

**DEAN'S CORNER**  
**e-Newsletter**  
**January 14, 2003**

It's hard to believe that we are in 2003! I hope everyone has had a happy and healthy new year thus far. The 78<sup>th</sup> legislative session has begun in Austin. There are many issues facing organized medicine today, including the insurance crisis impacting professional liability, prompt payment of issuance claims to providers, as well as the rising number of uninsured. For an up to date status of issues impacting organized medicine, check out <http://www.texmed.org/ata/2003playbook.asp>

On the academic front, we have received our 2 METI Simulator mannequins that will become a cornerstone in our simulation program. They will be housed in a customized area of renovation on the 6<sup>th</sup> floor of EAB. This area will also include rooms for Standardized Patient training (the use of "actors" to display specific disease states). We will begin incorporating this into the 2<sup>nd</sup> then 1<sup>st</sup> year classes of the medical school, and the PA program. This will be followed by incorporation into the 3<sup>rd</sup> and 4<sup>th</sup> year classes, then GME and CME. The future of medical education is here!

Please supply any pertinent information to my office (deantcom@hsc.unt.edu) by Thursday, for inclusion in this Newsletter.

**Student Affairs: (Dr. Forman and Ms. Graham)**

The Office of Student Affairs welcomes all students; faculty and HSC employees back from "the break" and wish you all a very happy and healthy new year!

The Office of Student Affairs is involved in many initiatives including: (1) updating a new proposed fee schedule. This will be presented to the student body shortly for your input. The fees are necessary to continue to provide educational and health services to students and to maintain the quality of our existing programs; (2) updating the material in the on-line version of the Student Handbook, particularly issues related to the Honor Code and Code of Conduct; (3) Organizing Student Services so as to provide more efficient and responsive service to all students; (4) Updating the Mega-Life Student Health package to cover the cost of most prescriptions via a "pre-paid" insurance card. The package that we have negotiated is very competitive to other Student Health packages that we have reviewed; (5) we will likely implement a new Student Counseling Service with a group that provides 24/7 service, deals proactively with issues of stress management and crisis intervention and is both user friendly and confidential. It will also be available to family members as well.

**Clinical Affairs / Faculty Practice: (Dr. Adams)**

*Associate Dean for Clinical Affairs/Chief Medical Officer*

No Input

**Academic Affairs/Graduate Medical Education: (Dr. Blackwell)**

*Associate Dean for Academic Affairs*

The Office of Academic Affairs is working with the Office of Student Affairs to formalize a Career Development Seminar series to be provided to our graduating seniors during eighth semester. This seminar series will focus on the transition needs of our students as they begin their next phase of career training. Suggested topics for this seminar are:

- Preparing for Internship
- Avoiding IRS Problems
- How to keep your Texas license
- Financial Planning
- Professional Contracting
- Research Methodology
- Office Coding and Compliance

**Medical Education: (Michael Martin, Ph.D.)**

*Acting Associate Dean for Medical Education*

No Input

**Clinical Research: (Dr. Clearfield)**

*Associate Dean for Clinical Research*

This is a brief review of TCOM's research accomplishments of last fiscal year. Last year was a very good year for TCOM research. To start, the institution was awarded the Osteopathic Research Center under the direction of Dr. Stoll. This alone would have made our research efforts a success for the year. However, TCOM generated a combined \$2,500,000 in research dollars of which \$575,000 were clinical trials. As a faculty we participated in a total of 35 trials averaging \$16,400/ trial. The bulk of the research income was generated by grants other than clinical trials. These grants included additional funding in OMM research, training and faculty development grants in family and internal medicine, public health initiatives in the treatment of tuberculosis and a variety of collaborative efforts. Considering all the issues faced by the faculty and staff of TCOM last year I hope we all realize significance of our accomplishments and want to congratulate all those who contributed to the research success during the last year. I am pleased to announce that the first quarter of this year (Sept-Nov) TCOM is up over 100% in research dollars awarded compared to last year. I do not anticipate the magnitude of this trend to continue throughout the entire year, but I have projected TCOM to increase our research funding by 50% over last year or to total \$3,750,000 for the year. TCOM is obviously off to a great start for FY 02-03 and I will be working closely with all the departments of medical school and the HSC to continue to grow our research efforts in an attempt to meet and possibly exceed our goals. Again, I would like to thank all the department chairs and faculty for all their efforts and look forward to a productive 2003.

**PA Studies: (from PA Lemke)**

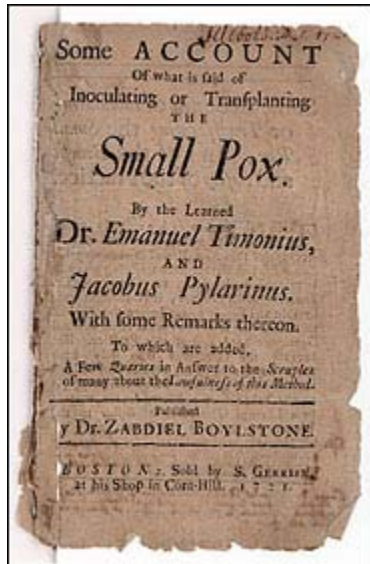
No Input

## Science and Health News:

December 17, 2002

Boston's 'Grievous Calamity of the Small Pox'

By THE NEW YORK TIMES



These excerpts are from an essay, "Smallpox in the Americas: 1492 to 1815, Contagion and Controversy," by Dr. Stanley M. Aronson and Dr. Lucile F. Newman, that accompanies an exhibit of colonial-era documents at the John Carter Brown Library at Brown University. Dr. Aronson is dean emeritus of medicine at Brown. Dr. Newman is professor emerita of community health. (For complete essay: [Click here.](#))

"Because of the destroying angel standing over the Town, a day of prayer is needed that we may prepare to meet our God."

Thus wrote Cotton Mather in 1721 as his Boston congregation faced the return of smallpox. It was not the first such epidemic in New England, but it would prove to be its most lethal.

Bostonians knew of few interventions to slow the spread of smallpox. Days of fasting, self-denial, prayer and strict quarantining were considered the sole means of arresting its remorseless advance. . . .

