

research highlights

Patients with Chronic Conditions Reduce Their Use of Prescribed Drugs When Co-Payments Double

WHEN THE COST OF PRESCRIPTION DRUG co-payments doubles, patients cut their use of common drugs for chronic diseases such as diabetes, asthma and gastric acid ailments by as much as 23 percent, a UCLA School of Public Health and RAND research team has found.

In the study, published in the *Journal of the American Medical Association*, people being treated for diabetes cut back on anti-diabetes drugs other than insulin by 23 percent when co-payments doubled, while those treated for asthma reduced anti-asthmatic drug use by 22 percent. People with gastric disorders cut use of related drugs by 17 percent.

“We don’t have enough information to know if this is having an impact on people’s health, but now we know the groups that are most at risk,” says lead author Dr. Dana Goldman, adjunct associate professor at the school and director of health economics at RAND. “These findings show us where health problems may arise. Raising co-payments is a blunt tool for changing people’s use of prescription medicine. If we want to change the patterns of drug use so that we don’t adversely affect patients’ health, that will require more sophisticated benefit designs.”

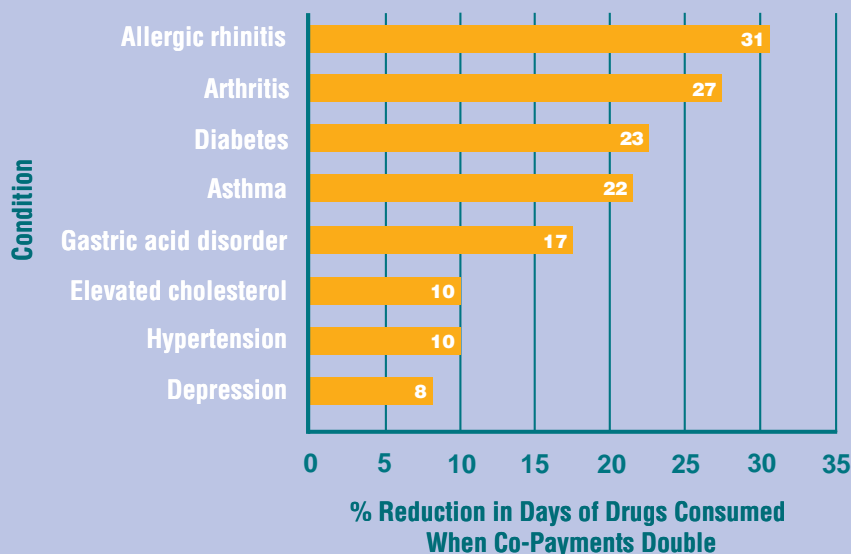
The researchers found preliminary evidence that patient health suffers as patients with some chronic illnesses cut back on their medicines. For example, as the use of prescription drugs dropped, visits to hospital emergency rooms increased 17 percent and hospital stays rose by 10 percent among patients with diabetes, asthma and gastric acid diseases.

Goldman’s group studied the experiences of nearly 530,000 privately insured non-elderly adults from 1997 to 2000, examining how the use of eight therapeutic classes of drugs changed when co-payments for prescription medicines doubled. The drugs involved treat high blood pressure, elevated cholesterol, depression, arthritis, asthma, allergies, diabetes and gastric acid disorders, including ulcers.

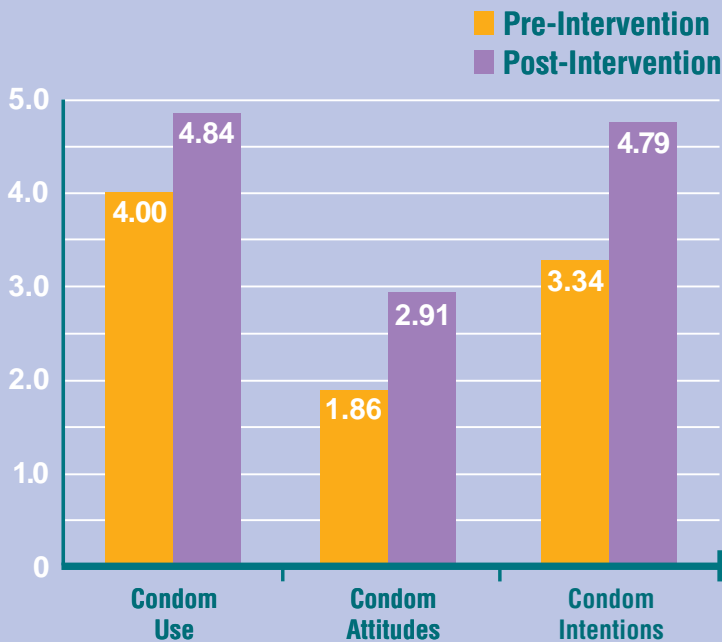
Use of all of the drugs dropped, particularly for medications that have close over-the-counter substitutes. “We see significant price sensitivity, but most people do not change their use of prescription drugs indiscriminately,” says Dr. Geoffrey Joyce, a RAND economist and assistant visiting professor at the school who was the study’s other principal investigator. “Some changes may be appropriate by reducing overuse of certain medications, particularly drugs that treat symptoms rather than the underlying disease.”

