

HEALTH AND STRESS

The Newsletter of The American Institute of Stress

Number 4

2008

ARE JOB STRESS & HEALTH FRAUD MAKING US SICKER?

KEYWORDS: Whitehall Studies, heart rate variability, Watson Wyatt Global Strategic Rewards Report, Towers Perrin Global Workforce Study, imaging procedure abuses, excessive drug prices, pharmaceutical fraud, exorbitant compensation for drug and health insurance company executives, false advertising, off label use of antipsychotics and antidepressants, MRSA, tuberculosis, malaria & other drug resistant infections

As indicated in a recent Newsletter, job stress has been making headlines because of new studies confirming its adverse health effects. Its causal relationship has been facilitated by techniques that assess heart rate variability (HRV), which can measure stress more accurately and objectively. Devices that provide immediate real time HRV feedback have also provided insights into mechanisms of action involved in certain stress related disorders that have important implications for prevention and treatment.

For example, the ongoing Whitehall II study of London British civil servants recently released its latest report confirming the correlation between increased job stress and coronary heart disease. However, it also contained important information on those mechanisms of action that are most likely to be involved. This revealed that reduced heart rate variability may be much more important than other risk factors like obesity, cholesterol, smoking and hormonal influences.

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Low HRV has long been known to be a powerful predictor of sudden death and heart attacks. Until the relatively recent availability of sophisticated computerized analysis, obtaining accurate data was very time consuming and costly. New inexpensive devices that eliminate these drawbacks can not only quickly alert users to dangerous HRV levels, but also teach them how to correct them.

The Whitehall I study that began in 1967 was designed to determine psychosocial factors that affected health by examining the prevalence of cardiovascular and lung disease in over 17,000 male civil servants aged 20 to 64. It found that mortality rates from heart disease were significantly higher in lower grade employees. This group also tended to be more obese, smoke more, exercise less and have higher blood pressures. However, even when correcting for these factors, deaths from heart disease were twice as high compared to upper echelon employees. **In other words, people in high stress jobs didn't have more heart attacks as was commonly believed.** Nor did a high fat diet, cholesterol, smoking, obesity or hypertension explain this marked difference between messengers and mandarins. Smoking explained the difference in lung cancer but not heart disease.

Whitehall II, which began in 1985, consists of over 10,000 civil servants aged 35 to 55, one third of whom are now women. It has focused on the relationships between work; stress; and health in an effort to determine why and how socioeconomic status contributes to heart attacks. The current report, published in the January 23 issue of the *European Heart Journal*, found that both **men and women workers under 50 who described their work as very stressful were nearly 70% more likely to develop heart disease than others with little or no job stress.** What was surprising, was that **this increase in heart disease was not related to grade of employment.** Although morning cortisol levels tended to be higher in stressed workers, increased heart attacks and deaths were best explained by low heart rate variability. In addition, these biochemical and autonomic nervous system changes were independent of unhealthy lifestyles and metabolic syndrome, which were seen in less than a third of the heart disease group. It was suggested that the relative lack of work stress effects on older workers might be due to the fact that many were approaching retirement and therefore less likely to suffer its damaging effects. Although job stress has been linked to problem drinking, no such relationship was found. Nevertheless, it was associated with harmful habits such as eating less fruit and vegetables and not exercising enough, as has been shown in previous studies. **The most important finding was that job stress seemed to reduce "vagal tone", which lowers heart rate variability.** This observation is supported by an Italian study showing that low heart rate variability leads to sustained hypertension and elevated cholesterol in young individuals, suggesting that they may be more prone to subsequent heart disease. Regular exercise and proper lifestyle habits can undoubtedly reduce risk for heart attacks. However, **learning how to cope with stress and reduce its dangerous effects on heart rate variability may be even more important.** As indicated in prior Newsletters, exciting new devices now make this much easier to achieve quickly and inexpensively.