The Boston of 1721 was a prosperous port city of some 11,000 residents with seven churches and, by some estimates, 11 practicing physicians. Most of its residents older than 19 years had lived through the 1690 and 1702 waves of smallpox, many having contracted the disease and thereby blessed with lifelong immunity.

But those younger than 19 years had never encountered smallpox; and as each smallpox-free day passed, some of the older people with immunity died of unrelated causes while newborns were

continually added to the local population of susceptible. Thus, as the interval between smallpox epidemics lengthened, the fraction of the population with immunity to smallpox diminished, the number of susceptibles increased, and the likelihood of a major epidemic was heightened.

On April 22, 1721, the British vessel Seahorse, recently from the Caribbean, arrived in Boston harbor. It passed the customary quarantine inspection and proceeded then to its dock.

Within a day, one of its crew was stricken with smallpox and forcibly confined to a house near the docks. A red flag was implanted in front of the dwelling with the emblazoned words, "God have mercy on this house."

Any naïve thoughts that smallpox had been effectively contained were dashed by early May when nine more seamen showed evidence of acute smallpox.

Despite frantic efforts to quarantine the latest victims, cases were now appearing among the residents of Boston. And on May 26, the Rev. Cotton Mather entered the following in his diary: "The grievous calamity of the small pox has now entered the town."

About 1,000 Bostonians immediately fled the community. Of those remaining, 5,980 were ultimately stricken with smallpox and 844 died of the disease before the epidemic finally abated by the following spring. The case fatality rate was 14.1 percent.

*December 17, 2002*

## **The Heavy Cost of Chronic Stress**

By ERICA GOODE

In this season of bickering relatives and whining children, of overcrowded department stores and unwritten Christmas cards, it is instructive to consider the plight of the Pacific salmon. As the fish leap, flop and struggle upstream to spawn, their levels of cortisol, a potent stress hormone, surge, providing energy to fight the current. But the hormone also leads the salmon to stop eating. Their digestive tracts wither away. Their immune systems break down. And after laying their eggs, they die of exhaustion and infection, their bodies worn out by the journey.

Salmon cannot help being stressed out. They are programmed to die, their systems propelled into overdrive by evolutionary design. Humans, on the other hand, are usually subject to stresses of their own making, the chronic, and primarily psychological, pressures of modern life. Yet they also suffer consequences when the body's biological mechanisms for handling stress go awry.

Prolonged or severe stress has been shown to weaken the immune system, strain the heart, damage memory cells in the brain and deposit fat at the waist rather than the hips and buttocks (a risk factor for heart disease, cancer and other illnesses), said Dr. Bruce S. McEwen, director of the neuroendocrinology laboratory at the Rockefeller University and the author of a new book, "The End of Stress as We Know It." Stress has been implicated in aging, depression, heart disease, rheumatoid arthritis and diabetes, among other illnesses.

Researchers have known for many decades that physical stress takes a toll on the body. But only relatively recently have the profound effects of psychological stress on health been widely acknowledged. Two decades ago, many basic scientists scoffed at the notion that mental state could affect illness. The link between mind and body was considered murky territory, best left to psychiatrists.

But in the last decade, researchers have convincingly demonstrated that psychological stress can increase vulnerability to disease and have begun to understand how that might occur. "If you would have said to me back in 1982 that stress could modulate how the immune system worked, I would have said, 'Forget about it,'" said Dr. Ronald Glaser, an immunologist at Ohio State University. The more researchers have learned, the clearer it has become that stress may be a thread tying together many illnesses that were previously thought to be unrelated. "What used to be thought of as pathways that led pretty explicitly to one particular disease outcome can now be seen as leading to a whole lot of different outcomes," said Dr. Robert M. Sapolsky, a professor of neurology at Stanford.

Central to this new understanding is a novel conception of stress, developed by Dr. McEwen, who has been studying the subject for more than three decades. According to his model, it is not stress per se that is harmful. Rather, the problems associated with stress result from a complicated interaction between the demands of the outside world and the body's capacity to manage potential threats.

That capacity can be influenced by heredity and childhood experience; by diet, exercise and sleep patterns; by the presence or absence of close personal relationships; by income level and social status; and by the piling on of normal stresses to the point that they overload the system. In moderate amounts, the scientists argue, stress can be benign, even beneficial, and most people are equipped to deal with it.

Preparing to give a speech, take a test or avoid a speeding car, the body undergoes an elaborate series of adjustments. Physiological processes essential in mobilizing a response — the cardiovascular system, the immune system, the endocrine glands and brain regions involved in emotion and memory — are recruited into action. Nonessential functions like reproduction and digestion are put off till later. Adrenaline, and later cortisol, both stress hormones secreted by the adrenal glands, flood the body. Heart rate and blood pressure rise, respiration quickens, oxygen flows to the muscles, and immune cells prepare to rush to the site of an injury. When the speech is delivered, the test taken or the car avoided, another complex set of adjustments calms things down, returning the body to normal.

This process of "equilibrium through change" is called allostasis, and it is essential for survival. But it was developed, Dr. McEwen and Dr. Sapolsky point out, for the dangers humans might have encountered in a typical day on the savannah, the sudden appearance of a lion, for example, or a temporary shortage of antelope meat.

Blaring car alarms, controlling bosses, two-career marriages, six-mile traffic jams and rude salesclerks were simply not part of the plan. When stress persists for too long or becomes too severe, Dr. McEwen said, the normally protective mechanisms become overburdened, a

condition that he refers to as allostatic load. The finely tuned feedback system is disrupted, and over time it runs amok, causing damage.

Work that Dr. McEwen and his colleagues have conducted with rats nicely illustrates this wear-and-tear effect. In the studies, the rats were placed in a small compartment, their movement restricted for six hours a day during their normal resting time. The first time the rats were restrained, Dr. McEwen said, their cortisol levels rose as their stress response moved into full gear. But after that, their cortisol production switched off earlier each day as they became accustomed to the restraint.

That might have been the end of the story. But the researchers also found that at 21 days, the rats began to show the effects of chronic stress. They grew anxious and aggressive. Their immune systems became slower to fight off invaders. Nerve cells in the hippocampus, a brain region involved in memory, atrophied. The production of new hippocampal neurons stopped.