Patients generally were less likely to reduce use of a drug if they were receiving ongoing care from a physician for the disorder.

Predicted Change in Drug Use When Co-Payments Are Doubled for the Chronically Ill



Mean Scores for Condom Use, Attitudes, and Intentions Among Student Receiving Peer-Group Intervention



School-Based Peer Education Program Effective in Promoting Condom Use to Reduce Spread of HIV

IN A COUNTRY WHERE RISING HIV/AIDS RATES among adolescents is a great concern, a school-based peer education program can be effective in changing attitudes and behaviors related to condom use, a research team of UCLA School of Public Health faculty and students has concluded.

The study by Dr. Janni Kinsler (M.P.H. '98, Ph.D. '02), her faculty advisor Dr. Donald Morisky and Carl Sneed and Alfonso Ang, assistant researchers in the school's Department of Community Health Sciences, evaluated the impact of a cognitive-behavioral, peer-facilitated, school-based HIV/AIDS education program on the knowledge, attitudes and behavior of primary and secondary students in Belize – the country with the highest HIV prevalence rate in Central America, and where concern is particularly focused on adolescents and young adults. As of 1999, the HIV prevalence rate among the 15-24 population in Belize was 1.75 per 1,000, with 2.59 of every 1,000 males infected. Approximately 30% of the country's HIV infections are in people ages 15-24.

For their study, published in *Health Education Research*, the researchers recruited 150 students from six schools in Belize City, with half receiving a three-month-long intervention consisting of seven weekly two-hour sessions conducted by peer educators. The sessions sought to increase HIV/AIDS-related knowledge, positive attitudes toward condom use, perceived susceptibility to contracting HIV, self-efficacy, intention of using condoms, and condom use. All activities in the educational sessions were interactive and included role-playing exercises, role-model testimonials, skills-building activities, and other strategies tailored to the concerns of the youth population in Belize.

At the follow-up assessment, members of the intervention group showed higher HIV knowledge, were more likely to report condom use, had more positive attitudes toward condoms, and were more likely to indicate future intentions to use condoms than the students in the control group.

“Our results suggest that using peer educators with whom the study population could relate leads to a supportive and non-threatening environment and ultimately to sex-related behavior change, such as using condoms, to prevent the spread of HIV,” says Kinsler.

The researchers hope additional studies will provide further insight on issues not addressed in this study, including the impact on HIV risk of cultural stigmas associated with homosexuality and bisexuality, gender issues such as machismo and marianismo, and perceptions on sex and AIDS in Belizean culture.

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Two in Five Los Angeles County Residents Exercise Fewer Than 10 Minutes Per Week

FORTY-ONE PERCENT OF LOS ANGELES COUNTY RESIDENTS say they get no more than 10 minutes of continuous physical activity per week, according to a UCLA School of Public Health study headed by Dr. Antronette Yancey, associate professor of health services.

Reporting in the *American Journal of Preventive Medicine*, Yancey's group found that women were almost twice as likely as men to be physically inactive.

Older and less educated residents, along with those born outside the United States, were also more apt to be sedentary.

The study, supported by the California Department of Health Services, the Los Angeles County Department of Health Services, and the Los Angeles County Medicaid Demonstration Project, used data from a 1999-2000 random telephone survey of 8,353 Los Angeles County adults. The survey participants were interviewed in English, Spanish, Cantonese, Mandarin, Korean and Vietnamese.

Sedentary behavior – defined as less than 10 minutes of continuous physical activity per week – was more prevalent among those who said they were depressed or in poor health, the researchers found. Yancey and colleagues also found that perceiving oneself to be overweight was a better predictor of physical inactivity than actual measures of overweight such as body mass indices.

More “screen time” was associated with less exercise: County residents who spent three or more hours a day watching television or using a computer in their leisure time reported the highest levels of physical inactivity.

“While much attention in advertising and the media has been devoted to the obesity epidemic, it may also be important to promote physical activity independent of weight loss,” Yancey says.