New Approaches That Reduce Employee Turnover And Increase Productivity

Job stress is far and away the leading source of stress for American adults and has progressively increased in the past few decades. Because of the resultant adverse health and fiscal effects, government guidelines have repeatedly emphasized the need for companies to offer stress management training programs to their employees. However, the message does not seem to be getting through. According to the recently released Watson Wyatt 2007/2008 Global Strategic Rewards report, job stress, and especially working long hours are the most frequent reasons workers cited for why they would leave their jobs. Although 40 percent of workers listed job stress as one of the top three reasons they would leave, companies seem to be oblivious. They believe the main reasons employees quit are insufficient pay, lack of career development and poor supervisor relationships. Nearly half of U. S. employers acknowledged that workplace stress is hurting their bottom line but only one in 20 is doing anything about it. About 30 percent believe that technostress from using cell phones and personal digital assistants is also having a negative effect on productivity, but only 6 percent are confronting this issue. Key findings of the Watson Wyatt report include:

- The majority of employers have problems attracting critical-skill employees (70 percent) and top-performing employees (67 percent).
- Employers have an incomplete understanding of why employees join or leave their organizations. For example, employees rank stress as a top reason they would leave, but it is not even among the top five reasons cited by employers.
- When employees are satisfied with stress levels and work/life balance, they are more inclined to stay with their companies (86 percent versus 64 percent) and more likely to recommend them as places to work (88 percent versus 55 percent).
- Financially high-performing firms get performance management right. For example, their managers are much more likely to link organizational performance to rewards (51 percent versus 38 percent of low-performing organizations).
- Clearly setting attainable goals and delivering on the promise of reward promotes productivity and engagement. Sixty-nine percent of employees who say their employers succeed at both promise and delivery are highly engaged, versus roughly 25 percent overall.

As Watson Wyatt's director of strategic rewards noted, "Pay alone is not enough to retain and engage today's workers. To remain competitive, companies need to understand fully what causes employees to join or leave and what causes them to be productive if they stay. A total rewards approach that includes both monetary and nonmonetary rewards is more meaningful for employees and more effective for employers." Their director of health and productivity added, "Many companies don't appear to

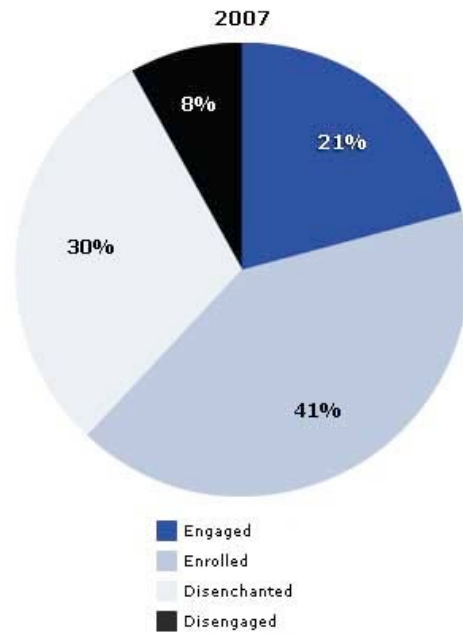
appreciate how stress is affecting their business. Too much stress from heavy demands, poorly defined priorities and little on-the-job flexibility can add to health issues. By leaving stress unaddressed, employers invite an increase in unscheduled time off, absence rates and health care costs — all of which hurt a company's bottom line."