Dr. Sheldon Cohen, a professor of psychology at Carnegie Mellon University, has found that people respond much the same way. Among volunteers inoculated with a cold virus, those who reported life stresses that continued for more than one month like unemployment or family problems were more likely to develop colds than those who reported stress lasting less than a month. The longer the stress persisted, the greater the risk of illness.

Allostatic load is often made worse, Dr. McEwen said, by how people respond to stress, eating fatty foods, staying late at work, avoiding the treadmill or drinking to excess. "The fact is that we're now living in a world where our systems are not allowed a chance to rest, to go back to base line," he said. "They're being driven by excess calories, by inadequate sleep, by lack of exercise, by smoking, by isolation or frenzied competition."

### **The Chemistry - Shrinking Cells, Turned-Off Responses**

Doctors sometimes dismiss stress-related complaints as "all in the patient's head." In a sense, they are right. The brain, specifically the amygdala, detects the first signs of danger, as demonstrated in now-classic studies by Dr. Joseph LeDoux of New York University. Other brain areas evaluate the threat's importance, decide how to respond and remember when and where the danger occurred, increasing the chances of avoiding it next time.

So it is not surprising that when the stress system is derailed, the brain is a target for damage. A decade of research has demonstrated that sustained stress and the resulting overproduction of cortisol can have chilling effects on the hippocampus, a horseshoe-shaped brain structure intimately involved in memory formation.

Scientists say they believe that the hippocampus plays an active role in registering not only events, but also their context, an important task in the face of danger. In stressful situations, the hippocampus also helps turn off the stress response after the threat has subsided.

But high levels of cortisol, studies have shown, can shrink nerve cells in the hippocampus and halt the creation of new hippocampal neurons. These changes are associated with aging and memory problems. Some evidence also links a smaller hippocampus with post-traumatic stress

disorder, depression and sexual abuse in childhood, though the meaning of this size difference is still being debated.

Like other hormones, cortisol normally rises and falls with daily rhythms, its production higher in the morning and lower in the evening. Prolonged or severe stress appears to disrupt the cycle. Chronically stressed people sometimes have higher base line cortisol levels and produce too much or too little of it at the wrong times.

One result, recent studies indicate, is that fat is deposited at the abdomen rather than the hips or the buttocks. One of cortisol's primary functions is to help mobilize energy in times of acute stress by releasing glucose into the blood. But when cortisol remains chronically elevated, it acts, along with high insulin levels, to send fat into storage at the waist. This makes sense if a famine looms. But it is bad news for anyone who wants to minimize the risk of heart disease, cancer and other illnesses.

Studies have shown that excess cortisol secretion in animals increases visceral fat. And Dr. Elissa S. Epel at the University of California at San Francisco has found that even in slender women, stress, cortisol and belly fat seem to go together.

The notion that being stressed makes people sick is a popular one, and most people subscribe to some version of it. Come down with the flu in the midst of a messy divorce or a frantic period at the office, and someone is bound to blame stress.

But it was not until the 1980's and early 90's that scientists began to discover the mechanisms that might lie behind the mind and body link. Investigators uncovered nerves that connect the brain with the spleen and thymus, organs important in immune responses, and they established that nerve cells could affect the activity of infection-fighting white blood cells.

Scientists also found that cytokines, proteins produced by immune cells, could influence brain processes. Among other things, the proteins appeared able to activate the second major phase of the stress response, the so-called hypothalamic-pituitary-adrenal, or H.P.A., axis. In this chemical sequence, the hypothalamus, situated in the forebrain, dispatches chemical signals to the pituitary, which in turn secretes the stress hormone ACTH, prompting the adrenal glands to produce cortisol.

Much remains unknown about how the brain, the endocrine system and the immune system interact, and some of what is known is not well understood. For example, high levels of cortisol have long been known to shut off the production and action of cytokines, which initiate the immune response. At normal levels, cortisol can enhance immunity by increasing the production of inflammation-fighting cytokines. Yet in some cases, it seems, cortisol does not properly shut down the immune system under stress, allowing the continued production of cytokines that promote inflammation. These cytokines have been linked to heart disease, depression, stroke and other illnesses.

Still, scientists can watch stress hammer away at the immune system in the laboratory. Dr. Glaser of Ohio State and his wife, Dr. Janice Kiecolt-Glaser, found that small wounds took an average

of nine days longer to heal in women who cared for patients with Alzheimer's disease than in women who were not under similar stress. In another study, arguments between husbands and wives were accompanied by increases in stress hormones and immunological changes over a 24-hour period.

Stress also seems to make people more likely to contract some infectious illnesses. Dr. Cohen of Carnegie Mellon has spent years inoculating intrepid volunteers with cold and influenza viruses, and his findings offer strong evidence that stressed people are more likely to become infected and had more severe symptoms after becoming ill.

A direct link between stress and more serious diseases, however, has been more difficult to establish, Dr. Cohen said. Recent studies have provided increased support for the notion that stress contributes to heart disease, and researchers have tied psychological stress, directly or indirectly, to diabetes, rheumatoid arthritis, fibromyalgia, severe depression and other mental disorders. But the influence of chronic stress on other diseases like cancer remains controversial. All the same, Dr. Cohen said, "The evidence that stress puts people at risk for disease is a lot better than it was 10 years ago."

### **The Risks - From an Early Start, Lifelong Effects**

Why do some people seem more vulnerable to life's pressures than others? Personality and health habits play a role. And severe stress in early life appears to cast a long shadow.

Dr. Michael Meaney of McGill University and his colleagues have found that rat pups intensively licked and groomed by their mothers were bolder and secreted lower levels of the stress hormone ACTH in stressful situations than rats lacking such attention — an equanimity that lasted throughout their lives. (Cuddled pups, the researchers found in another study, were also smarter than their neglected peers.)

In humans, physical and sexual abuse and other traumas in childhood have been associated with a more pronounced response to stress later in life. In one study, Dr. Charles Nemeroff, a psychiatrist at Emory University, and his colleagues found that women who were physically or sexually abused as children secreted more of two stress hormones in response to a mildly stressful situation than women who had not been abused.

