

# “Drugs don’t work in patients who don’t take them”

C. Everett Koop, M.D.  
13th Surgeon General of the United States



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# Understanding Prescriptions

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*Tips for physicians, nurses and pharmacists on how to assess and improve adherence during key encounters with patients – practical and effective ideas based on published evidence.*

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# Understanding Prescriptions Project

- Research was funded in part through a grant from the Interprofessional Health Collaborative of Saskatchewan (IHCS).
  - Project goals:
    - increase patients' understanding of their medications and their health conditions
    - improve communication between healthcare providers and patients
    - increase patient involvement in their own care
    - help reduce medication errors
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# What is Adherence?

- “The extent to which a person’s behaviour – taking medication, following a diet, and/or executing lifestyle changes – corresponds with agreed recommendations from a health care provider” *World Health Organization*
- The term ‘adherence’ implies a collaborative relationship between patients and clinicians, recognizing the role that patients play in their own treatment decisions.

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# Cost and Extent of Poor Adherence

- 33% - 69% of U.S. medication-related hospital admissions are due to poor adherence, costing \$100 billion per year *Osterberg & other authors*
- 50% of patients do not take their medications as prescribed *World Health Organization*
- *U.S. National Community Pharmacists Association (NCPA) survey results:*
  - 49% of respondents had forgotten to take a medicine
  - 31% had not filled a prescription they were given
  - 29% stopped taking a drug before the supply ran out
  - 24% had taken less than the recommended dosage

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# Techniques to Assess Adherence

- Clinicians tend to overestimate adherence
- It is difficult to identify non-adherent patients:
  - Race, sex and socioeconomic status do not predict adherence. In the U.S., non-adherence affects all ages, both sexes and is just as likely to involve higher-income, well-educated people as those at lower socioeconomic levels. *National Council on Patient Information and Education (NCPPIE)*
  - Patients are unlikely to be forthcoming ('white-coat adherence' – patients improve their adherence 5 days before and after an appointment, compared with 30 days after) *Osterberg, NEJM*

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# Techniques to Assess Adherence

## Where to Start?

- Treatments where adherence is most important
- When prescribing a new medication
  - offers a unique opportunity to promote adherence
- Patients who are not responding to treatment
  - poor adherence should always be considered when a patient's condition is not responding to therapy
  - this is especially true of patients who do not respond to increments in treatment intensity

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# Techniques to Assess Adherence

*The Pharmaceutical Information Program (PIP) lists every prescribed drug dispensed by a community pharmacy in Saskatchewan.*

- Consult the PIP:
  - ❑ to know if a prescription was filled and if repeats were dispensed as expected
  - ❑ to confirm which medications are being prescribed by other healthcare providers  
(non-adherence may arise from having multiple healthcare providers prescribing medication – especially for patients who have multiple chronic disorders treated by different specialists)

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# Predictors of Poor Adherence

- Major Predictors of Poor Adherence to Medication, According to Studies of Predictors *Osterberg*
    - Presence of psychological problems, particularly depression
    - Presence of cognitive impairment
    - Treatment of asymptomatic disease
    - Inadequate follow-up or discharge planning
    - Side effects of medication
    - Patient's lack of belief in benefit of treatment
    - Patient's lack of insight into the illness
    - Poor provider-patient relationship
    - Presence of barriers to care or medications
    - Missed appointments
    - Complexity of treatment
    - Cost of medication, copayment, or both
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# Techniques to Assess Adherence

- Identify patients who miss or cancel appointments
  - missing appointments is correlated with lower adherence rates to prescribed regimens and is the first signal of dropping out of care entirely, the most severe form of non-adherence *Haynes, JAMA*
- Consider initiating a discussion about their medications with patients who have:
  - asymptomatic conditions,
  - treatments with possible side effects, or
  - complex treatment regimens

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# Techniques to Assess Adherence

- Ask the patient:
  - *“I know it must be difficult to take all of your medications regularly. How often do you miss taking them?”* or
  - *“Have you missed any pills in the past week?”*