One of the most costly consequences of job stress that tends to be overlooked in large companies is employee turnover. Turnover rates are highest in the U.S. (11 percent), lowest in Latin America (5 percent) with a global median of 9 percent. The survey found that most companies did not appear to measure the disastrous effects turnover had on their bottom line. The price tag of this varies with such things as the employee's position and length of service, since the cost of replacing a senior executive can approach seven figures. Yet, more than four out of five employers (nine out of ten in Canada) had no formal method for calculating the costs of turnover. More importantly, less than half of large companies conduct any workforce planning procedures to analyze turnover demographics, retirement, or other changes in the business environment to determine effects on productivity and the bottom line in order to develop ways to minimize these expenses. Those that do, quickly learn that lowering stress levels is a key component that can be very cost effective. This may require reassurance about job security, reducing workplace stress as well as increasing base pay. The complete report can be found at www.watsonwyatt.com

An even more recent Towers Perrin report also challenges some of the pervasive beliefs about job stress. Their previous 2005 Equity Incentives Around the World Survey revealed that large companies had been using equity inducements like stock options to keep key executives from leaving, especially in Hong Kong and Singapore. In contrast, U.S., Canadian and U.K. firms were moving away from stock options and turning to new long-term incentive plans, particularly those with added performance measures. This shift stemmed from a growing recognition of the importance of engagement, which can be described as a worker's willingness and desire to go the extra mile for the company. The 2007 Towers Perrin follow-up Global Workforce Study was designed to find out what factors motivated highly engaged employees to perform in a superior fashion compared to coworkers. It also attempted to accurately determine varied degrees of engagement and the factors responsible for these differences by analyzing responses to questions based on a tested three pronged "think, feel and act" model. Specific questions were designed to quantify employees' rational (think), emotional (feel) and motivational (act) connections to their companies and their jobs to provide an analytic basis for calculating their level of engagement. The survey utilized two unique sources of data that were derived directly from employees. The first was an online Web based survey

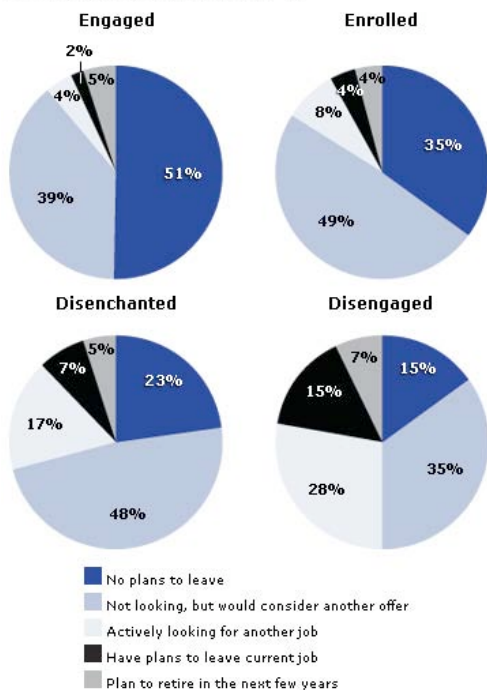
sent last May and June to a random group of around 90,000 full time employees of mid-sized to large organizations in 19 countries. The second source was the Connecticut based company's database of over 2 million employees of high and low performance companies around the world.

Employee Engagement Levels



As shown on the left, the results released in February 2007 revealed that barely one in five employees (21%) was fully engaged on the job and that 8% were fully disengaged. An overwhelming 71% of employees fell into a "massive middle" cohort of others classified as being moderately engaged. This large segment could be further split into "enrolled" workers that were partially engaged, and a partially disengaged "disenchanted" group. **It is this "massive middle" group that represents the biggest challenge for companies that want to keep key employees.** But it also provides the greatest opportunity for promoting productivity by reducing job stress to prevent worker turnover.

How Engagement Affects Mobility



As also illustrated to the left, this analysis showed a clear correlation between the degree of engagement and the likelihood that workers would remain with the company rather than seek employment elsewhere or leave for some other reason. **Retention was likely in over 50% of those fully engaged, more than 33% for partially engaged employees, 23% for workers partially disengaged, but was only 15% for completely disengaged employees.** In addition to engagement, responses to some of the other 100 questions provided insights into different factors that are likely to attract as well as retain workers once they are hired. Some of these different influences are listed below.