Yet perhaps the best indicator of how people are likely to be affected by stress is their position in the social hierarchy. In subordinate male monkeys, for example, the stress of being servile to their alpha counterparts causes damage in the hippocampus. And dominant monkeys who are repeatedly moved from social group to social group, forcing them to constantly re-establish their position, also exhibit severe stress and are more likely to develop atherosclerosis, according to studies by Dr. Jay Kaplan of Wake Forest University School of Medicine.

Being low in the hierarchy also affects reproduction, presumably because evolution dictated that in times of stress, other factors were more pressing than procreation. In a recent study, Dr. Kaplan found that the constant low-level harassment by dominant female monkeys shut down reproductive function in subordinate females and built up fat deposits in their arteries.



It would be nice to think that humans are less chained to their social rankings. But alas, researchers have found this not to be the case. A wealth of studies shows that the risk for many diseases increases with every step down the socioeconomic scale, even when factors like smoking and access to health care are taken into account.

A real estate mogul living in a Park Avenue penthouse has a better health prognosis than the head of a small company in an upscale condo a few blocks away. And a renter in a one-bedroom apartment on the Upper West Side of Manhattan will be a tier or two lower still in health expectations.

Even people's perceptions of their relative standings in society affect their disease risk. In one study, led by Dr. Nancy E. Adler, also at the University of California at San Francisco, women who placed themselves higher on the social ladder reported better physical health and had lower resting cortisol levels and less abdominal fat than women who placed themselves on lower rungs.

No matter what one's circumstances, of course, some stress in life is inevitable. But illness is not, Dr. McEwen said. A variety of strategies can help reduce disease risk.

Reaching for a gallon of ice cream to soothe the tension of a family argument is not one of them, however, nor is forgoing exercise in favor of curling up on the sofa for an eight-hour marathon of "Law and Order."

The best ways to cope, Dr. McEwen said, turn out to be the time-honored ones: eat sensibly, get plenty of sleep, exercise regularly, stop at one martini and stay away from cigarettes. "It's a matter of making choices in your life," he said.

**January 8, 2003 NEW YORK TIMES**  
**Spending on Health Care Increased Sharply in 2001**  
**By ROBERT PEAR**

WASHINGTON, Jan. 7 - Spending on health care is increasing at the fastest rate in a decade, reflecting greater use of hospitals and prescription drugs and the declining influence of managed care, the government reported today.

The steep increase in spending has put immense new pressures on consumers, employers and public programs.

In 2001, health spending rose 8.7 percent, to \$1.4 trillion, and accounted for 14.1 percent of the total economy, the largest share on record, the report said.

Spending averaged \$5,035 for each person in the United States. The increase came even as the nation slipped into a recession, exacerbated by the terrorist attacks of Sept. 11, 2001.

Experts say the rapid growth may lead to new efforts to rein in health costs.

"Historically, increases of this size have been closely followed by government policy changes or private sector initiatives to put the brakes on health care spending growth," said Katharine R. Levit, an economist who supervises preparation of the government's annual report on health spending.

The steep increase adds to the burden on states, wrestling with severe fiscal problems, and private businesses, struggling with a soft economy. It also intensifies pressure on Congress to move health care to the top of its agenda.

The major reason for the increase in health spending, Ms. Levit said, was an increase in the amount of medical goods and services purchased to care for an aging population.

"There was some increase in prices, but it was not as large as the increase in quantity," Ms. Levit said. The increase in quantity took many forms: more days spent in hospitals, more outpatient services, more diagnostic tests, more prescriptions and greater use of new technology, which has the potential to extend life and improve its quality.

At the same time, consumers have flocked to looser forms of managed care, which impose fewer restrictions than health maintenance organizations.

"Managed care's influence has waned in the last few years, contributing to acceleration in hospital and overall health spending," Ms. Levit said.

Medicare spending, for the elderly and disabled, rose 7.8 percent in 2001, while spending under Medicaid, the federal-state program for low-income people, soared 10.8 percent. The growth of Medicaid was driven by an increase in enrollment, resulting from the recession and from state efforts to expand coverage.

The report, published today in the journal *Health Affairs*, describes prescription drugs as the fastest-growing category of health spending. The nation spent \$140.6 billion on such medicines in 2001, up 15.7 percent from the prior year. In 2001, for the first time, spending on drugs exceeded spending on nursing homes and home health care combined.

Representative Jim McCrery, Republican of Louisiana, said the surge in health spending was alarming. "If we don't find a way to reduce the rate of increase in health costs," Mr. McCrery said, "we'll end up with a government-controlled health care system in which we control costs by rationing."

Democrats said the new data supported their view that Medicare was more efficient than private insurance.

"Medicare increased payments to providers such as hospitals, home health agencies and nursing homes and still managed to keep overall spending growth to 7.8 percent in 2001," said Representative Pete Stark, Democrat of California. "Meanwhile, private insurance premiums went up 10.5 percent. Given these results, I cannot understand why Republicans continue to devise plans for turning Medicare over to private health insurers and H.M.O.'s."

But Republicans said that consumers had little incentive to shop for bargains in the health care market because they were insulated from most costs. Of every \$100 spent on health care, consumers pay \$14 from their own pockets, for co-payments and deductibles and items not covered by insurance.

Even though 41 million Americans are uninsured, the United States devotes more of its economy to health care than other industrial countries. In 2000, health accounted for 10.7 percent of the gross domestic product in Switzerland, 10.6 percent in Germany, 9.5 percent in France and 9.1 percent in Canada, according to the Organization for Economic Cooperation and Development.

From 1992 to 2000, while the United States experienced the longest economic expansion in its history, health spending grew rapidly, but so did the economy. As a result, health care accounted for a stable share of the gross domestic product, 13.1 percent to 13.4 percent. But in 2001, the share grew eight-tenths of a percentage point, the largest increase on record.

The increase is a "warning signal," Ms. Levit said, adding: "We can move about two-tenths of a percent of our economic output to health care each year without too much pain. But when we see these sudden spikes, the adaptation we have to go through in order to pay for it is usually more than we can bear."

The growth in drug spending eased in 2001, after increases of 16.4 percent in 2000 and 19.7 percent in 1999, as fewer new drugs entered the market and employers raised co-payments in a successful effort to encourage greater use of generic drugs.