This approach makes most patients feel comfortable in telling the truth and facilitates the identification of poor adherence. A patient who admits to poor adherence is generally being candid. *Osterberg*

Even when patients indicate that they have not taken all their medications as prescribed, their estimates usually overestimate their actual adherence. *Haynes*

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# Common Communication Approaches

- Physician-Patient Communication Problems:
  - approximately half of patients' concerns about their problems are not elicited by physicians
  - in 50% of visits, patient and physician do not agree on the nature of the main presenting problem
  - on average, physicians interrupt patients 18 seconds into the patient's description of the problem
  - most malpractice suits are due to communication errors, not competency
  - patients' most common complaint is lack of information from their physicians

*Health Canada*

*"Better Physician-Patient Communication for Better Patient Outcomes"*

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# Common Communication Approaches

- *Stevenson, Social Science & Medicine* –  
20 physicians in audio-taped consultations with 62 patients
  - Findings:
    - medication was discussed in all 62 consultations; prescriptions were issued in 41 / 62 (66%); new medication or dosage change in 34 / 41
    - medicine not named in 12 / 34
    - reference made to dose or regimen in 27 / 34
    - reference made to side effects in 16 / 34
- Nine people told the researcher that they would prefer not to be given a prescription, or that they did not want the same medicine they had been previously prescribed. Of those 9 patients, only 4 told the doctor.
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# Understanding the Patient's Perspective

- Patients carry out a personal cost-benefit analysis, weighing the costs and risks of each treatment against the benefits as they perceive them. Patient perceptions and the personal and social circumstances within which they live are shown to be crucial to their decision-making. Thus, an apparently irrational act of non-adherence (from the physician's point of view) may be a very rational action when seen from a patient's point of view.

*Ockene, Journal of The American College of Cardiology*

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# Understanding the Patient's Perspective

- Doctors do not usually check patients' understanding of a treatment or explore their concerns about a drug, and when they do encourage patients to ask questions the patients seldom do so. Even in formal assessment conditions, where general practitioners are awarded marks for sharing management options with patients, videos show that they fail to do so. This failure to explore patients' beliefs and hopes about medicines and to inform them of the pros and cons of treatment options leaves much room for misunderstanding, for unaddressed concerns, and for ambivalence about the drugs prescribed to them. *Elwyn, BMJ*

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# Explaining a New Prescription

- Before prescribing a new medication, consult the RxFiles Academic Detailing Program ([www.rxfiles.ca](http://www.rxfiles.ca)) as an authoritative source or decision support to select the most appropriate option.

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# Explaining a New Prescription

- Provide both the brand name and the generic name of the medication.
- Allow the patient to watch you write both the brand and generic names clearly on the prescription.
  - for a new medication, patients may require the name of the drug to be repeated, and may still not have an idea of its spelling – writing the name may save time

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# Explaining a New Prescription

- Explain why the medication is prescribed or what it is supposed to do.
  - 12% of older patients did not fill a prescription because they did not think they needed the drug they were prescribed  
*Safran, Health Affairs*
  - a clear explanation about why a medication is prescribed or about what the medication is supposed to do might increase the chances of the patient using it  
*Tarn, Journal of Clinical Outcomes Management*
- Write the indication on the prescription. If there are privacy concerns, first ask the patient.

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# Explaining a New Prescription

- Tell the patient if the new medication is in addition to their existing regimen, or replaces a drug they should stop taking (ensure that the patient understands which drug).
- Explain how the medication should be taken.
- Write Sig. instructions.