FACTORS THAT INFLUENCE ATTRACTION, RETENTION AND ENGAGEMENT

Top Attraction Drivers	Top Retention Drivers	Top Engagement Drivers
Competitive base pay	Organization's reputation as a great place to work	Senior management sincerely interested in employee well-being
Career advancement opportunities	Satisfaction with the organization's people decisions	Improved my skills and capabilities over the last year
Challenging work	Good relationship with supervisor	Organization's reputation for social responsibility
Convenient work location	Understand potential career track within organization	Input into decision making in my department
Flexible schedule	Ability to balance my work/personal life	Organization quickly resolves customer concerns
Learning and development opportunities	Fairly compensated compared to others doing similar work in my organization	Set high personal standards
Vacation/paid time off	Work in environment where new ideas are encouraged	Have excellent career advancement opportunities
Reputation of the organization as a good employer	Competitive training	Enjoy challenging work assignments that broaden skills
Reasonable workload	Input into decision making in my department	Good relationship with supervisor
Organization's financial health	Organization's reputation for social responsibility	Organization encourages innovative thinking

As with job stress reduction programs, there is no "one size fits all" approach that works for everyone. Employees differ with respect to needs, values, goals and other traits. Managers need to take the factors described above

into consideration when creating a package to attract, engage and retain workers. The complete report can be found at www.towersperrin.com

Is Spending More On Health Care And Drugs Making Us Less Healthy?

The U.S. spends far more on health care than any other country but ranks 45th in life expectancy (behind Bosnia and Jordan), close to last in infant mortality, and in last place with respect to health-care quality, access and efficiency, compared to other developed countries, according to the Commonwealth Fund. **U.S regions that spend the most on health care have higher mortality rates than regions spending the least**, possibly due to increased hospitalization rates that result in more life-threatening errors and infections. This overutilization is driven by multiple factors, such as practicing "defensive" medicine by doctors trying to avoid lawsuits; unrealistic demands by patients; the pervasive belief that newer, more expensive drugs and technology are always better; and the current reimbursement system that encourages doctors to do testing and perform procedures that are unnecessary but can readily be justified and billed.

The number of sophisticated imaging procedures has now markedly surpassed the growth of other Medicare physician services and approached \$100 billion in 2004, or an average of \$350/per person in the U.S. As one cardiologist complained, "When I started in practice, I wanted to do the right thing. A young woman would come in with occasional palpitations. I'd tell her she was fine. But then I realized that she'd just go down the street to another physician and he'd order all the tests anyway: echocardiogram, stress test, Holter monitor — stuff she didn't really need. Then she'd go around and tell her friends what a great doctor — a thorough doctor — the other cardiologist was. I tried to practice ethical medicine, but it didn't help. It didn't pay, both from a financial and a reputation standpoint." His nuclear imaging camera was in an adjoining 'Procedure Room' and he itemized his monthly costs as follows: camera lease, \$4,500; treadmill lease, \$400; office space, \$1,000; technician fee, \$1,800; nurse fee, \$1,000; and miscellaneous expenses of \$200. He further explained that since he receives about \$850 per nuclear stress test, he has to perform at least 10 just to cover the costs. There is obviously tremendous pressure to do more nuclear stress tests whether or not the patient needs it. Few complain because it is covered by insurance and reinforces the belief that their doctor is being "thorough".

The high price of drugs is a major contributor to our excessive health care costs. As explained in prior Newsletters, pharmaceutical manufacturers have successfully blocked importing drugs from Canada, bribing companies not to release approved generic equivalents until the patents on their more expensive versions expire, marking up blockbuster drugs several thousand times over their actual costs, refusing to allow Medicare to negotiate prices

