Financial stress—impact on HIV adherence, HCV, and prescribing patterns

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Adherence—taking medicines exactly as prescribed—is critical to the success of medications and treating illness, particularly infections. In order for potent combination anti-HIV therapy (commonly called ART or HAART) to result in sustained improvement in health, a very high rate of adherence—at least 95%—is required. There are many factors that can affect adherence in people with HIV and other conditions, including depression, medication-related side effects and competing priorities such as substance use.

Cost issues have been identified as one potential barrier that can affect adherence to ART—certainly this is the case in low- and middle-income countries. In contrast, in high-income countries such as Canada, Australia, the U.S. and Western Europe, the cost of HIV treatment is heavily subsidized by governments. Thus the cost of care and treatment is not expected to affect adherence, as in many high-income countries universal health care is available to citizens and permanent residents.

In high-income countries, a large proportion of HIV-positive people are on disability support payments because they are unable to work (as such, their income is low). It is likely that they experience financial stress, though how this might affect adherence to HIV treatment has not been explored in detail until recently.

Australia's leading clinic for HIV, other infections and immunological disorders is at St. Vincent's Hospital in Sydney. There, researchers keep track of Australia's HIV epidemic. They noticed that for the past several years about 3% of Australian HIV-positive patients appeared to be dropping out of care. Motivated by this and also by reports from their patients about financial stress, a research team at the hospital launched a study to explore the issue of financial stress and adherence within a larger survey about health and care.

The Sydney team found that a significant proportion of patients were experiencing financial stress and were delaying the purchase of medicines. Furthermore, some patients disclosed that as a result of financial stress they had stopped taking and/or buying prescribed medicines. Patients also disclosed that the cost of transportation to the HIV clinic was a financial barrier. Researchers also found that transportation costs had caused some patients to interrupt ART—a decision that can be fraught with serious health consequences.

The cost of health care is something that is drawing concern not only at the individual level but also at the regional and national level in many countries. Already in Western Europe, much of which is experiencing a recession, proposals are being floated to further reduce the costs of treatment, including the use of simplified anti-HIV regimens. Such proposals may become more widely discussed in the future if the financial-economic crisis continues.

Study details

Researchers invited clinic patients to participate in an anonymous survey about care and treatment issues, including financial stress. A total of 500 people completed the survey. Limited information was available on the profile of participants, as follows:

- 96% male, 4% female
- average age – 52 years
- 67% were HIV positive
10% had viral hepatitis only
23% had an immunological disorder or other infectious disease
most patients (76%) attended the clinic every three or six months

Results - Focus on HIV-positive patients

Among the 335 HIV-positive patients, the following proportion acknowledged problems meeting pharmacy-dispensing costs as follows:

- 20% (65 participants) stated that paying dispensing fees was difficult or very difficult

Participants acknowledged the cost of paying for transport to meet clinic appointments with the following impacts:

- 14% disclosed that they delayed purchasing prescribed medicines
- 9% disclosed that they had stopped taking medicines

Of the 65 participants who stated that they had a degree of difficulty paying pharmacy costs, nearly 30% stopped taking their medicines. In contrast, of the remaining 270 HIV-positive patients who did not disclose financial stress, only 4% said that they stopped taking medicines (for unknown reasons). This difference in rates of discontinuation was statistically significant.

Talking about money

At clinic visits, doctors often asked patients about their health and medicines. For instance, 60% of participants reported that they were always or frequently asked if they were experiencing side effects because of medication. Only about 5% were often asked if they had difficulty meeting the costs of medicines.

Limitations

The design of the study was cross-sectional in nature. This is analogous to a snapshot taken at one point in time. Cross-sectional studies are cheaper, faster and simpler than other types of studies (such as those that run for many years). Cross-sectional studies cannot provide definitive answers to research questions. However, their findings can be explored in studies of a more complex (and expensive) design.

Another limitation of the present study is that the vast majority of participants were male. The research team noted that women “generally earn less money than men,” and so financial stress on them would likely have been greater.

Despite these limitations, the Australian study is very important and will have a major impact on future studies of adherence in high-income countries.

Money and access

Co-payments such as dispensing fees are not unique to Australia. In Canada, some pharmacies waive such payments and some provincial and territorial health plans as well as private insurers cover all or part of such fees. Also, the cost of medicines to treat catastrophic illnesses such as HIV and hepatitis C virus (HCV) infection is generally covered by Canada’s provinces and territories, though specific coverage of particular drugs may come with restrictions that can vary from one province or territory to another.