Pharmaceutical companies say prescription drugs still account for a relatively modest share of total health spending, 9.9 percent in 2001, compared with hospitals and doctors, which together account for more than half.

Spending on hospitals rose at the fastest clip since 1991, reaching \$451.2 billion in 2001, up 8.3 percent from the prior year.

In 2001, spending for doctors and clinical services rose 8.6 percent, to \$313.6 billion, the government reported. Ms. Levit said the growth probably resulted from increases in imaging procedures and in visits to doctors' offices. Drug advertising, she said, prompts some people to visit doctors to get prescriptions.

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**January 8, 2003 NEW YORK TIMES**  
**Young Survivors of Cancer Battle Effects of Treatment**  
**By MARY DUENWALD and DENISE GRADY**

PHILADELPHIA - Handing a deck of cards to Sarah Ludwig, the psychologist said, "I want you to put the cards in order by suit, but keep in a separate pile those cards with the letter T in their names."

Sarah, 15, planned her strategy and, as the psychologist clicked a stopwatch, began sorting.

Ten years ago here at Children's Hospital of Philadelphia, Sarah was treated for leukemia, receiving an intensive two-year course of chemotherapy and steroids.

Today, she is free of the disease, but, possibly as a result of the treatment, she has an impaired attention span and other learning disabilities. Her work with the psychologist is part of a 20-week experimental program intended to help improve her concentration and performance in school.

Many other patients who, like Sarah, were treated for cancer at a very young age have found that the cure may come at a price: chemotherapy and radiation given early in life can have effects on both body and mind.

Often, the physical problems are treatable. Now, doctors and psychologists are also starting to address the learning difficulties, as increasing numbers of young cancer survivors worry about school grades, college admissions and career prospects - concerns about a future that would have seemed an unimaginable luxury a generation ago.

"Survival from childhood leukemia - the most common malignancy of childhood - is something of a medical marvel that I think the average person doesn't appreciate," said Dr. Robert Butler, a psychologist at Oregon Health and Science University who created the program in which Sarah is enrolled. "In the 1960's and early '70's, cancer was a death sentence. There was a 90 percent probability that the child was going to die. Now, there's about an 80 percent chance that the child will be cured. It's turned around practically 180 degrees," Dr. Butler said.

Survivors of childhood cancer number about 250,000 in the United States, and their ranks are growing steadily because of aggressive and effective treatments. Doctors are able to cure most cancers diagnosed in children and teenagers, 11,000 to 12,000 cases a year, Dr. Butler said.

Over all, cure rates in adults are considerably lower, with only 62 percent living 5 years or more. Dr. Paul A. Meyers, vice chairman of pediatrics at Memorial Sloan Kettering Cancer Center in Manhattan, cited several reasons why children with cancer fared better than adults.

For one, he said, since the 1950's, 85 percent of children with cancer - as opposed to only 2 percent of adults - have been treated in clinical trials, which have been proved to offer the best care.

In addition, Dr. Meyers said, the types of cancer that affect children tend to be more treatable than those in adults, and children are better able than adults to tolerate intensive treatment.

But the treatments can have lingering side effects. Doctors have known for about 20 years that chemotherapy and radiation administered early in life can cause health problems, post-traumatic stress and learning disabilities.

Dr. Charles A. Sklar, director of a program for childhood cancer survivors at Memorial Sloan Kettering, said that the physical ailments confronting the young survivors might include stunted growth, low thyroid function, kidney problems, infertility, heart and lung disorders and even new cancers.

Most of those illnesses can be treated, he said. But treatments for the learning disorders remain experimental.

The likelihood that a childhood cancer survivor will develop such disorders depends on the child's age at the time of treatment and the intensity of the treatment, according to Dr. Pim Brouwers, a pediatric neuropsychologist at Texas Children's Cancer Center in Houston.

Patients younger than 5 seem most vulnerable. Dr. Butler said: "We used to think they would be the most likely to recover, because their brains have greater plasticity. But the youngest children actually take a bigger hit from the treatments."

Children who have brain tumors - the second most prevalent form of childhood cancer, after leukemia - are at greater risk than those with other cancers. The tumor can damage brain tissue, Dr. Brouwers said, and the treatment, typically radiation directed at the head and spinal cord, can damage neurons.

Doctors can minimize the damage by using only the lowest possible doses of radiation, said Dr. Anna T. Meadows, a pediatric oncologist at Children's Hospital of Philadelphia.

Dr. Butler estimated that as many as 90 percent of children who had received radiation to the brain and spinal cord had some degree of impairment. Young patients like Sarah with acute lymphoblastic leukemia are often treated with chemotherapy alone. The drugs are often injected into the space containing the brain and spinal cord. Many of these children do not develop any cognitive problems, Dr. Meadows said. And those who do, studies show, are likely to be less impaired.

About 30 percent of children who have received this chemotherapy end up with learning or concentration problems, Dr. Butler said. Such problems are also found among an undetermined number of children who have not had cancer, he noted.

Sarah's problems were relatively mild compared with those of children who received radiation. And though experts cannot say for certain that chemotherapy caused her problems, Sarah's experience follows the pattern of other patients in her age group, according to Dr. Anne E. Kazak, the director of psychology at Children's Hospital of Philadelphia and a researcher in Dr. Butler's study.

Radiation and chemotherapy can damage the cells of the basal ganglia, a section of the brain involved in attention functions, Dr. Brouwers said. The problems often do not show up until three years after the children have finished treatments, studies show, because the brain cells die off slowly.

"It's tough on the kids and tough on parents," Dr. Brouwers said. "They're told the disease is gone, and then after five years, the kid is failing in school. And it just seems like it's never over."

The trauma of cancer itself can contribute to the problem, many doctors and parents believe.

"Sarah repeated kindergarten because she missed a lot of school for her treatments," Sarah's mother, Mary Ludwig, said. "It's always seemed as if she just never caught up." Throughout elementary school and middle school, Sarah had noticeable difficulty paying attention and comprehending concepts that other children picked up easily, Mrs. Ludwig said: "There was just always something that she couldn't grasp."