and other nefarious practices. Walmart recently announced that its \$4.00/per generic drug program had saved consumers over \$1 billion in less than a year. A stroke victim whose prescription would have cost \$315 paid \$12.00 at Walmart for a three-month supply of the generic equivalent and they still made a profit. Abbot was sued last month by 18 states for trying to keep a generic version of its TriCor cholesterol drug from being available to preserve its over \$1 billion/year in sales. Actimmune is a drug manufactured by InterMune that was approved to treat certain immune system and bone disorders at a cost of \$50,000/year. In an unprecedented action, the former CEO was charged last month with having issued a press release in 2002 to lung specialists claiming that a large study showed it was also effective in treating idiopathic pulmonary fibrosis, a fatal disease. Not only was this false, but a clinical trial to demonstrate this was stopped because of poor results. Unsuspecting physicians prescribed it because there was no alternative and since 2003, the vast majority of Actimmune sales have been for pulmonary fibrosis. The manufacturer paid \$37 million in fines last year for false promotion, but that's just a drop in the bucket, considering that Actimmune costs \$50,000/year for treatment. The cost of Cerezyme used to treat Gaucher's disease is over \$300,000/year but experts found that a fourth of the recommended dose was just as effective and would save patients more than \$200,000 a year. The average yearly cost of drugs for cancer victims was over \$22,000 in 2007, up 16% from 2006. Growth hormone deficiency patients paid \$31,000 and the price tag for multiple sclerosis averaged \$20,000, over 12% more than in 2006. Costs for drugs like Enbrel and Remicade to reduce the severity of psoriasis by 75% can range from \$25,000 to \$40,000/year, but because they block the immune system, can increase susceptibility to infections and certain cancers.

Pharmaceutical companies claim that high drug prices are necessary to recoup the costs of research and development. However, they spend twice as much (about \$56 billion/year) on promotions to doctors and direct media advertising to consumers. And, despite complaints of falling stock prices, compensation packages for CEO's and top executives continue to rise from their previous stratospheric heights. Johnson and Johnson's CEO received a 25% pay hike to \$25.1 million in 2007, the same year the company laid off 4,800 workers to cut costs. The CEO of Abbot got a 37% raise worth about \$33.4 million in 2007, up from \$26.9 million the year before. Other big packages went to Abbot's vice chairman (\$10.5 million), general counsel (\$9.7 million) and the consumer group's world-wide chairman (\$8.4 million). Wyeth's CEO was making over \$20 million in 2007 when he retired. Pfizer's CEO pay package was only \$12.6 million last year but the CFO, who retired, had an exit package worth \$34.2 million when he retired. Two other executives also retired with a combined \$56.8 million based on accrued funds in the company's retirement

plan, severance pay and "pension enhancement" policy. Merck's CEO received compensation valued at \$14.5 million in 2007, an 80 percent raise in a year in which the company agreed to pay \$4.85 billion to settle Vioxx suits. Despite the fact that Merck laid off 7,000 workers the year before, the CFO got a \$4 million package on retiring and her mid year replacement made \$1.2 million. The director of research received compensation worth \$6.5 million, the package for the general counsel was about \$6 million and it was \$4.8 million for the head of "strategy initiatives".

The average pay for a drug company CEO in 2006 was \$4,355,834. However, if you think that's excessive, the average health and disability insurance CEO took in \$8,747,914, more than twice as much. Small wonder that drug prices are so high and that many patients can't afford health insurance, especially for policies that must pay the bulk of the enormous cost of the above and other expensive medications.

