The Arts of Healing

M. J. Friedrich

MANCHESTER, ENGLAND—Braving the drizzle of a chill English spring, more than 400 delegates from 26 countries gathered at the first World Symposium on Culture, Health, and the Arts held at Manchester Metropolitan University. Participants, who included physicians, researchers, artists, designers, policymakers, planners, and funders, attended presentations and workshops to learn how architecture and design, music, visual arts, theater and performance art, and poetry are being used to aid healing and improve well-being around the world.

In recent years, many innovators have used the arts and design to enhance the healing process in a variety of health care settings, said Peter Senior, the director of Arts for Health, the United Kingdom Advisory Centre for the arts in health care and part of the Faculty of Art and Design at Manchester Metropolitan University. He expressed hope that the knowledge and experiences of health and the arts shared at the meeting would lead to wider dissemination of such practices and development of new strategies to foster healthier environments and societies worldwide.

DESIGNING FOR HEALTH

The idea that certain environments can enhance health and healing has inspired a number of architects designing health care facilities. British architect John Wells-Thorpe described projects that he and his colleagues worked on in this spirit through the South Downs Health National Health Service Trust. By taking into account the ways in which color, light, sound, and texture impinge on the senses, he said, they manipulated the raw materials of design to create healthy environments for patients in various settings.

Wells-Thorpe described mental health care facilities in which architects addressed problems that patients suffering from dementia experienced. Although these patients' memory is ravaged and their eyesight is often poor, he said, their hearing and sense of touch may still be good. Thus, the challenge was to create an environment that would stimulate the intact senses of these patients.

Penoyre & Prasad

A garden "wandering path," seen from the internal safe wandering route, at Woodlands Nursing Home in Lambeth, London.

One problem the architects addressed was the issue of room identification. Many patients who left their rooms for meals or other activities were unable to remember on returning which room was theirs. Although the rooms were painted in different colors, patients often couldn't see well enough to distinguish among them. The entrances to the rooms were located on one side of the hallway, and along the opposite wall was a handrail running the length of the corridor. "What we did," said Wells-Thorpe, "was to alter the texture of the handrail every 2 yards—from hardwood to brass to leather to plastic to something else. Patients coming back from breakfast would hold on to the handrail and have a tactile reminder of where they lived, even though they'd forgotten their door."

Another problem involved patient roaming. "The staff grumbled because the patients would wander about—into the kitchen, scalding themselves; into the garden, falling into the fishpond; into the street, getting knocked over," said Wells-Thorpe. "But short of chaining them to one spot, what could be done?" The architects took this negative activity and "turned it on its head." They designed safe wandering paths inside and outside the facility that avoided dangerous areas. And along these paths they incorporated elements such as heavily scented herbs to provide pleasure for senses that were still functioning. The South Downs Health Group, of which Wells-Thorpe is the founding chairman, has also been involved in introducing a variety of artistic forms in health care facilities. For example, in a rehabilitation unit for patients who had undergone limb amputation, they invited a wheelchair-bound music and movement group called Candoco to perform and provide encouragement for the patients.

A research program into sensory perception and therapeutic benefits, which Wells-Thorpe heads, has evolved out of the trust's work. By measuring the effects various arts and design have on patients in terms of things such as physiological responses and recovery times, the study will provide evidence of whether these interventions can achieve beneficial results for patients.

Postsurgery patients in Sweden who looked consistently at a painting of calm water and trees made a more rapid recovery than those whose view showed abstract rectilinear forms, as at left.

Wells-Thorpe said this work could have much broader implications for his field. "If we get this right and begin to figure out how our senses relate to color, light, sound, and texture, we can take it into other areas, such as working environments, education environments, places of worship. Once we understand how it all fits together and how the interface takes place, the ultimate objective would be to have an entirely new basis for the theory of architectural design based on human response to the environment."

ANALYZING OUTCOMES

Measuring the effects of art on medical outcomes is something Roger Ulrich, PhD, director and professor of the Center of Health Systems and Design in the College of Architecture at Texas A & M University, College Station, has been doing for some time. His research findings indicate that psychologically appropriate art can substantially affect outcomes such as blood pressure, anxiety, intake of pain medication, and length of hospital stay. His results also show that some art styles have negative effects on patients and therefore are inappropriate in health care settings.