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# Explaining a New Prescription

- Good physician-patient communication about new medications is important to ensure patient understanding about what a medication is called, why it is needed, how it should be taken and for how long, and what potential medication side effects might occur.
- A good place to start is by asking what the patient already knows or fears. Since patients do not readily ask questions about their medication regimens, even when they do not understand the conversation, every effort should be made to convey this information in an unambiguous manner. Some sort of check-back system is needed to learn exactly what the patient heard and thought he understood from the doctor. *Tarn*

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# Addressing Concerns

- The model Tarn recommends is called ‘an educational sandwich,’ and consists of 3 steps: Ask, Tell, Ask.
    - **Ask:** The physician can ask what the patient knows, what the patient is concerned about, and what the patient has heard from other sources.  
*“Are you familiar with this medication?”*
    - **Tell:** Usually a brief explanation, followed by ...
    - **Ask:** *“Any other thoughts?” “Any other questions?”*  
*“Now that we’ve talked a bit about it, what are your concerns?”* or *“I don’t always explain this as clearly as I would like, so tell me what you heard and then I can clarify anything I’ve left out.”*
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# Patient Involvement in Care

- *Martin, Behavioral Medicine* –
    - 128 patients with Type 2 diabetes recruited from the general medicine clinic of a California teaching hospital
  - Study goal: to identify specific physician behaviours that are most closely related to patients' impressions that their doctors facilitate their involvement in care
  - Findings:
    - physicians most frequently used closed-ended questions
    - asking open-ended questions made patients feel that their doctor facilitated their participation in care
    - next most important was being responsive to patients' questions
    - patients did not want their physician to play a passive role, nor to give them too many choices
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# Side Effects

- Concern about medication side effects remains a powerful barrier to patient adherence:
    - In a 2005 survey of 2,507 adults conducted by Harris Interactive, 45% of respondents reported not taking their medicines due to concerns about side effects. *NCPIE*
    - 57% (37 of 65) of adults age 65 or older self-reported discontinuing their medication on their own. 92% of these cited side effects as the reason.  
*Ferguson, Journal of Geriatric Drug Therapy*
    - Patients reduce their drug intake to diminish the risk of side-effects or to discover the lowest drug dosage effective for them.  
*Vermeire, Journal of Clinical Pharmacy & Therapeutics*
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# Side Effects

- Let the patient know what to expect, and how long it may take to respond to treatment.
- Discuss possible and actual side effects – how important is each of these to the patient?
  - Apart from their medical condition, patients may differ in what is important to them. One patient may be deeply disturbed by a drug that affects his clarity of thought, while another may be accepting of this side effect as long as he experiences good pain control.
  - Antihypertensive, anticoagulant, and antidepressant medications commonly pose trade-offs. Few data currently exist to guide decision-making for these trade-offs. The clinician must consider which condition presents the greatest threat to the outcome priority of greatest importance to the patient.

*Tinetti, JAMA*

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# Side Effects

- Data show that providing patients with information about possible adverse effects does not appear to decrease adherence. *McDonald, JAMA*
- Monitor side effects and intervene early.

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# Side Effects

- *Tamblyn, Archives of Internal Medicine* – Influence of physicians' management and communication ability on patients' persistence with antihypertensive medication
  - 22% - 62% of patients experience adverse effects from antihypertensives in the initial period of use
  - 15% - 25% of patients will not spontaneously report adverse effects to their physicians, and, among those who do, physicians act in only 63% of cases
- Findings:
  - regardless of the class of antihypertensive treatment, early therapy change significantly reduced the risk of nonpersistence by 55%
  - physicians with higher overall scores in knowledge and decision making were more likely to make therapy changes in the first 2 weeks
  - physicians with higher scores in communication were more likely to have their patients come in for follow-up visits in the first 2 months

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# Improving Adherence

## ■ Strategies for Improving Adherence to a Medication Regimen *Osterberg*

- Identify poor adherence
- Emphasize the value of the regimen and the effect of adherence
- Elicit patient's feelings about his or her ability to follow the regimen, and if necessary, design supports to promote adherence
- Provide simple, clear instructions and simplify the regimen as much as possible
- Encourage the use of a medication-taking system
- Listen to the patient, and customize the regimen in accordance with the patient's wishes
- Obtain the help from family members, friends, and community services when needed
- Reinforce desirable behavior and results when appropriate
- Consider more "forgiving" medications (those with long half-lives, extended release, and transdermal)

