pushed along much faster than they have been in the past.

The third and final strand running through the subcommittee's inquiries will have to do with inflation and the problem of avoidable costs. As Eckhardt sees it, a major difficulty lies in the fact that, absent controls, the price of domestically produced oil will correspond to the world price set by OPEC.

Eckhardt is pleased with the makeup of his subcommittee, which he regards as predominantly young, able, and progressive on both the Democratic and Republican sides. Several members are particularly interested in certain aspects of the subcommittee's work. For instance, Democrats Andrew Maguire of New Jersey and Albert Gore, Jr., of Tennessee, are taking a strong interest in the kind of chemical waste dump problems that have come to light at the Love Canal at Niagara Falls, New York, and the "Valley of the Drums," near Louisville, Kentucky.

Given the apparent vigor of the membership and the volatile nature of some of the matters with which it plans to deal, the Eckhardt subcommittee could produce some "hits," or splashes in the news media, despite the sober deliberative mien of its new chairman.

—LUTHER J. CARTER

Pain, Dying, and the Health Care System

Professionals at NIH meeting call for integrated approach toward easing both physical and emotional pain

Management of pain and humane care of the dying have become prominent concerns of the government, as evidenced by a 2-day meeting last month at the National Institutes of Health.

The meeting, held in the auditorium of the Clinical Center, was filled to capacity, and the makeup of the audience—health professionals of every stripe—was in marked contrast to that of a gathering held 2½ years ago to acquaint NIH personnel with hospices. At that time the audience was almost entirely female, signifying the overwhelming presence of nurses.

Now it appears that the hospice movement, which has been growing apace in this country following the lead of Great Britain, is being folded into a larger philosophical framework in which there is renewed recognition that emotional well-being is at least as important as physical health.

The meeting covered the whole gamut of pain and dying—from detailed scientific presentations on neural and chemical pain mechanisms, to accounts of hospice care, to a philosophical discussion of the concept of "wellness."

John J. Bonica of the University of Washington, Seattle, founder of the nation's first multidisciplinary pain clinic, called the meeting (sponsored by the Interagency Committee on New Therapies for Pain and Discomfort) a "momentous event." "The more I learn about pain," said Bonica, who himself suffers chronic pain from old injuries, "the more I believe it is one of the most serious health problems in the developed countries." Yet, he said, pain research takes only 0.02 percent of the NIH budget. Chronic pain has numerous etiologies; perhaps the most common type is lower back pain, which afflicts at least 7 million people, costs the economy billions of dollars, and wreaks incalculable damage on sufferers and their families.

Speakers recounted the low priority pain has had in the medical books, in medical schools, and in research. Only in the past 10 years have people started taking a sophisticated look at pain and made the crucial distinction between acute pain—short-term pain with identifiable organic causes—and chronic pain, a debilitating condition generally accompanied by serious psychological problems and often caused by them.

Chronic pain is finally coming to be acknowledged as a disease in itself rather than a symptom of something else. Scores of pain clinics have sprung up in recent years in recognition of the fact that chronic pain sufferers constitute a distinct subpopulation, the "losers" in the medical care system, people who have spent colossal sums on doctors, drugs, and operations without finding relief. Clinicians such as Wilbert E. Fordyce of the University of Washington, who runs a Seattle pain clinic, are increasingly leaning on a combination of psychological and noninvasive physical approaches to help people cope with their pain. Fordyce, for example, described the rigid behavioral program he runs in which pain is treated as the primary problem and in which the goal is to help people reduce their "pain behaviors." Other pain clinics are using various combinations of therapies such as acupuncture, hypnosis, exercise, psychotherapy, and family counseling to help people break out of emotional and behavioral patterns that reinforce what has become, in many cases, literally a career in pain.

The behavioral route at present offers the best hope for pain sufferers since neural mechanisms, particularly in the brain, remain largely a mystery. As Frederick Kerr of the Mayo Clinic pointed out, the textbooks confidently describe pain pathways, but when "we go in and cut nothing happens." The unpredictability of surgical intervention is so striking that many surgeons are no longer doing such operations. Fordyce cited a sample of 2000 male workers who were operated on for chronic back pain. Of that number, only three individuals returned to work.

Richard Black of the pain clinic at Johns Hopkins Medical Center described how the entire system, from the individual to government policies, operates to reinforce the chronic pain phenomenon. On a psychological level, individuals experiencing various kinds of emotional suffering often express their distress in physical pain because pain is respectable and understandable; psychological suffering often is not. Doctors, trained in aggressive interventions and eager to get complainers off their hands, prescribe drugs that become addictive and perform operations that may do more harm than good. Various systems of reimbursement pay for radical physical interventions but will not support psychological ones. But from Black's standpoint "industry is the biggest culprit" because hiring and dismissal practices discriminate against the disabled, workmen's compensation supplies financial incentives (even if subconscious) to stay laid off, and employers are unwilling to phase convalescents back in with temporarily reduced work schedules.