Health outcomes analysis is important, said Ulrich, because if it can be credibly demonstrated with sound research that appropriate art beneficially affects the health of patients, "you have a powerful new kind of argument, a mainstream medical argument, for having art in health care facilities."

Part of this work involves determining what sort of art works best. Not all art that is considered great in a critical sense is good in a health care sense, said Ulrich. "In health care there is really only one general criterion for determining the value of a piece of art—does that art beneficially affect patients compared to not having it, and are undesirable effects seen at acceptably low rates?"

Research carried out in behavioral sciences has shown that only a small number of things occur across cultures and among different personalities that reduce stress and hold attention in positive ways, said Ulrich. The most common are positive, caring human faces, certain views of nature, and music in certain keys. "These things have in common what scientists propose is a hard-wired preparedness," he said. "There is some scientific documentation that over time there has been some degree of selection for humans who readily learn and don't forget to respond positively to these phenomena."

In his research, Ulrich has focused on the effects of viewing nature on medical outcomes. He has shown that representational nature art can have beneficial effects on adult patients experiencing stress and anxiety in a number of health care settings. Ulrich worked with Outi Lundén, head of the department of psychology at Uppsala University, Sweden, and John Eltinge, PhD, a professor of biostatistics at Texas A & M University, to study the effects of viewing nature and abstract art on 160 patients who had undergone various heart procedures, such as bypass operations and valve replacements. Two days before surgery, the patients were interviewed, given personality inventories, and had various physiological measures of stress (like blood pressure and heart rate) measured. After surgery, patients were moved to intensive care units. Here, they were randomly assigned a picture that was mounted at the foot of their bed directly in the line of their vision so that from the earliest moments of wakefulness the patients had pictures to view.

The patients were divided into six groups. The first group was assigned a nature scene of still water surrounded by trees, a second group viewed a shady forest scene, a third group was given an abstract picture composed of curvilinear forms, and a fourth group saw an abstract picture with rectilinear forms. Two other groups were control groups. One viewed a blank white screen, and the other was assigned no picture at all.

The picture that had a substantially beneficial impact on outcome, said Ulrich, was the first nature scene of water and trees. "People did better in recovery on a variety of indicators if they were randomly assigned to this picture. Within 2 days after surgery they were much less anxious, and in 3 to 4 days they shifted off very strong potent narcotics, such as intravenous morphine."

The picture of the forest, however, did not meaningfully improve outcomes compared with the controls, said Ulrich. Patients indicated that the scene was too dark and spatially restrictive. "This scene had some beneficial effects, but they were not meaningful."

As for the effect of the rectilinear abstract picture, Ulrich said it made patients ill. "Health outcomes were worse than if they saw no art at all. Patients viewing this picture were more anxious and initially took more pain drugs than the control groups. Seven of 26 patients assigned to this piece of abstract art had strongly adverse reactions on first viewing it, so much so that the picture was removed for medical and ethical reasons. And later, two more patients asked for it to be removed."

The results indicate that not all art is appropriate in health care settings, said Ulrich. Such negative reactions to abstract art also have been documented in psychiatric wards in Uppsala,

he said. "Some art was physically attacked by patients who jumped up and down on it."

Ulrich pointed out that art containing ambiguous content—that is, art that is open to widely different interpretations, as many abstract works are—seems inappropriate for health care settings because the person can project his mood state onto the picture. "If the patient is happy, he'll see the happiness in the art, but if he's sad or fearful, he'll see the sad or fearful, unless it's unambiguously positive." In a stressful environment such as a hospital, ambiguity is not likely to be therapeutic.

Although results are limited, Ulrich said it is possible to suggest the following preliminary research-informed guidelines for choosing psychologically appropriate art to serve a therapeutic purpose in health care settings: the art should be obviously positive; the images in the art should be recognizable, and depth in the picture seems to be important; impressionistic art is acceptable as long as it is identifiable, but chaotic and abstract art should be avoided; nature scenes should be sunny, with green vegetation rather than brown; if people are represented, they should exhibit unambiguously positive facial expressions and gestures that are caring or nurturing.

