RANDOM SAMPLES

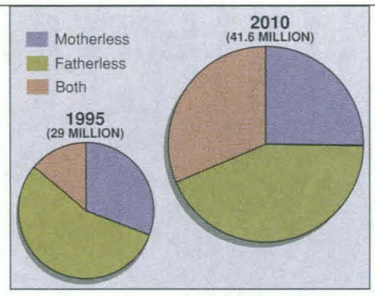
edited by CONSTANCE HOLDEN

World AIDS—The Worst Is Still to Come

World AIDS Day came on 1 December and with it two horrific reports describing how AIDS is eating away at developing nations, especially in Africa, and unraveling decades of health and economic gains.

One, from UNAIDS, the United Nations' AIDS program, relates that last year's global estimates were way off: New HIV infections in 1996 amounted to 5.3 million, not 3.1 million as reported last December. This year there have already been an estimated 5.8 million new infections, bringing the total number of people living with HIV to some 30 million. "Previous calculations grossly underestimated the rate of transmission, particularly in sub-Saharan Africa," where two-thirds of people with HIV live, says the report. The virus is fast reducing life expectancy to levels of 40 years ago. The hardest hit region is Southern Africa: In Botswana, for example, 25% to 30% of the adult population is believed to be HIV-positive.

Numerically, though, the greatest growth in AIDS cases is expected in densely populated countries of South Asia and India. "The worst is still to come," says the U.N. report.



USAID

Growing tragedy. Projection for AIDS orphans in 23 countries.

That conclusion is reinforced by a second report, from the U.S. Agency for International Development (USAID). The agency warns that the growing number of orphans created by AIDS means a concurrent growth not only of disease, but of hopelessness, ignorance, crime, vagrancy, starvation, and social disorder.

USAID surveyed 23 countries with HIV rates of 5% or higher—19 of them in sub-Saharan Africa. Children who have lost one or both parents to AIDS will make up one-third of the population under age 15 in some areas by 2000, it estimates. Nils Daulaire, senior adviser for health, children's, and women's issues at USAID, calls the prognosis "staggering," adding that "this is the first time we have hard data." The report calls for new efforts to improve the economic status of widowed mothers and to strengthen community resources to raise and educate children whose families have been laid waste by AIDS.

Children of Leningrad

Infants born to starving mothers during and after the height of the Germans' 900-day siege of Leningrad, Russia, in World War II appear to be at no greater risk of heart disease or diabetes as adults than those whose mothers were well fed. The finding, published in the 24 November issue of the *British Medical Journal*, undermines the theory that stressful conditions in the womb can predispose offspring to chronic disease.

The so-called fetal origin hypothesis, first proposed in the early 1990s by epidemiologist David Barker at the University of Southampton in the United Kingdom, is based on studies showing a relationship between variables such as low birth weight with chronic health conditions in adulthood.

UPI/CORBIS-BETTMANN

Children under siege. Tots with attendants at air-raid shelter in Leningrad Park in April 1942.

People born during the Leningrad siege are an ideal population for testing the fetal origin hypothesis, says physician John Yudkin at University College London Medical School. Working with the Russian Academy of Medical Science in St. Petersburg (formerly Leningrad), Yudkin's group examined the health of 169 people who were in utero between November 1941 and June 1942, when mothers were rationed to 300 calories worth of bread a day. The researchers compared these to 192 adults who were malnourished as infants but were born to well-fed mothers shortly before the siege.

Nearly all of more than 14 physiological indicators for heart disease, such as hypertension and cholesterol levels, were similar between the two groups. However, the group malnourished in utero had a significantly higher concentration of one marker, known as the Willebrand factor, associated with damage to blood vessel linings. While Yudkin does not think this one factor alone can be linked to chronic diseases, he is now looking for additional evidence of blood vessel damage.

Proponents of the fetal origin hypothesis are not swayed by the Leningrad study. Nick Hales, a clinical biochemist at the University of Cambridge, says more differences might have emerged if a larger sample had been examined.

Probing Procrastination

We all suspected that procrastination was bad for us. Now comes research to prove that it may actually be unhealthy, too.

In what they claim is the first experimental study of its kind, social psychologists Dianne M. Tice and Roy F. Baumeister at Case Western Reserve University in Cleveland report in the November issue of *Psychological Science* that procrastinators suffer from more stress and health problems.

One study asked 44 students in a health psychology course to fill out daily symptom checklists and weekly measures of stress and work requirements for a month. Self-reported procrastinators handed in their papers later than nonprocrastinators; they also got lower grades. A second study of 60 students revealed that by the end of the term, procrastinators experienced more stress and reported more health symptoms such as colds and flu.

Interestingly, procrastination does work to some extent: Its practitioners actually reported less stress and fewer health symptoms earlier in the term than did those who had their noses to the grindstone. But self-indulgence takes its toll. "Procrastinators end up suffering more and performing worse than other people," the authors conclude. They say the study helps place procrastination in the realm of behaviors, such as drug abuse, marked by impulsivity and "poor self-regulation."

Procrastination researcher Joseph R. Ferrari of DePaul University in Chicago says the Tice study provides "evidence we haven't had before." He notes, though, that the study subjects were only simple "academic" procrastinators—and not necessarily "chronic procrastinators," who suffer from a life-disrupting problem.

Such research is important for designing more effective treatments for procrastination, says

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Timothy Pychl, who heads the Procrastination Research Group at Carleton University in Ottawa. "They run clinics on every campus in North America for people who procrastinate," he says. The main approach is "time management," but researchers agree it's not very effective and that serious procrastinators have deeper problems, such as depression and low self-esteem, that need to be addressed.