She and her colleagues on the study – including Drs. Jonathan Fielding and William McCarthy from the School of Public Health – contend that government agencies could promote more exercise among residents by becoming activity-friendly workplaces themselves.

“Sedentary, overweight and diverse captive audiences of adults can be engaged in physical activity during the routine conduct of business,” Yancey says. “Society must share with its members some of the ‘cost’ of adopting and maintaining an active lifestyle.”

The findings are not unlike those of other studies, which suggest that 30% of Americans get little or no regular weekly exercise.

“Similar to the challenge of minimizing tobacco smoke exposure two decades ago, the U.S. epidemic of obesity and sedentariness is now of sufficient social magnitude and cost that increasing physical activity participation can no longer be treated as solely an individual responsibility,” Yancey says.

Hispanic Women with HIV Are Less Likely to Receive State-of-the-Art HAART Therapy than Hispanic Men

AMONG HISPANICS WITH HIV, women are far less likely to receive highly active antiretroviral therapy (HAART) than men, researchers from the UCLA schools of public health and medicine have reported.

Analyzing survey results from a nationally representative sample of adult HIV patients – part of the HIV Cost and Services Utilization Study – the research group built on its previous findings that Hispanics with HIV are less likely than whites with HIV to receive appropriate treatment, and explored whether important differences exist among Hispanic subgroups.

Most strikingly, Hispanic women with HIV had less than half the likelihood of Hispanic men with HIV of being on HAART, which has been shown to reduce HIV-related morbidity and mortality. This was the case despite the fact that by certain measures, Hispanic women with HIV had better access to care: For example, they were three times as likely as their male counterparts to have a usual source of care at the time of HIV diagnosis. On the other hand, female HIV patients were less than half as likely as male patients to have gone for the rec-

Physical Activity Levels in L.A. County Adults, 1999



District	% Sedentary (<10 min/wk)
County	41
Compton	45
South	50
Inglewood	46
Long Beach	37
West	31

ommended three ambulatory care visits in the previous six months, and had made nearly three times as many emergency department visits without an associated hospital stay – an indicator of sub-optimal care.

The reasons for women’s poorer access to appropriate care compared to men among Hispanic HIV patients could not be determined by this study, but previous research has suggested that women’s traditional care-giving role can create barriers to their receiving the health services they need, notes Dr. William E. Cunningham, professor of public health and medicine and a co-leader of the analysis, which was published in the *American Journal of Public Health*.

The study found other differences in access among subgroups of Hispanic HIV patients. Those exposed to HIV by drug use and heterosexual sex were at increased risk for not having had a usual source of care at HIV diagnosis – suggesting another target for tailored interventions, Cunningham notes.

“It’s very important not just to target Hispanics as a monolithic group in efforts to improve their access to HIV care,” Cunningham says. “This is a heterogeneous population, and that needs to be recognized when researchers and policy-makers are developing programs.”

Antioxidant Could Have Cancer-Fighting Effects for People with Genetic Disease

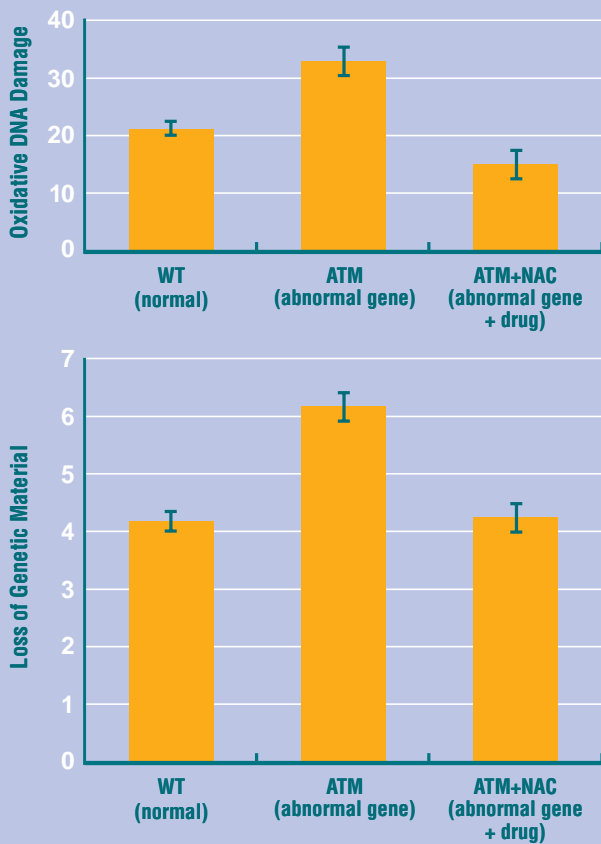
HIGHER ANTIOXIDANT INTAKE MIGHT BENEFIT INDIVIDUALS with ataxia telangiectasia, a rare genetic disease that causes progressive loss of motor control, cancer and immune system problems, according to research conducted in the laboratory of Dr. Robert Schiestl, a professor in the school.