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# Simplifying the Regimen

- One of the biggest stumbling blocks for many patients is the complexity of the regimen.
  - for patients taking twice-daily antihypertensive medication, non-adherence was significantly worse compared to participants taking once-daily medication

*Schlenk, Journal of Gerontological Nursing*

- minimizing the total number of daily doses has been found to be more important in promoting adherence than minimizing the total number of medications

*Osterberg*

- Simplify the medication schedule as much as possible.
  - Ask patients how they plan to incorporate the prescribed medication into their daily routine.
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# Improving Recall

- Forgetting was the most common reason patients gave for not taking their medications. *Osterberg*
  - *Neupert, Aging, Neuropsychology and Cognition* – 105 younger adults' and 58 older adults' delayed recall of spoken instructions about a medication (in a surprise phone call 24 hours later)
  - Findings:
    - younger adults recalled 42% of the information, and older adults recalled 38%
    - structured recall scores were poor overall – participants' poor recall of the 'how to use' information would affect adherence
    - both younger and older adults had expected to recall important medication information much better than they actually did – inaccurate judgements may lower patients' motivation to encode and remember medication information
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# Writing Down Information

- Encourage patients to write down information (e.g. medication instructions, blood pressure reading).
- Offer paper and a pen.

Canada's Research-Based Pharmaceutical Companies (Rx&D), in partnership with the Canadian Medical Association (CMA) and the Canadian Pharmacists Association (CPhA), has produced a downloadable medication record book (<https://www.canadapharma.org/en/publications/knowledge/default.aspx>).

The accompanying booklet, "Knowledge is the best medicine" suggests what patients need to know to use medicines safely.

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# Additional Resources

- Advise patients that they can contact Saskatchewan Drug Information Services (SDIS)

SDIS at the University of Saskatchewan responds to drug information requests from both healthcare professionals and consumers. Questions can be asked by telephone at 1-800-665-DRUG (3784), or using an online request form (<http://druginfo.usask.ca>).

The service provides information about adverse reactions / side effects, compounding problems, contraindications / precautions, drug availability, drug compatibility, drug dosages / administration, drug identification (Canadian, foreign), drug use in pregnancy and lactation, drugs of choice, pharmacology and therapeutic indications.

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# Blueprint for Pharmacy

- The Canadian Pharmacists Association's "Blueprint for Pharmacy" offers a vision for pharmacy:

*"Optimal drug therapy outcomes for Canadians through patient-centred care"* where pharmacists:

    - manage drug therapy in collaboration with patients, caregivers and other healthcare providers;
    - identify medication use issues, take responsibility for drug therapy decision and monitor outcomes;
    - empower patients in decision-making about their health, and play a prominent role in health promotion, disease prevention and chronic disease management.
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# Assessing Adherence when Dispensing Medication

- Consulting own records and the PIP before dispensing a new or continuing medication, pharmacists may decide to counsel the patient if:
  - ❑ based on the refill history, it seems that medications are not being taken as prescribed
  - ❑ concerns are noted due to the patient having multiple prescribers

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# Patients' Beliefs About Medication

- *Ramström, Patient Education and Counseling –*

Findings:

- The greatest difference in views was to the statement:  
“People who take medicines should stop their treatment for a while every now and again.”  
Patients: 29% agreed, 41% uncertain, 30% disagreed  
Professionals: 4% agreed, 22% uncertain, 74% disagreed
- Patients were less likely to agree with the statement:  
“In most cases the benefits of medicines outweigh the risks.”

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# What Patients Need to Know

- The American Society of Consultant Pharmacists states that patients need to know:
    - What condition the medicine was prescribed to treat
    - What the medicine is, why it is needed and how it works in the body
    - Why the medicine was selected
    - The dosage schedule and related instructions about how to take the medicine (before eating, with food, etc.)
    - Whether the medicine will work safely with other medicines being taken (both prescription and nonprescription medicines)
    - What to do if doses are missed or delayed
    - Common adverse effects and what to do about them
    - How to monitor whether the medicine is having its intended effect (are lab tests or blood work necessary; if so, how often)
    - Serious adverse effects to look out for and what to do if they occur
    - What action to take when the prescription is about to run out
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# Explaining a New Prescription