Dr. Butler's program, which consists of 20 two-hour sessions, tries to teach techniques for focusing and organizing thoughts - skills other children use without realizing it. The teaching methods are borrowed from programs created to help people recover from strokes and other brain injuries.

At the session that Sarah sorted the cards, the psychologist, Dr. Merritt M. Jensen, asked her, "How can you help yourself concentrate on this?"

"I could make a key," Sarah suggested, consulting the list of strategies that she and Dr. Jensen began compiling in their first five sessions. Sarah picked up her pencil and wrote the list of "T" cards on a nearby pad: 2's, 3's, 8's and 10's.

Dr. Jensen started a stopwatch as Sarah began sorting. In less than two minutes, she was finished.

"I could do a better job than that," Sarah said, her shoulders dropping. "I was trying to go too fast."

Dr. Jensen examined the piles. "You caught 12 of the T cards and only missed 4," she said. "To me, that's good work." By playing the card game, Sarah was practicing simple concentration techniques and learning to think about strategies, like making written keys and monitoring her own speed and attention.

"If she can practice and talk about the skills she needs to develop, I'm hoping they can become ingrained," Dr. Jensen said.

Children in the program are instructed to work with pencil and paper on number problems and word puzzles. They play games like Uno and Mastermind that require concentration and memory skills. Homework is also incorporated into the training.

Dr. Butler and his colleagues at seven hospitals across the country have been testing the program for almost three years. To be eligible for the training, children must be at least a year beyond their cancer treatment, and they must demonstrate problems in perception and concentration.

The researchers intend to use the techniques with more than 100 children by midyear. These subjects will be compared with a somewhat smaller group of cancer survivors who receive no

training for six months. The children in the control group are tested at the start and the end of the six-month period, and then are also offered a chance to take the training.

At best, however, the problems that the young cancer survivors experience with concentration and learning will diminish not disappear, Dr. Kazak said. And other learning problems are likely to persist. A pilot study of the training Dr. Butler conducted in 1995 showed that while the children improved their concentration, their math skills remained about the same.

Ideally, Dr. Butler said, the training would help the children build new brain circuitry to replace what was damaged. This process, called functional reorganization, is known to occur in adults, he said, but is only theoretically possible in children.

After Sarah's session was done, Dr. Jensen worked for two hours with Danny Clark of Schwenksville, Pa. Danny, 12, had received chemotherapy for acute myelogenous leukemia when he was 3. Like Sarah, he had had trouble in school, especially after he reached the sixth grade.

"They kept saying 'Pick up the pace,' and it was hard to get him to do that," his mother, Virginia Clark, said.

Danny had only two weeks left in the program, and seemed to have learned to be more organized, to pay attention and to work faster, she said. Mrs. Clark plans to keep practicing with him at home. "I really want to see this work," she said.

### **Health Policy News:**

CMS Public Affairs Office

#### **MEDICARE ANNOUNCES PHYSICIAN PAY CHANGES FOR 2003**

The Centers for Medicare & Medicaid Services (CMS) announced a final rule that will update physician payment rates under the Medicare physician fee schedule for 2003. The rule also revises a number of other policies affecting Medicare Part B payment for physicians and other providers.

The fee schedule specifies rates paid to physicians for more than 7,000 health care services and procedures ranging from routine office visits to complex surgical procedures. In 2003, Medicare is expected to pay approximately \$44.9 billion to over 750,000 physicians and other practitioners for services paid under the physician fee schedule. Under the final rule, the physician fee conversion factor, which adjusts the base calculation for all physician services, will be reduced by 4.4 percent, beginning March 1, 2003, although total physician spending will increase by 2 percent in 2003.

"In the rule we are announcing today, CMS has done everything it can to shore up physician payments for 2003, but only Congress has the authority to fix the formula," said CMS Administrator Tom Scully. "CMS refined the methodology for calculating the rate of inflation in providing physicians' services by adjusting the measure of productivity." As a result, physicians will see a reduction of \*4.4 percent rather than the \*5.1 percent reduction that would have

occurred without the change. "These methodological adjustments translate into an additional \$14.5 billion in Medicare payments to physicians over the next ten years," said Scully.

"CMS recognizes that this will be the second year in a row in which physician fees will be affected by a negative update for the conversion factor," said Scully. "The reduction in physician fee schedule rates results from a formula specified in the Medicare law, and we believe that formula is flawed and must be fixed. Although Congress considered several options for fixing the fee schedule formula for 2003, and the House actually passed a bill to address these issues, no final action was taken before Congress adjourned."

CMS is expanding its efforts to monitor beneficiary access to physician services, both nationally and in local healthcare markets, as it expects the reduced rates to cause fewer physicians to accept Medicare rates as full payment, and also may cause fewer physicians to accept new Medicare patients.

Almost 90 percent of physicians accept Medicare assignment today, and as yet CMS has not seen access problems. However CMS expects that may change after these rates take effect.

"Nothing would make us happier than to not be issuing this rule today. But after months of extensive review of the law and the formula, it is clear that this is the appropriate update required by the existing statute. The Administration has been, and continues to be, anxious to work with Congress to fix the flaws in the formula \* as soon as possible. We want doctors, and patients, to see Medicare as a trustworthy partner in providing quality services. Fixing the formula to provide an accurate update (which we think should be 1.6 percent for calendar year 2003) is essential to restoring that trust," said Scully.

"There is not much good news in this rule, but on a happier note, in keeping with the Administration's and the Secretary's emphasis on preventive services, the final rule nearly doubles the Medicare payment for administration of some vaccine immunizations, including flu shots, from \$3.98 to approximately \$7.26," said Scully. CMS believes this more appropriately reflects the resources used to administer flu shots.

The final rule also expands the type of colorectal cancer screening tests that may be eligible for coverage. Studies have shown that the incidence of colorectal cancer can be reduced by as much as 20 percent and deaths by as much as 33 percent through early and annual screening with a simple fecal occult blood test.

In addition, the rule ensures access to care for rural beneficiaries who are served by critical access hospitals in frontier and remote areas and offers relief to the physicians and other providers who staff these hospitals. The rule permits staffing by a registered nurse during temporary periods when a physician or other qualified provider is not available.