A 2007 survey of 5,723 Canadians found that about 10% reported non-adherence to prescription medicines because of drug costs. People most likely to report non-adherence to medicines because of cost generally had the following profile:

- poor health
- low income
- no drug payment insurance

Issues related to hepatitis C virus

In 2008, researchers in Halifax, Nova Scotia, interviewed 50 participants with HCV infection. They found that
participants took a range of prescribed medicines to treat multiple conditions, including the following:

- mental health issues, particularly anxiety and depression
- higher-than-normal blood pressure
- inflammation

Nearly 60% of participants were concerned about financial stress and their ability to pay for prescribed medicines. Participants developed a variety of strategies to cope, including borrowing money, delaying the purchase of drugs and asking their health care provider for a cheaper substitute for an expensive drug. Some participants were uncomfortable discussing cost issues with their physician and instead sought such discussions with their pharmacist.

Many participants also purchased supplements and complementary therapies, which increased their financial stress.

**Cost and adherence in HIV-negative people**

A recent American study in HIV-negative people who did not have severe mental health conditions or engage in substance use found that adherence to medications for chronic conditions such as cardiovascular disease and diabetes was affected by out-of-pocket costs. In the same study, researchers stated that they found “robust evidence that reduced out-of-pocket expenses improved medication adherence across clinical conditions.”

**Changes to therapy - the London experience**

The UK has been experiencing a severe recession for several years. As a result of rising health care costs and overall budget cuts, health spending is under significant financial stress. In 2010, the cost of ART for the 30,000 HIV-positive people living in London was approximately £170 million ($267 million). Each year there are approximately 1,800 new HIV-positive people, so costs will rise. The local health commissioners (who oversee health care spending) brought together key stakeholders, including clinicians and patient advocates, and created a subgroup tasked with reducing the cost of buying ART. Whatever course of action the subgroup took had to be in line with HIV treatment guidelines and the results should not negatively impact the health of patients. The following fundamental principles guided the decisions of the subgroup:

“The freedom of the individual clinician to prescribe the most appropriate drug for the patient and full involvement of the person living with HIV in treatment decision-making processes [was] confirmed as [a fundamental principle].”

The subgroup created a multidisciplinary team of doctors, health commissioners, pharmacists, public health workers and patient advocates to meet with pharmaceutical companies. This team invited companies to submit bids for providing discounted ART. The winning bid resulted in doctors and patients considering using following drugs when initiating ART:

- nukes: Kivexa – a fixed-dose formulation of abacavir + 3TC
- protease inhibitors: atazanavir (Reyataz) + ritonavir (Norvir)

These drugs will be supplied at reduced cost for two years. During this time, spending will be audited to assess savings, estimated to be between £8 million and £10 million (between $13 million and $16 million). Also, auditing of health outcomes of HIV-positive patients will be done to ensure that quality of care is maintained.

**Other ideas for reducing costs**

In the UK, a group of researchers has published a paper with ideas of how the cost of HIV treatment may be further cut. They proposed two broad themes:

- substituting generic formulations of medicines once the patent on the branded formulation has expired
- simplifying treatment by reducing the number of drugs in a regimen; specifically, relying on combinations that use a combination of ritonavir plus another protease inhibitor called darunavir (Prezista). Such greatly simplified combinations are called protease inhibitor monotherapy.

Most trials of protease inhibitor monotherapy using either ritonavir-lopinavir (in Kaletra) or darunavir-ritonavir have enrolled carefully selected participants who had little or no history of treatment failure. Furthermore, participants are
usually very motivated and highly adherent. All this is to say that treatment simplification to protease inhibitor monotherapy will not be suitable for every HIV-positive patient.

In general, protease inhibitor monotherapy regimens do not have the same effectiveness as currently recommended combinations of ART.

Another issue with HIV treatment simplification is that of the health of the brain and spinal cord—the central nervous system (CNS). HIV-infected cells of the immune system reside within the CNS. Some anti-HIV drugs have difficulty penetrating the CNS, and simplified therapy raises a concern of insufficient suppression of HIV in the CNS. So care needs to be taken when considering or using such regimens, particularly their long-term impact on neurocognitive health. Perhaps for these and other reasons, protease inhibitor monotherapy is not generally recommended in major HIV treatment guidelines. An upcoming CATIE News bulletin will explore recent reports of injury to brain cells detected in some HIV-positive people who were using protease inhibitor monotherapy.

**The looming future**

The International Monetary Fund (IMF) has predicted a period of slow economic growth for many countries in the short-term and medium-term. This means that financial stress at the individual and institutional level may become an increasing concern. Researchers who aim to assess adherence to HIV or HCV therapy need to take financial stress into account in future studies, particularly when such studies are done in high-income countries. At the institutional level, agencies that subsidize the cost of HIV treatment (and other medicines) will increasingly be seeking a reduction in costs. Doctors and pharmacists may also need to take financial stress into account when prescribing medicines.

—Sean R. Hosein

**REFERENCES:**


Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

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