Medicine Is A Double-Edged Sword, But The Wrong Side Is Getting Sharper

The sensational successes of drugs are repeatedly trumpeted in TV ads that urge viewers to "Ask Your Doctor" if some new or blockbuster medication is "right for you." Such direct to consumer promotions are allowed here since they are allegedly designed to educate the public. However, their primary purpose is to increase profits, which is one of the reasons they are banned in other countries. There is little doubt that TV ads are very cost effective, since most patients who do ask their physicians about a drug seen on TV, wind up with a prescription for it. **TV drug advertising jumped to over \$1.6 billion for the first six months of 2007** and is one of the reasons U.S. prescription drugs prices are the highest in the world. Many ads are misleading since they portray normal aspects of aging and trivial complaints as serious diseases in a concerted campaign to convert healthy people into paying patients. Most ads hype benefits and conceal or minimize the adverse effects. Zelnorm for constipation had to be withdrawn because of serious safety concerns and deaths and Lotronex for diarrhea was banned less than a year after it had been approved. Merck withdrew Vioxx due to cardiovascular complications and has set aside \$4.5 billion to settle class action lawsuits. More recently, Vytorin, heavily advertised as superior in lowering cholesterol than Lipitor, was found to be no more effective than one of its generic ingredients and three times more expensive. In many other instances where drugs have been banned, **companies were well aware of dangers and false advertising but concealed this information.**

As emphasized in prior Newsletters, the off label use of costly drugs has resulted in dangerous side effects and deaths, especially in children given antipsychotics for alleged bipolar disease or ADHD despite the fact that they were never approved for these age groups. These drugs may also do more

harm than good when prescribed for the elderly. A recent study of nursing home patients receiving antipsychotics because of signs or symptoms of dementia revealed that most actually improved when these medications were replaced by placebos or discontinued. SSRI antidepressants are frequently prescribed for children despite strong evidence that they are associated with increased risk for suicide, self-harm and violent acts, which is why they are banned for anyone 18 or younger in the UK and other countries. **GlaxoSmithKline knew as early as 1989 that there was an 8-fold increased risk of suicide for patients taking Paxil but did not acknowledge this until 2006** after company records were subpoenaed. Drug companies have also long known about the violent behaviors and other emotional problems associated with antidepressant withdrawal syndrome but this has similarly been suppressed to preserve sales of \$13 billion/year. The Columbine massacre, Virginia Tech, Northern Illinois University and other school shooting tragedies were all committed by students taking SSRI antidepressants. GlaxoSmithKline also concealed proof of Paxil's lack of efficacy compared to placebo. The Attorney General of New York is currently suing them for fraudulent marketing and other states will likely follow suit.

Alaska and seven other states are suing Eli Lilly for hiding the risks of the antipsychotic Zyprexa, by far its best selling drug, that brought in \$4.8 billion last year. According to Dr. John Gueriguian, a former FDA medical reviewer and diabetes expert, Lilly should have warned physicians as early as 1998 about the link between Zyprexa and diabetes based on clinical reports and animal studies. Internal documents from 1999 and 2000 showed that Lilly had additional evidence of increased risk of diabetes and weight gain but did not reveal this to protect profits. In 2002, less than a year after Zyprexa became available in Japan, authorities required the company to warn doctors not to use it in diabetic patients but Lilly did not add any warnings about Zyprexa here until last year. A 2003 memo showed that Lilly was promoting its use in children despite the fact that it was not approved for this age group. During his 20 years with the FDA, Gueriguian had also voted against approving Rezulin for diabetes. It was later withdrawn after proof that it caused severe liver disease. The FDA recently added black box warnings of increased risk for heart disease for Avandia and Actos; two other popular diabetes drugs that some experts feel should also be banned. Pfizer is defending several class action suits for false Lipitor advertising since there is no evidence that statins are effective in preventing heart attacks in men over 60 or women of any age. They have already paid \$35 million in fines for promoting their growth hormone, Genotropin, to improve athletic performance in a \$2 billion/year industry that allegedly included major sports figures like Olympian Marion Jones, Lance Armstrong of Tour de France fame and home run king Barry Bonds. Additional civil penalties for false Genotropin claims could approach \$100 million, not

including triple damages of tens of millions of dollars for sales to the government.