LANDSCAPES OF CARE

In addition to the visual arts, landscapes and gardens can provide therapeutic benefits to patients. Many health care facilities draw on the healing aspects of nature by including gardens in their design.

Rebecca Cotton, a British landscape architect, traveled to China to explore ancient temple gardens to determine whether they might serve as enriching models for creating therapeutic gardens. Trekking through the mountains of central and southwest China, she visited 40 Buddhist and Taoist sacred gardens to examine how they reflect the way nature is connected to mental, physical, and spiritual well-being in this culture.

Taoism had a great influence on the architecture of China, including garden design, she said. An essence of Taoist belief is that architecture is a response to the landscape. In these mountains, temple gardens often can be reached only by climbing endless steps that seem to stretch up into the clouds. Cotton said this design is part of the Taoist principal of becoming the way, or the journey. "You interact with nature, not as an observer, but as part of it."

The steep journey to the garden, punctuated along the way by statues of gods that serve as symbols of hope, ends in a central court that may feel empty, she said. "Emptiness and space are an important part of Taoist thinking, which I believe we should consider in designing hospital landscapes. Space and emptiness encourage serenity and calm, and in hospitals there need to be spaces for peace and meditation."

While sparsely ornamented, the gardens are not entirely empty. Rocks, water, and certain culturally significant plants—*Gingko biloba*, symbolizing immortality; camellia and peach blossoms, rebirth; and magnolia, nobility—are judiciously placed for contemplation.

Cotton said she thought a disconnection from nature may contribute to some cases of ill health in today's society. For this reason, Chinese gardens, which are "places to cultivate the soul, places to be nourished, where body and mind can be connected," provide a provocative model for landscape design in health care settings. □

AAMC Analyzes 1997 Balanced Budget Act

Charles Marwick

WASHINGTON—In its zeal to reduce Medicare spending by passing the Balanced Budget Act (BBA) of 1997 last year, Congress has threatened the long-term financial stability of US teaching hospitals, says the Association of American Medical Colleges (AAMC). The act is intended to cut Medicare spending by phased-in reductions in payments to all hospitals until 2002.

But, according to a recently completed AAMC analysis, when the act is fully implemented the results will have a "pronounced negative effect on the education and service missions of teaching hospitals," said Jordan Cohen, MD, the AAMC's president. The magnitude of the cuts the act will produce is some $88 billion over the original estimates, he said, and "this exceeds what Congress had intended."

The BBA makes numerous changes in hospital payments under the Medicare program. Among those that particularly affect teaching hospitals are phased-in reductions in payments for direct and indirect costs of undergraduate and postgraduate medical education; reductions in what are known as disproportionate share payments (funds provided to hospitals for indigent care); and reductions based on updates of the prospective payment system.

The AAMC did its analysis at the end of the first year of the BBA's implementation and in light of complaints by members that the effects were more severe than had been anticipated or had been projected by the Congressional Budget Office. "Although we had been monitoring the BBA as it was being implemented, we did not get a sense of its impact on our membership until some of the provisions had begun to take effect in 1998," said Ernest Valente, PhD, of the AAMC's Division of Health Care Affairs.

The AAMC has analyzed the likely impact of the act on 265 members of its Council of Teaching Hospitals. The analysis doesn't include Veterans Administration hospitals or specialty hospitals such as those devoted to children or cancer. Cohen reviewed the principal findings at a press conference here, including:

• By 2002, when it is fully implemented, the act will result in a typical

teaching hospital losing some $45.8 million it would otherwise have received in Medicare payments if the act were not in force. Half of the teaching hospitals will lose even more. It is estimated that the larger ones, such as Brigham and Women's Hospital in Boston, will lose more than $150 million.

• Reductions in payments are sufficiently large so that the typical teaching hospital will barely break even. The hospitals' margin (the total of expenses minus revenue from all sources) will be about 1% or less by 2002.

• The adverse effect is even greater on major teaching hospitals, those that have a ratio of interns and residents to beds above .25; there are 270 such hospitals in the United States, although not all were included in the analysis. These facilities could see their margins drop from an average of 3% in 1996 to 0.3% in 2002; at least 47% of them could face negative total margins by 2002 or sooner.

• The cumulative losses for all teaching hospitals could reach $14.7 billion by 2002.