A Tree on the Road to Wellness

Work on a new, $330 million hospital on the campus of the National Institutes of Health (NIH) in Bethesda, Maryland, was advancing rapidly this fall until it ran into a tree—a 300-year-old white oak, to be exact.

The tree stands in a patch of untouched East Coast hardwood forest, part of the farm that predated NIH. And it's right where NIH wants to build an access road to the new Mark O. Hatfield Clinical Research Center. Michelle Ratcliffe, a registered nurse, has become the tree's chief advocate after spotting it on one of her dog walks. As an amateur naturalist, she got herself deputized by a neighborhood association to negotiate with NIH on arboreal concerns. Ratcliffe says she is outraged that NIH's environmental impact statement does not highlight the ancient oak.

On 9 November, the National Capital Planning Commission (NCPC), in response to Ratcliffe's appeal, told NIH to hold off its bulldozers and try to figure out how to save the tree. The commission staff had recommended that NIH—which has already transplanted and replaced scores of trees for the construction project—be allowed to go ahead with its road plan. But the NCPC did an about-face after hearing Ratcliffe. "It came as a shock to everybody," she says.

NIH spokesperson Jan Hedetniemi says NIH considered uprooting and moving the 104-cm-diameter tree, but decided that's not feasible. NIH is still looking for alternatives to removal, but was to ask for permission to continue building the road at the commission's next meeting on 4 December.

Higher Education Down Under

A recent report on higher education in Australia that proposes a dramatic reduction in the role of the government is encountering a storm of criticism from students, professors, and researchers. The aim of the report, submitted by the Higher Education Review Committee to the education ministry, was to point the way to broadening the availability of higher education in the face of recent heavy funding cuts. But no one seems happy with the result.

"We told the government that if you adopt any of this, you'll have outright war," says John Carey, president of the National Union of Students. A central proposal of the report would involve replacing government grants to colleges, universities, and technical colleges with a system of student vouchers. Australian students, accustomed to heavily subsidized education, might have to ante up about two-thirds of the money for their education under the proposal, according to Jason Wood, general secretary of the Australian National University's Students Union.

University administrators aren't happy either, according to Fay Gale, vice chancellor of the University of Western Australia and president of the Australian Vice-Chancellors Committee. Their biggest concern is increased uncertainty about their income from year to year.

Researchers, too, are upset. While the report says that university research needs "bolstering," it offers no strategy for doing this. Instead, Gale worries that "too much emphasis on market forces"—meaning the amount of government money that goes to schools will depend on how many students they have—will be detrimental. "All of this country's research is done through academia. There is virtually no private industry funding for basic research," she says. Physicist Erich Weigold, director of the Australian National University's Research School of Physical Science and Engineering, worries that the government "is attempting to get rid of its responsibility."

Education Minister David Kemp has already distanced himself from the voucher proposal. At a 19 November conference at the University of New South Wales, committee chair Roderick West said the revised version of the report, due in March, will address issues raised by critics and devote more attention to research.

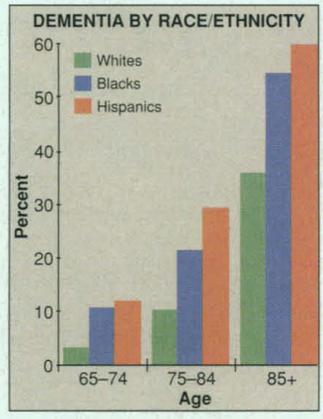
Quick stamp for Mars. Being chosen as the subject of a U.S. postage stamp is a posthumous honor. But the U.S. Post Office scarcely waited for the Mars Pathfinder project to cool down from its burst of glory earlier this year before commemorating its feat. Only 15 million copies of the $3 priority mail stamp will be issued before the plates are destroyed to ensure the stamps' value to collectors. The decision to honor the tiny but rugged explorer, built by scientists at NASA's Jet Propulsion Laboratory (JPL) in Pasadena, California, is "an obvious reflection of the public enthusiasm for and interest in the mission," says Douglas Isbell, a NASA spokesperson. The spacecraft landed on the martian surface on 4 July, and its Sojourner rover then explored the surrounding rocks and dirt, finally falling silent in October. To prevent counterfeiting, the name and date of the mission are hidden on the horizon—making this the Post Office's third stamp to contain hidden text.

Ethnicity and Aging

Rates of dementia in Hispanics and African Americans "are dramatically in excess of that found in non–Hispanic whites," according to a new report, *Racial and Ethnic Differences in the Health of Older Americans*, from the National Research Council.

Researchers with the North Manhattan Aging Project in New York determined that "mislabeling of depression as dementia ... could not be implicated" in the ethnic differences. In fact, blacks, despite relatively high levels of dementia, show very little depression, while whites have the most.

On the other hand, the researchers write, "evidence is mounting" that education is related to dementia and appears to have a protective effect. That would fit with the ethnic rankings, because Hispanics have the least amount of education of the three groups. There are several possible explanations for the connection: People may drop out of school because of cognitive deficits that later lead to dementia; low education level may be a marker for other problems such as bad nutrition; or learning contributes to "a robust neurological structure" that helps people compensate for the erosion of mental abilities. Psychiatrist Barry Gurland of Columbia University's Stroud Center in New York, senior author of the report, says his group hopes to learn more by observing the strategies used by educated people to cope "in the earliest stages of cognitive decline."



Ravages of time. Hispanics hardest hit by dementia.