He points to a recent national study in the US in which 43% of patients on anti-HIV regimens admitted that in the week before the survey they didn't take their medications as prescribed. In another study of patients by Chesney and colleague Jeannette Ickovics for the AIDS Clinical Trials Group (ACTG), 18% of respondents reported missing at least one dose in the previous two days; 25% said they didn't know there were special instructions for their medication, such as taking capsules on an empty stomach.

A key reason for people with HIV not adhering to drug regimens is the sheer number of tablets and capsules to be taken. A typical person on combination therapy may have to take as many as 30 pills a day divided into five or six doses.

Larry Emler of Geneva has set up a "little alarm system" to help him remember to take the myriad of drugs. "I also have to wake up in the midle of the night to get them all in." Beginning the regimen was not something that Emler took lightly. "I talked it over with my doctor and waited a month to make a decision. I needed time to reflect on the impact it would have on my life."

"We're fortunate that emerging data suggests that similar degrees of effectiveness can be achieved when the total daily amount of certain protease inhibitors can be taken in two rather than three doses, 12 hours apart," says Montaner. "If preliminary data can be confirmed, this apparently small change may have important implications for adherence."

For both Montaner and Chesney, though, reducing the number of pills is only a start. "We shouldn't think that if we cut the numbers of doses to twice a day or the number of pills from 30 to 15, that this problem of adherence will go away," says Chesney. "That will help, but patients indicate that there are other equally important factors such as confidentiality and fitting the medication into their lifestyles."

Kathy Graham is a pharmacist and university teacher who also provides adherence counselling at an HIV clinic in Florida. She recalls the case of a young man who was looking forward to attending a family reunion but didn't want his family to know he was HIV-positive. He seriously considered stopping his medication regimen to avoid raising suspicions about his health. With the clinic's advice, he eventually decided to stay on his medication and attend the reunion. Putting his pills in inconspicuous containers helped him safeguard his secret.

Graham also sees lack of privacy in pharmacies as a deterrent to adherence. A person waiting in line at a pharmacy counter, she says, isn't likely to ask for clarification about taking anti-HIV tablets or capsules when other customers may overhear.

For Marc Vesin, head of the Haute-Savoie chapter of AIDES, an HIV/AIDS support and prevention NGO in France, the solution to adherence problems has to come mainly from those taking the medication, though they must always "have the right to say 'stop'." In addition, "less stressful and less strenuous combination therapies" are needed to boost adherence.

"The drug companies should try to go beyond generating cash and give a helping hand so that people can return to a more normal life and, in many cases, start working again," says Vesin. "We've been good guinea pigs for a long time, but we need continued help from governments and drug companies."

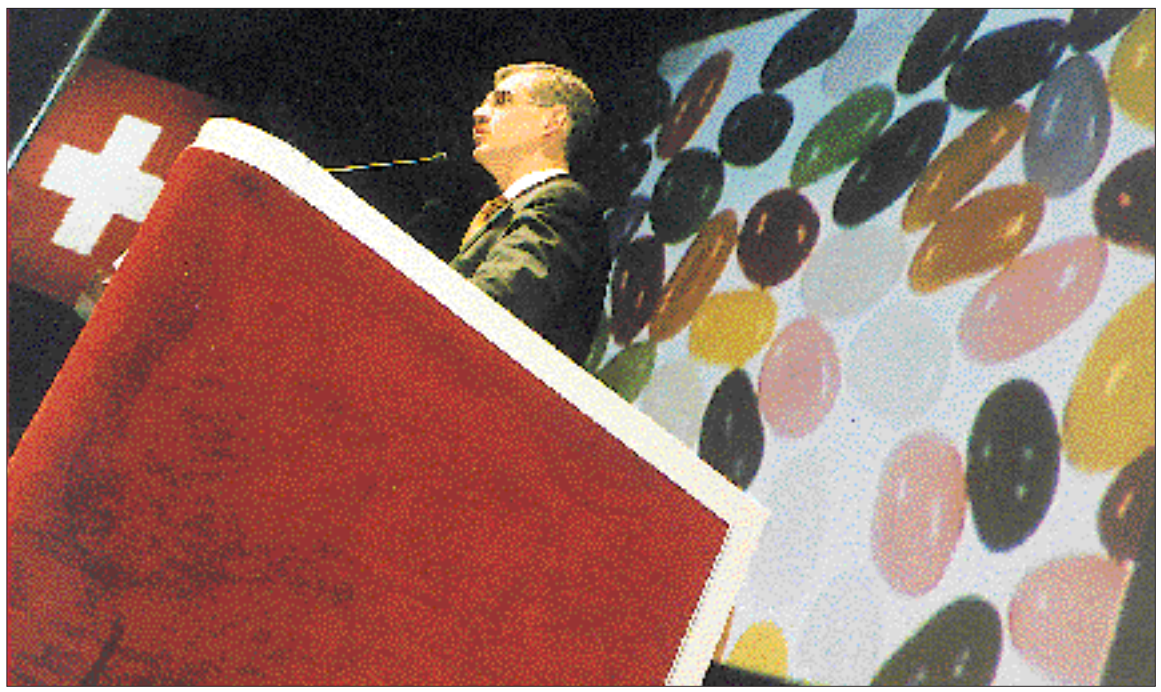
In a session held yesterday, the International AIDS Society–USA released their 1998 treatment guidelines which refer explicitly to this problem. They state that "therapy should not be initiated until treatment goals and need for close adherence to a regimen are understood and endorsed by the patient."

Involving the person taking the medication is key to Montaner and other practitioners. They've begun to use a "practice" method to help their patients decide whether to start therapy or wait. Montaner offers them the "jellybean test." "We'd rather know in advance if people will have difficulty with a particular regimen. If they experiment with the real drugs, resistance becomes an immediate issue." Instead, Montaner prescribes a similar course of jellybeans for a couple of weeks. This allows for "practice time" as well as a means for people to decide if they can cope with the regimen. "Someone may always miss a lunch-time dose if they're at the gym or a late-night dose if they go to bed early. That's important information that we can work with to arrive at a regimen they can live with."

Side effects cause other problems. Unfortunately, says Chesney, "physicians sometimes wait until people develop side effects before treating them. From our experience, if you know that a significant proportion of patients will have nausea and vomiting, then physicians should prescribe medication for that condition at the time they are given the antiretrovirals, with clear instructions on how to use them."

At her medication adherence clinic in Florida, "the number one intervention ended up being side effect management," says Graham. Diarrhoea, and gastrointestinal problems in general, are amongst the most common problems, especially with protease inhibitors. The clinic not only recommends medication, such as immodium, but also makes a point of reminding patients that side effects usually disappear within a month. With such encouragement, the clinic's volunteers increase the chances that clients see the light at the end of the tunnel and adhere to the drug regimen.

Chesney, who has 22 years' experience in the area of medication adherence, believes the best recipe for success in long-term HIV treatment is for adherence to be addressed before therapy begins. "Before a person walks out of the doctor's office, he or she should have a clear picture of what the regimen is tomorrow. They can't rely on what's marked on the pill bottle or prescription pad. The complexity of these anti-HIV regimens is matched only by that of regimens followed by people who have had liver transplants. It's naive to think that you can explain it to them in a minute or two and that they can then adhere to them."



Julio Montaner presents the latest data on adherence strategies during the Wednesday morning plenary. The "jellybean" test allows for a risk-free trial run. Jean-Patrick Di Silvestro