A better understanding of pain is going to be necessary to change all the social

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and financial mechanisms that reinforce it. Research on the neural and psychological mechanisms of pain is blossoming, although hardly flourishing as yet. On the most fundamental biological level, great impetus has been lent to the quest with the discovery in 1973 of opiate-binding receptors and in 1975 of endorphins, morphine-like substances manufactured by the brain which are believed to be the body's own contribution to pain defenses. As for treatment, there have been some interesting studies that attempt to classify modes of pain control. One such study was described by Martin Orne, a psychiatrist at the University of Pennsylvania. Hypnosis, which has frequently proved remarkably effective in relieving pain, is thought by some people to be merely an example of the placebo effect. Orne, however, reported on a study with two groups of people, 12 of them "highly hypnotizable" and 12 not. The 12 unhypnotizable subjects were subjected to a routine of relaxation and a test where they were led to believe that they were, in fact, hypnotizable. Both groups were then subjected to pain by having their arms immersed in ice water. Their pain reactions were compared when they were subjected to hypnosis induction, and at another test with "Darvon" (actually a placebo). It was found that both groups responded about the same under the suggestion of the placebo; however, the hypnotizable subjects experienced much more pain relief than the other group when subjected to hypnosis. From this test it was inferred that hypnosis operates through "quite different mechanisms" than the placebo effect.

Placebo is coming to be regarded as a term which expresses the fact that the physical mechanisms triggered by it are not known. But these days people are seeing endorphins around every corner, and some researchers now believe that in the case of pain, the placebo effect is a case of people activating their own endorphin production. If this is so, it puts placebo tentatively in the same class with acupuncture and transcutaneous electrical stimulation (TES), both of which can be effective in analgesia. David S. Mayer of the Medical College of Virginia reported similarities between TES and opiate analgesics. Depletion of monoaminergic neurotransmitters abolishes the effect of both, implying that they activate a pain inhibitory system (instead of blocking pain transmission). Also the effects of both therapies are reduced with the introduction of an opiate antagonist, such as naloxone. Antagonists also reverse acupuncture analgesia. But they have no effect on hypnosis-induced analgesia, another indication that hypnosis is a unique phenomenon.

The need to develop animal models for chronic pain was also discussed at the conference, although use of animals is limited by ethical considerations. There is also some question about their usefulness—chronic pain usually has a heavy emotional substrate that reinforces and is reinforced by it. Animals do not "suffer" in the sense that that word is used to connote the physical-emotional combination that is the human pain experience. Said John D. Loeser of the University of Washington, "Chronic pain does not seem to exist in infrahuman species."

Chronic pain is, almost by definition, intractable. And pain is such a bewilderingly complex phenomenon that it is absolutely intractable to solution by any single discipline.

If research into pain must be interdisciplinary, so must care of the pain patient. Which brings us back to hospices. Hospices are mainly for terminal cancer patients. Psychologically, these people are different from the chronic "benign" pain population in that the source of pain is clearly organic. But the imminence of death, the sense of isolation, the fear of worse things to come, and the distress of family members can make the pain far more agonizing than it would be otherwise.

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The English, judging from the reports of English doctors who are making lecture rounds in the United States these days, are having remarkable success in managing the pain and distress of advanced cancer patients. According to Thomas West of St. Christopher's Hospice in London, the basic formula is pretty well established. First you get the physical pain under continuous control with regular administrations of a carefully calibrated morphine cocktail. "There is no worse way of treating chronic pain than giving 'on demand' narcotics," he emphasized. Once this has been effected, attention is turned to the psychological, social, and spiritual needs of the patient. This includes intense interaction with staff members and patients and assiduous efforts to include the family in all aspects of care.

How well the British model can be transplanted to the New World has been a matter of serious concern among those designing hospices in this country. An American model now appears to be emerging, the thrust of which is contained in the statement of Robert Butler, head of the National Institute of Aging. "It is hospice the adjective, not hospice the noun, that concerns us," he said. The National Cancer Institute, in its offer to fund experimental hospices 2 years ago, emphasized that it wanted freestanding institutions, the idea being that they should not be swallowed up by busy, life-prolonging, high-technology hospital routines. Now Americans involved in the hospice movement are promoting it as a concept, rather than a place. The handful of hospices in this country embody a range of models, from freestanding buildings to the one at St. Luke's Hospital in New York, whose patients, overseen by a special team, are interspersed with the other patients.

There is increasing recognition of the need for hospices to be closely related to the mainstream of health care activity, not only so that they will not be stigmatized as "houses of death" but also so that they can take advantage of anticancer therapies, which are still sometimes indicated for the comfort of their patients.

But as Melvin Krant of the University of Massachusetts Medical Center pointed out, in the long term this linkage is even more important for the direction of health care as a whole. At present, "cure" and "care" are seen as two radically different modes for the health professional, the one oriented toward aggressive physical measures to save and prolong life, the other toward easing the way to the inevitable. However, as Lorenz K. Y. Ng of the National Institute of Mental Health said in his presentation, this apparent dichotomy (the "Cartesian" duality that has been hanging around our necks for 300 years) could be resolved if the focus of all medical care were on furthering "wellness"—physical, emotional, social, and spiritual. Thus the hospice movement, far from being a separate and specialized phenomenon, supplies a model for getting the whole health system back on the track.—CONSTANCE HOLDEN