The final rule, which will be published in the December 31 Federal Register, will be effective on March 1, 2003. Services provided on or after January 1 and before March 1 will be paid under the 2002 fee schedule.

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One of my contacts in Washington attended a meeting hosted by AMA at which several top health policy GOP staffers from the House and Senate spoke. Speaking participants included Colin Rosky (Senate Finance Committee); Dean Rosen (Sen. Bill Frist); John McManus (House Ways & Means Health Subcommittee); and Patrick Morrissey (House Energy & Commerce Committee).

Not surprisingly, the primary discussion item was the physician fee schedule. It is clear that there is neither 100% agreement on what exactly the process will be to correct the fee schedule nor what the timing of any effort to do so will be. Mr. Morrissey expressed the view that there might be an effort to have it taken care of in January, however it appears that the legislative work days during that month are going to be substantially limited. He indicated that there will likely be an omnibus appropriations bill that comes out of the House around the end of the first week of January, and then Congress (at least the House, anyway) will likely leave town for a couple of weeks. This information is largely consistent with earlier 'intelligence' that we have been picking up surrounding the FY '03 appropriations process. Both Messrs. Morrissey and McManus indicated that the so-called 'fix' likely will be incremental in nature, specifically, freezing 2003 reimbursement rates at 2002 levels, i.e., continuing with the '02 5.5% cut but not implementing the '03 4%-+ cut. After the speakers left, Julius Hobson (Chief Lobbyist / AMA) shared with the various meeting participants that, while it is not the most desirable approach, the initial position of the physician community is probably going to be ensuring that the '03 4.-+% cut is not implemented.

Mr. McManus was blunt and frank in offering his assessment of next year's outlook regarding the physician fee schedule: he indicated that he simply does not know what is going to happen. He also indicated that it is not at all clear to him how the fee schedule is going to be fixed (at least from a legislative perspective) during the month of January, attributing the uncertainty primarily to 1) pending MedPAC recommendations and 2) the uncertainty surrounding the structure of the Senate's leadership positions. He indicated that House health policymakers are going to be eagerly watching to see what the President's budget has in store for the overall Medicare program, and that based upon what they are hearing at the Ways & Means Committee, that number will be "significant." Mr. McManus indicated that, to the extent that anything happens in the area of a physician fee schedule fix, the most likely outcome will be that there will simply be a "freeze," whereby current reimbursement rates are maintained and no further cuts are imposed. Finally, Mr. McManus expressed the view held by Ways & Means Chair. Thomas that, since the fee schedule problem is merely an accounting glitch of sorts, CMS ought to take care of it (i.e., pay for it) themselves. As we are all aware, that's exactly what was pursued during the last days of the 107th Congress with Mr. Thomas's attempt to have language implemented that would shield CMS from liability in attempting to fix the fee schedule formula. Mr. McManus did say that there probably will be some kind of an overall Medicare omnibus-type bill at some point this year, but he reminded the audience that, to the extent it will impact FY '03, it's going to be a more expensive bill, because in forming its baseline, CBO will view it as a 10.5 year, and not a 10 year, bill.

Mr. Rosky expressed considerable criticism toward the overall process of the Senate Finance Committee, specifically the Committee's inability to move Medicare legislation during the 107th

Congress. He alluded to the fact that there are Senators from both parties who are of the opinion that, just as physicians need to be afforded relief, so too do other providers, e.g., SNFs, hospitals, home health agencies, etc. Both Mr. Rosky and Mr. Rosen generally indicated that, from the standpoint of the Senate, it will probably be difficult to tackle physician reimbursement without also addressing other providers as well. Mr. Rosen went so far as to say that he's not confident the physician fee schedule will be fixed because of this dynamic.

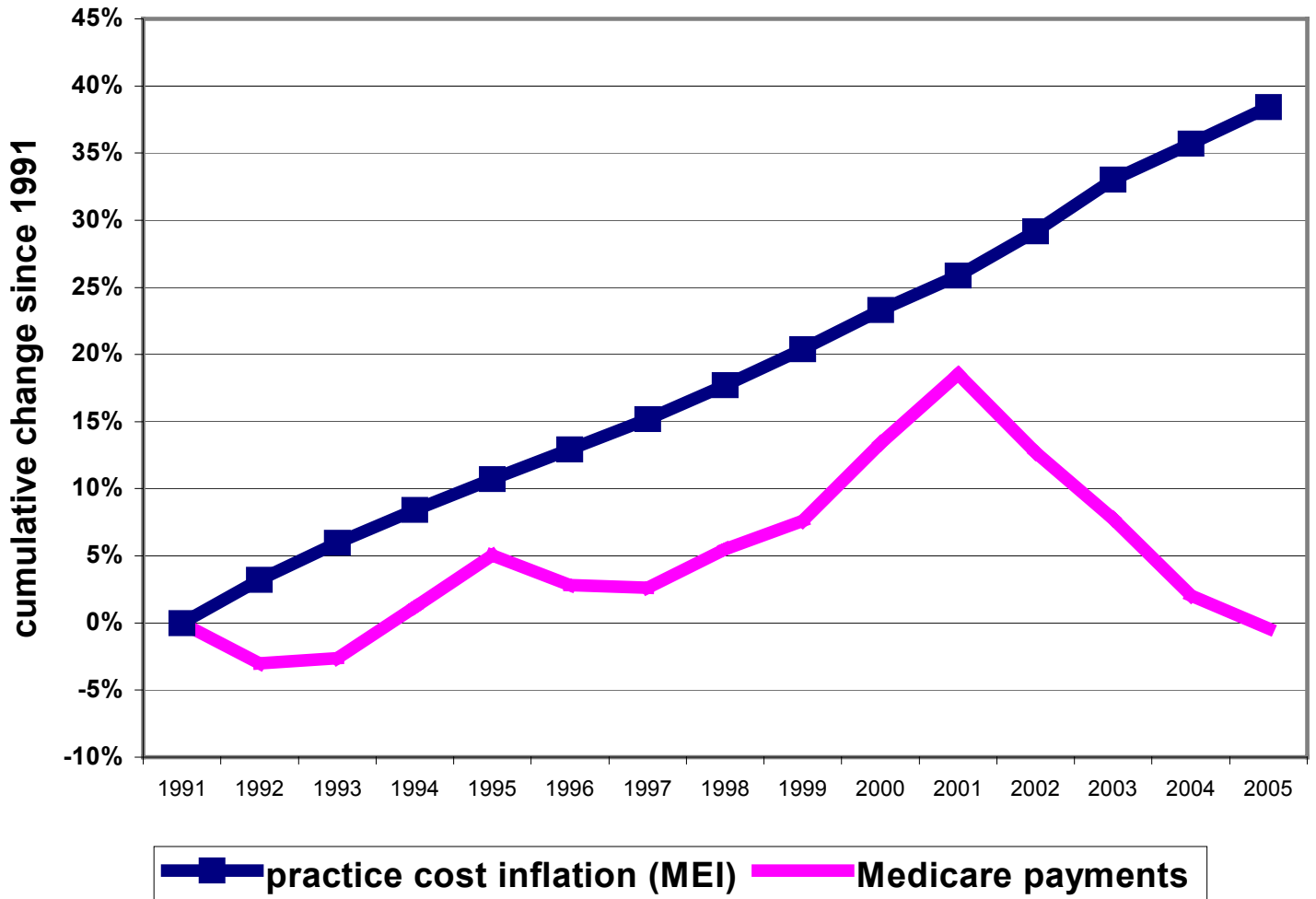
Aside from physician reimbursement, the other topic was medical liability reform and Medicare reform/regulatory reform. All participants agreed that both issues are going to be pursued at some point next year. Sen. Judd Gregg (R-NH, incoming HELP Committee Chairman) is probably going to hold hearings on medical liability at some point next year.