"The situation is likely to force some of the nation's leading teaching hospitals to reduce their special services, such as cardiac care, burn and trauma units, and services for the uninsured. In a health care market driven by cost containment, the reductions imposed by the BBA are making a tough situation even tougher," said Cohen. "Teaching hospitals, with their mission of research, education, and charity care, are feeling the impact much more harshly than are other hospitals."

The AAMC is asking Congress and federal policymakers to make immediate, substantive corrections to the act before the damage is irreversible, said Cohen. Specifically, the AAMC wants to halt the cuts and restore the payments that fund education and research. Cohen estimated the overall cost of restoring the cuts would amount to $6 billion to $7 billion. □

Drug Doings Down Under

Norman Swan, MD

SYDNEY—Weeks of acrimonious debate about heroin in Australia have culminated in a large injection of funds into drug treatment, diversionary programs to keep users out of prison, and maintenance of the country's internationally applauded harm minimization program.

Over the past few months, several factors have come together to put intravenous drug use on the front page of newspapers almost constantly. Low heroin prices, increasing numbers of young users, and a rise in heroin-related mortality, which now exceeds road trauma as a cause of death in young people, formed the background to the politicians' positions.

NO HARM MINIMIZATION

Australian Prime Minister John Howard is sympathetic to US-style "drug war" policies and skeptical about harm minimization—the policy that aims to optimize drug users' health and reduce the risks to them and others through programs such as needle exchanges and methadone distribution.

Through such efforts, Australia has one of the lowest HIV infection rates among injection drug users in the developed world.

In 1997, the prime minister blocked a trial of heroin prescribing, which had been supported by his health minister, Michael Wooldridge, MD, who is widely respected for his attempts to introduce evidence-based policy formulation. The trial was to be based on Swiss findings showing crime reduction and health gains. Howard, who created his own drugs advisory group headed by a senior Salvation Army officer, has progressively taken drugs policy away from the Federal Department of Health and Aged Care into his own office.

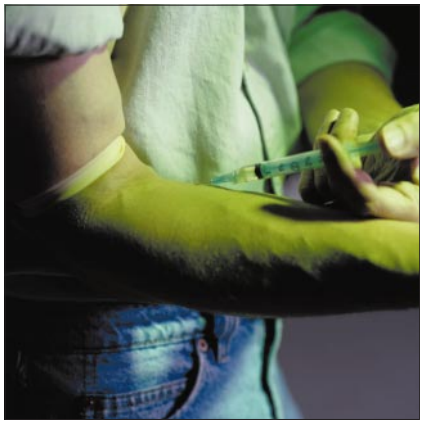
An early result was a "Tough on Drugs" program costing about Aust $290 million (US $183 million) that directed funding into nongovernment and church-based treatment and education agencies. This, sources say, reflected Howard's distrust of state and federal institutions.

The debate did not end there because an election in the most populous state, New South Wales, focused on law and order issues and drugs, largely provoked by the tabloid press, which ran photographs of young people shooting up in the street. This prompted the closure of a mobile needle exchange in a part of Sydney where drug use was particularly intense.

In fact, the cocaine market had grown considerably, which meant that injection drug users were more disorganized, in greater need of a higher volume of needles, and less able to go to nearby needle exchanges.

Drug researchers and workers were concerned that knee-jerk responses could lead Sydney down the road taken by Vancouver, British Columbia, where a similar set of circumstances saw HIV prevalence among drug users soar in a short time.

If all this wasn't enough, there had also been a high-profile public relations campaign by private clinics promoting expensive ultra-rapid opioid detoxification using general anesthesia and naltrexone. Naltrexone, an opioid receptor blocker with limited usefulness in addiction control, took on almost mythical status as cries from parents and users grew to have it approved for benefits under the federal pharmaceutical scheme.



Will harm minimization help him?

UNCOMFORTABLE PROFESSORS

As the political temperature rose, health bureaucrats came under pressure from senior officers in the prime minister's office questioning money being spent on needle exchanges and methadone programs.

Two members of the Prime Minister's Australian National Council on Drugs, Ian Webster, MD, professor of public health at the University of New South Wales, and Wayne Hall, PhD, director of the National Drug and Alcohol Research Centre, did not feel comfortable with the direction being taken.