Drug and device companies have effectively used doctors to boost profits. Congress is now investigating Dr. Robert Jarvik's deceptive and misleading endorsements of Lipitor. Numerous physicians, hospitals and clinics have received millions in return for promoting expensive drugs, devices and orthopedic implants. Last September, orthopedic device manufacturers who paid doctors over \$800 million over a four year period to use their artificial hip and knees were fined \$311 million to avoid prosecution under the Federal Anti-Kickback Law. Medtronic had previously agreed to a \$40 million fine to settle charges about kickbacks to doctors to get them to use the company's spinal products, which accounted for 20% its \$11.3 billion in sales in 2005.

Seven funeral homes in three states are now being sued for hacking up corpses to obtain bone, skin and tendons for use in disk replacements, knee operations, dental implants and other surgical procedures performed by unsuspecting doctors in this multibillion dollar/year industry.



The mastermind of the scheme was a former oral surgeon who lost his dentist's license and started a tissue processing company in 2001. He told authorities that he had sent various body parts to be used in orthopedic procedures and dental implants in over 10,000 patients. One of the cadavers he looted was that of "Masterpiece Theatre" host Alistair Cooke, shown to the right. Records show that Cooke's arms and legs were sold for \$7,000 to one of the 2000 companies that prepare tissues for clinical use at a great profit. It is not clear where his pelvis or other tissues removed were sent but as can be seen from the x-rays to the left, because of open casket viewing, his bones were replaced with polyvinyl pipes and other plastic substitutes attached with screws.



Alistair Cooke died from cancer at the age of 95 in 2004. His daughter testified that nobody had ever bothered to check his medical records. Nor did anyone ever ask if he or his family had agreed to donate his arms or legs for transplantation.

Improperly obtained or poorly processed tissue can transmit HIV, hepatitis and other dangerous infections to patients receiving such transplants. In other instances, where donor permission documents were made available, it was determined that many had been forged. Alistair Cooke's death

certificate was altered by changing his age from 95 to 85. **A transplant surgeon was just found guilty on three felony charges of hastening a patient's death so that organs could be harvested and sold at sky-high prices because of the tremendous demand.**

Why Iatrogenesis Is Now The Leading Cause Of Death And Disease

Iatrogenesis is the inadvertent and preventable induction of disease or complications by medical treatment, and literally refers to mistakes made by physicians. But iatrogenic illness can also result when doctors and health care professionals follow accepted procedures, or "advances" in medicine boomerang. As noted in a prior Newsletter, one study estimated that **there are over 800,000 iatrogenic deaths annually.** That is the equivalent of six jumbo jets crashing every day of the year, with no survivors. The authors explained that if something like that happened, there would be daily headlines, but these deaths occur over such a wide geographic area and are so common, that they are no longer news. And while the pilots don't survive, the perpetrators of these deaths live on to keep repeating their mistakes.

Hospital infections kill over 100,000 Americans a year. About 2 million patients get hospital infections, two thirds of which are resistant to previously effective antibiotics. **Almost 60% of staph infections are now resistant compared to only 2% a few decades ago.** Some, like MRSA can be fatal within a few days, and the same holds true for "flesh eating" streptococcal infections. Drug resistant infections kill more Americans than breast cancer and AIDS combined. We are now witnessing an explosion in multi-drug resistant tuberculosis in Russia and Asia that health officials fear will reach the U.S. because of increased global travel. Malaria is also on the rise due to the widespread use of chloroquine and other drugs for decades. Over a million die from drug resistant malaria each year, which is now responsible for one in every five childhood deaths in Africa. Deaths due to preventable medical and societal errors are such a major problem that space constraints preclude discussing them here. These and other iatrogenic tragedies will be reviewed in detail in a future Newsletter - so stay tuned!

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Health and Stress <i>The Newsletter of</i> <i>The American Institute of Stress</i> 124 Park Avenue Yonkers, NY 10703	ISSN#108-148X
ANNUAL SUBSCRIPTION RATE: E-Mail.....\$25.00	PAUL J. ROSCH, M.D., F.A.C.P. EDITOR-IN-CHIEF www.stress.org e-mail: stress124@optonline.net