12 and 18.</p>
When did you eat yesterday?	
	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
	<p>A horizontal line with a sun icon at 12 (Midday) and a moon icon at 24 (Night). The line is divided into Morning (6-12), Midday (12-18), Evening (18-24), and Night (24-6). A wavy line indicates a schedule with peaks at 12 and 18.</p>

Framework for Improving Use of Medicines (Jonathan Quick)



Conclusions From Systematic Reviews About Targeted Interventions (Ross-Degnan et al)

- Generally ineffective
 - Passive dissemination of guidelines or print material
 - Didactic training or CME
- Sometimes effective
 - Feedback or supervision (depends on how and what)
 - Local opinion leaders (depends on type)
 - Computerized warnings or reminders
- Generally effective
 - Interactive educational outreach, 1-on-1 or group
 - Multifaceted interventions

Intervention Research – Rational Use of Drugs (Le Grand, et al)

- 50 intervention studies in RDU in developing countries
 - Few interventions have been systematically evaluated
 - Focus primarily on prescribing in the public health sector (not private sector, community-based, or from consumer's perspective)
 - Poor methodological designs
- Effective interventions
 - Face-to-face education
 - Focus group discussion
 - Peer review and feedback
 - Essential drug list
 - Regulatory action
- Future studies
 - Improve methodological rigor
 - Research impact of socio-cultural factors
 - Test different interventions across different settings

10 Recommendations to Improve Use (Laing, et al)

- National Standard Treatment Guidelines
- Essential Drugs List (or Formulary)
- Pharmacy & Therapeutics Committees
- Problem-based Training in Pharmacotherapy
- Targeted, Problem-based In-service Educational Programs
- Interactive Group Process among Health Providers or consumers to review and apply information about appropriate medication use
- Train pharmacists and drug sellers to be active in the medication use process
- Active involvement of consumer organizations in public education about drugs
- Strategic approach to improve prescribing in the private sector
- Systems to routinely monitor key pharmaceutical indicators