One in five ataxia telangiectasia (A-T) patients are eventually diagnosed with cancer, most frequently acute lymphocytic leukemia or lymphoma. In addition, the tendency to develop a weakened immune system makes them susceptible to recurrent respiratory infections. There is no cure or effective treatment for slowing progression of the disease, nor is there any known strategy for prevention. Most of those who have A-T die in their teens or early 20s.

Schiestl, director of the Center for Environmental Genomics (based in the school), studied the effect of the antioxidant N-acetylcysteine (NAC) in mice with mutations in the ATM gene, which has been found to be altered in A-T patients. “ATM-deficient mice provide a good model to study the human A-T disease,” says Schiestl, who carried out the work with Dr. Ramune Reliene, a researcher in his laboratory. “They show symptoms similar to those of A-T patients, including high cancer risk, neurological deficits, high levels of loss of genetic material and oxidative stress. Elevated oxidative stress and appearance of certain genetic alterations – including loss of genetic material – are among the known factors that predispose humans to cancer.”

Schiestl found that administering the antioxidant reduced oxidative damage and prevented the loss of genetic material in the ATM-deficient mice; in fact, mice that were given the antioxidant showed levels of oxidative DNA damage and loss of genetic material similar to what was found in mice without A-T. The antioxidant produced no side effects – a finding that was expected, Schiestl notes, given that it has been successfully used in pharmaceutical form to treat broncho-pulmonary diseases for four decades. The findings were reported in the journal *Cancer Research*.

“If oxidative damage and loss of genetic material in A-T patients is what is increasing their susceptibility to cancer, it appears that higher antioxidant intake might be beneficial for these patients, and that we should move toward clinical



NAC therapy reduces oxidative DNA damage and loss of genetic material in ATM deficient mice.

trials with human subjects,” Schiestl says. On the heels of Schiestl’s report, one such clinical trial, in which the NAC antioxidant will be administered to A-T patients, is being planned. Meanwhile, Schiestl and colleagues are continuing to investigate the effects of NAC on the cancer frequency of ATM-deficient mice, and are planning to examine the effects of other nutritional supplements such as green tea, grape powder and lycopene for their anti-cancer effects in these and other mouse models of human cancer-prone diseases.

Community Health Centers Improve Access, but Over Reliance on Safety-Net Providers Has Down Side

LIVING IN AN URBAN AREA that has more community health centers increases the chances that lower-income adults – both with and without health insurance – will visit a physician during the year, according to researchers at the UCLA Center for Health Policy Research, based in the school.

But the research team, headed by Dr. E. Richard Brown, the center’s director and a professor of community health sciences at the school, also found that living in an area with a large population that depends on safety-net providers reduces the chances that a lower-income resident will have a usual source of care – an indicator of how connected a person is to the health care system.

“Areas that have more low-income residents, especially those who are uninsured, increase the financial burden on safety-net providers and thus may make it more difficult for these community clinics and public hospitals to establish connections with adults in the community,” Brown explains.

The analysis, which examined access to care in 54 metropolitan areas, looked at the effects of community factors that reflect the supply of health care services, support for the safety-net system, and the wider health care market. It advances previous research that primarily has investigated characteristics of the vulnerable population in relation to access to care. The study was funded by a grant from the Robert Wood Johnson Foundation.

The researchers found that the probability of having seen a physician during the past year was greater for both insured and uninsured lower-income adults in areas that have more federally qualified health centers – facilities whose main purpose is to serve low-income people. In urban areas with more safety-net support – specifically, higher Medicaid payments for providers – the lower-income uninsured were more likely to report having a regular source of care and the insured more likely to report a physician visit sometime in the past year. Increased competition among HMOs in a health market appeared to have no effect on access of lower-income adults, regardless of insurance status; living in an area with greater HMO penetration, however, was found to benefit only adults with insurance.

“Our findings confirm that public policies and community environment have measurable and substantial impacts on access to care,” Brown says. “Expanded public resources, such as increased Medicaid payments, extended public health coverage and more community health centers, can improve access to care for vulnerable populations in large urban areas.”

Characteristics of Low- and Moderate-Income Adults vs. All Adults Ages 19-64 in 54 Metropolitan Areas, 1995-96