They argued on the basis of evidence that you could not blame the increase in drug use on harm minimization measures like needle exchanges.

"That fails to take account of the fact that we've had needle and syringe exchange in Australia since about 1986, and for at least a decade we saw very little increase in rates of new users," claims Hall.

"Needle exchanges have been the most powerful way of reducing the level of HIV infection," says Webster. "In Australia, the highest estimates of HIV infection amongst intravenous drug users is of the order of 2%. In countries where they haven't had needle and syringe exchange programs—parts of the United States, Italy, and many other places—the HIV infection rate amongst intravenous drug users has been extraordinarily high, in some places as high as 80%. In addition, in places where people have withdrawn that policy, we've seen outbreaks of HIV infection increasing."

Another debate in Australia has been over the value of safe injecting rooms. These were pioneered by the Swiss as places where drug users can bring their street drugs and inject cleanly, supervised by nurses and social workers, sometimes in a place where there is also a cafe and other facilities aimed at normalizing the lives of injection drug users.

"I don't think the safe injecting rooms are anywhere near as well-evaluated as needle exchanges or heroin prescribing," said Hall, "There's only suggestive data from certain locations that it may reduce overdose risk. I think the major benefits of it are in reducing public nuisance by getting drug users off the street so that they're not injecting in public places."

PLEA FOR PERSPECTIVE

Most policymakers still view law enforcement as important to keep supplies as low as possible and prices high. There is an increasingly prevalent view, though, that tackling end users and small-time dealers is nonproductive, and that wholesalers are a more useful target.

Long-term research in southwestern Sydney by Lisa Maher PhD, of the University of New South Wales, has shown that low-level dealing is inversely related to theft. Maher, whose earlier work was studying cocaine users in New York, has found that small-time dealing is a basic source of income for injection drug users. When police clamp down on it, the burglary rates rise.

As a consequence of this and the failure of imprisonment to solve the drug problem, there have been moves to divert drug users away from courts to counseling and treatment.

Australia is a federation, and at the moment the states, although mostly governed by conservatives, are more liberal on drugs than the federal government in Canberra. Health and police are state matters, and state leaders have not always welcomed Prime Minister Howard's involvement—but with drugs, the result of negotiations between them seems to have been constructive.

A total of Aust $220 million (US $139 million) of new money is being found for what is being called the "war against drugs." There will be up to 300 000 treatment places, some of them compulsory; fast-tracked approval of naltrexone and buprenorphine for government subsidy; schools will be assisted; and state and federal police will be given more resources.

There is some skepticism about the value of enforced treatment and the emphasis on naltrexone, but otherwise, the proposals have been welcomed cautiously by almost everyone in the field.

One plea for perspective has come from Simon Chapman, PhD, of the Department of Public Health at the University of Sydney. "There are 18 100 tobacco deaths each year and only 770 illicit drug deaths. We only spend about Aust $10 to $12 million (US $6-$8 million) on tobacco control, yet now there's at least Aust $500 million being spent mainly on heroin. That's about Aust $650 000 per opioid-related death compared with Aust $330 per dead smoker. Perhaps we have our priorities a little misplaced," argues Chapman. □

MISCELLANEA MEDICA

• **Joseph S. Bailes,** MD, national medical director of Physician Reliance Network, Inc, Dallas, Tex, will begin his term as president of the American Society of Clinical Oncology this month. **Lawrence H. Einhorn,** MD, Indiana University School of Medicine, Indianapolis, has been elected the next president and will take office in May 2000.

• **Alfredo A. Czerwinski,** MD, has been appointed chief medical officer of Care Management Science Corporation, Philadelphia, Pa. He will head the firm's Management Services Division from California.

• **Denton Cooley,** MD, the Texas Heart Institute surgeon who performed the first successful heart transplant and the first artificial heart implant, has received the National Medal of Technology from President Bill Clinton.

• **B. Wayne Blount,** MD, MPH, professor and vice chair of Family Medicine at Emory University, has been named chair of the Department of Family Medicine at the University of Tennessee at Memphis.

Editor's Note: Miscellanea Medica appears in the Medical News & Perspectives section occasionally. Items submitted for consideration should be directed to the attention of Marsha F. Goldsmith, Editor, Medical News & Perspectives.