Also, Julius Hobson indicated that AMA is going to be having a 'fly-in' around January 7-8, and he encouraged physician associations to bring in their members and meet with as many Senate offices as possible. The hospitals are going to be in town that week, too, so AMA is clearly trying to ensure that the message from the physician community is 'in play' as hospitals continue to lobby for more funds.

**The short of it is this: Congress is going to watch the Administration and see what comes of the President's budget before they commit themselves to spending any further funds. Budget hawks are aware of the deficits that are beginning to mount, and they're also concerned about the potential costs of the Iraq situation, if that happens.**

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It is very concerning to see how Medicare reimbursement has not kept up with medical inflation. I appreciate everyone's efforts, for I understand how frustrating it is to continually do more with less! Enclosed is a graph forwarded to me from the AMA.

## Medicare Payments vs. Practice Cost Inflation: Projected Trends Under Current Law



Weldon, Stupak Reintroduce Cloning Ban - Reps. Dave Weldon (R-Fla.) and Bart Stupak (D-Mich.) Jan 8 reintroduced legislation to ban all forms of human cloning, including therapeutic cloning. The bill (H.R. 234) is similar, with one exception, to legislation (H.R. 2505) that was passed by the House in 2001 but stalled in the Senate. The new bill no longer includes a provision that outlaws the importation of the products of therapeutic cloning technology from abroad. However, it would still be illegal to import an entire cloned embryo. The bill has 88 cosponsors.

### 108th Congress Committee Memberships Begin to Take Shape

As the 108th Congress convened the week of Jan. 6; several new members were named to the committees of interest to medical schools and teaching hospitals. The complete story is at: [http://www.aamc.org/advocacy/library/washhigh/2003/011003/\\_5.htm](http://www.aamc.org/advocacy/library/washhigh/2003/011003/_5.htm)

## HHS Announces Secretary's Advisory Committee on Human Subject Protection

Department of Health and Human Services Secretary Tommy Thompson Jan. 3 announced the members of the Secretary's Advisory Committee on Human Subject Protection. Ernest Prentice, Ph.D., associate dean for research and vice chancellor for academic affairs and regulatory compliance at the University of Nebraska Medical School, will chair the committee.

## **ON THE HILL**

Rep. Ed Case (D-Hawaii) won a Jan. 4 special election to replace the late Patsy Mink (D-Hawaii), who passed away last year, but was still re-elected to the seat. Rep. Case previously won a Nov. 30 special election to fill the remainder of Rep. Mink's term in the 107<sup>th</sup> Congress, although he was never officially sworn in. Rep. Case's election fills the final vacancy in the 108th Congress, making the official party breakdown 229 Republicans, 205 Democrats, and 1 Independent.

## **Research and Funding Opportunities:**

### **NIH OFFERING \$35,000 PER YEAR FOR LOAN REPAYMENT JANUARY 31 APPLICATION DEADLINE**

BETHESDA, MARYLAND -- The National Institutes of Health is now accepting applications to its five Loan Repayment Programs. January 31, 2003 is the deadline for receipt of online applications.

The NIH Loan Repayment Programs (<http://www.lrp.nih.gov>) can repay up to \$35,000 a year of qualified educational debt for health professionals pursuing careers in Clinical, Pediatric, Clinical Research for Individuals from Disadvantaged Background, Contraception and Infertility, or Health Disparities research. The programs also provide coverage for Federal and state tax liabilities.

Participants must have achieved a doctorate-level degree, devote 50% or more of their time to research funded by either a non-profit organization or government entity (Federal, State, or Local) and have educational loan debt equal to or exceeding 20% of their institutional base salary. US Citizens and permanent residents can apply.

The five NIH Loan Repayment Programs are the Clinical Research LRP, Clinical Research LRP for Individuals from Disadvantaged Background, Contraception and Infertility Research LRP, Health Disparities Research LRP, and Pediatric Research LRP.

"The NIH Loan Repayment Programs are part of our nation's effort to ensure a solid foundation of clinical research professionals for the next generation," said Ruth Kirschstein, Deputy Director of the NIH. "These programs provide a means for health professionals to launch their research careers unfettered by the burden of student loan debt." January 31, 2003 at 5pm EST is the only application receipt deadline for the 2003 Fiscal Year.

Visit <http://www.lrp.nih.gov> for information and to apply online or call the Helpline at 866-849-4047 if you have any questions.

### **Quotes**

“A doctor like a writer, must have a voice of his own, something that conveys the timbre, the rhythm, the dictation, and the music of his humanity that compensates us for all the speechless machines.”

*Anatole Broyard*

Marc

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