- Pharmacists may decide to use some of the same techniques as prescribers to elicit concerns:  
Ask, Tell, Ask (*“Any other questions?”*) – open-ended.
  - **Ask:**
    - “Are you familiar with this medication?”*
    - “Do you have any concerns about this/any medication?”*
  - **Tell:** Usually a brief explanation, followed by ...
  - **Ask:** *“Any other thoughts?” “Any other questions?” “Now that we’ve talked a bit about it, what are your concerns?” or “If I am not clear, tell me what you heard and then I can clarify anything I’ve left out.”*

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# Written Information

- Written information may also be provided
    - 60% or more of patients being followed could not correctly report what their physicians told them about medication use 10 to 80 minutes after receiving the information *Gottlieb, Drug Benefit Trends*
  - When preparing written instructions:
    - use lists rather than paragraphs,
    - list actions in the order they are performed,
    - draw attention to what is most important.
  - Packaging (such as blister packs) can also be used to make adherence easier.
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# Trial Prescriptions

- Pharmacists may offer patients a trial prescription.
  - new medication for the client, written for a one-month (34 day) duration or longer
  - prescriptions eligible for reimbursement are for cardiovascular drugs (class 24:00), central nervous system agents (28:00), misoprostol, or pentoxifylline
- The trial prescription provides a patient with a 7- or 10-day supply of a new medication to determine if it is effective and/or tolerated.
- Pharmacist follow up required.

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# Opportunities for Nurses to Improve Adherence

Registered Nurse, Nurse Practitioners are also prescribers.

- techniques to assess adherence, explain a new prescription, address concerns, simplify the regimen etc. are useful for RNs and RN(NP)s

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## Home Care Settings

- Registered Nurses in home care can assess and improve adherence:
  - examining the patient's medications and comparing with PIP
  - asking how medications are taken
  - clarifying instructions for use in consultation with the patient's primary care provider or pharmacist

*Schlenk, Journal of Gerontological Nursing*

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## Home Care Settings

- Nurses can suggest various strategies to remedy some adherence problems:
  - daily drug reminder charts  
(patients who received a medication schedule made fewer medication errors based on pill counts than those without a medication schedule)
  - pill boxes

*Schlenk, Journal of Gerontological Nursing*

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# Home Care Settings

- Social supports are important to improving adherence:
  - involving family members and significant others
  - obtaining help from family, friends and community services
  - participating in support groups

*Osterberg, New England Journal of Medicine*

*Haynes, Journal of the American Medical Association*

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# Administering Medication

- *Saskatchewan Registered Nurses' Association, Medication Administration: Guidelines for Registered Nurses*
  - Assess the appropriateness of the medication for a particular client.
  - Evaluate the appropriateness of a medication.
  - Competent medication administration includes preparing the medication according to directions, monitoring the client while administering the medication, appropriately intervening as necessary, evaluating the outcome of the medication on the client's health status and documenting the process.

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# Administering Medication

Advice to patients going into hospital:

- ❑ Be familiar with the names of your medications, how you take them and why you take them.
- ❑ Confirm that the medication you are receiving is meant for you.
- ❑ If the medication you are being given does not seem to be correct, ask questions or raise your concerns.
- ❑ You should expect to have your questions answered and your concerns addressed.

*Institute for Safe Medication Practices Canada  
(ISMP Canada), [SafeMedicationUse.ca](http://SafeMedicationUse.ca) Newsletter*

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# Preparing Patients for Discharge

## Findings:

After hospital discharge (10 days in one study; one month in the other) patients who participated in the self-medication program had significantly better medication adherence based on pill counts than the control group.

*Lowe, British Medical Journal*

*Pereles, Journal of American Geriatrics*

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# Preparing Patients for Discharge

- In acute and community care, one of the major roles of the registered nurse is to work with clients to safely administer their own medications.
- To communicate & communicate

*SRNA*

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# Understanding Prescriptions

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