

MEDICATION NON-COMPLIANCE

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Health care providers have long known that patients are poorly compliant with recommended treatment. The extent of non-compliance has only become apparent during the last two decades. An extensive literature now demonstrates that non-compliance is a problem in every area of health care. Many non-compliance issues are in the area of clinical pharmacy. With rapid advances in the understanding of the biological bases of medical and psychiatric disorders, pharmacotherapy has become by far the predominant therapeutic approach.

Rational Non-Compliance with Medication

So-called "rational non-compliance" involves well-intentioned patients who fail to take their medication as prescribed. Although there are many explanations for rational non-compliance, most cases can simply be attributed to forgetfulness. Patients may:

- Take their medication at the wrong time
- Take extra doses
- Take extra medication for a given dose
- Omit doses
- Use outdated medication
- Take the wrong medication

Clinical Trials and Medication Non-Compliance

Perhaps the most critical point for measuring patient compliance is during the clinical trials used to determine the efficacy of new pharmaceuticals. On the basis of the results of such trials, new medications are either approved for general medical use or abandoned. Inaccurate clinical trials data can result in sub-optimal dosing strategies or abandonment of promising medications. Such erroneous decisions can ultimately have enormous adverse consequences for the R&D process.

Clinical Use and Medication Non-Compliance

Clinical pharmacy is also an important area for compliance. Many chronic illnesses require long-term pharmacotherapy for their control. Compliance is known to decrease with duration of therapy, dropping off most rapidly during the first few months of treatment. If the treating physician knew that a patient was not taking the medication as prescribed, she could address the issue directly with motivational counselling or targeted education to encourage compliance. Effective targeted education is most effective with real-time feedback.

Pharmaceutical Packaging and Compliance

Traditionally, medication has been dispensed in vials. The biggest trend in pharmaceutical packaging, however, is toward the form-fill-seal or blister package. The belief is that more convenient packaging and intuitive graphics will improve medication compliance. Although the trend toward blister packaging has stimulated innovative designs aimed at increasing compliance, there has, until recently, been no accurate method of tracking a patient's medication-taking.

Financial Cost of Medication Non-Compliance

It is impossible to accurately assess the cost of medication non-compliance to world health care systems. The National Pharmaceutical Council, an industry research organization, estimated that non-compliance with medication adds over US \$100,000,000,000 annually to the U.S. health care system. It has also been estimated that medication non-compliance was responsible for 125,000 unnecessary deaths in 1990 alone. Further, 11 percent of hospitalizations (over one million per year in the U.S.) are the direct result of poor compliance with prescribed medication. Extrapolation of these estimates to other jurisdictions yields staggering costs to world health care systems.