

## "Gentlemen, Let's Work the Problem!"

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These were the immortal words of Ed Harris who, in the movie Apollo 13, exhorted his colleagues at Mission Control in Houston not to give up on what had become a crippled and possibly fatal space mission. Instead, urged the director, the problem at hand had a solution if only the guidance team in Houston would stay with it and not panic or argue. Instead of a disaster it turned out to be NASA's finest hour; a triumph for what has been referred to as "nerdy, organizational passion;"<sup>1</sup> a testimonial to the fruits of teamwork and dogged perseverance; indeed a wonk's paradise or the establishment's "revenge of the nerds."

Such is clearly not the case in health care. With a total health bill of \$1.2 trillion constituting almost 15% of the U.S. gross national product,<sup>2</sup> we are still finding that there is considerable room for improvement in what we might regard as standard medical care. The annual death rate from the use of medications alone, for instance, has been estimated to be anywhere from 79,000 to 179,000.<sup>3</sup> The average of 120,000 patients killed by medication errors was just published this past week (9/12/99) as "typical" across the United States in accredited hospitals.<sup>4</sup> This number, by the way, ranks fourth among the top 10 causes of death in the United States in 1994, exceeded only by heart disease, cancer and stroke,<sup>5</sup> and exceeding deaths due to pulmonary disease, accidents (total), pneumonia, motor vehicle deaths, diabetes, invasive heart treatments and AIDS.<sup>4-6</sup>

It's hardly surprising that we have seen so much interest and concern in the alternative medicine movement. It is disappointing that we encounter continuing and often irrational resistance to alternatives to approaches to clinical problems which are outside of the usual medical paradigm, even though medical management sometimes includes unnecessary surgeries<sup>7,8</sup> and antibiotic overuse<sup>9-11</sup> in addition to the medication problems just discussed.

From the perspective of hubris alone, we have witnessed a myriad of examples of backlash from various pockets of the medical community, a topic which I have reviewed in some detail previously.<sup>12,13</sup> The latest tidbit comes from no less than the former editor of *The New England Journal of Medicine*. He offers the following barrier to integrative medicine: "It (alternative medicine) could not be woven into the fabric of the medical curriculum without confusion, contradiction, and an undermining of the scientific foundation upon which modern medicine rests."<sup>14</sup>

To summarize how some influential medical personalities seem to be dealing with this affair, we return to the NASA-Apollo 13 analogy: Houston, we have a problem.

When it comes to policy the situation only gets worse. We have encountered arguments from public health authorities to the effect that chiropractors, unlike nurse practitioners and physician assistants, should not be allowed to conduct physical examinations of children because, by virtue of the fact that chiropractors do not administer medications or immunizations, a child care center

staff would be required to incur the costs of two practitioners (rather than one) should a chiropractor come on board. In other words, more than a single medical doctor would be expected to render a complete physical examination.

For the sake of parity, however, it is certainly within reason to ask a similar question of medical physicians. Are they capable of performing complete neuromusculoskeletal examinations as first-contact health care providers? From the results of a recent study of first-year orthopedic residents at the University of Pennsylvania, the answer seems to be a resounding no.

In this particular investigation, 82% of the 85 first-year residents failed to demonstrate basic competency on an examination in musculoskeletal medicine which had been validated by 157 chairpersons of orthopedic residency programs in the United States.<sup>15</sup> With orthopedic residents failing this examination, one would expect that all other medical doctors to do no better and probably worse. By extrapolating this finding, one would conclude that having patients examined only by MDs necessarily deprives them of an essential portion of the physical examination. And yet, medical doctors are judged to be fully competent and authorized to be the sole examiners of pediatric patients!

The situation only becomes more complicated. Consider the safety issue. The annual costs of drug-related morbidity have been projected to be \$76.6 billion nationwide.<sup>3</sup> Spinal manipulation, on the other hand, may have a death rate from vertebral artery dissection (by far the leading cause of death relating to manipulation) to be three per 10 million adjustments.<sup>16</sup> Taking a rough estimate of the average number of manipulations administered per patient per episode to be about 10,<sup>17</sup> this would result in the maximum number of patients treated each year by a chiropractor to be 1/10 of 250 million (the average number of chiropractic office visits each in the U.S.<sup>18</sup>).

The maximum number of patients treated for neck and cervical problems has been reported to be 42% of all cases each year,<sup>19</sup> or 10.5 million. Therefore, the maximum number of patients who could possibly be lost to vertebral artery dissections each year is 10.5 million x 3/10 million, resulting in a theoretical maximum death rate of 3 (0.0038% to 0.00075%) of the corresponding rates obtained with medications.

We can only conclude that the costs of adverse events attending manipulation are but a minute fraction of those reported for untoward events attending the use of medications. A reduction of the incidence of drug-related mortality by just 15% (presumably by reducing the utilization of drugs or medical services by the same amount) would result in a savings of \$11.5 billion. If we were to use \$45 as the cost of a chiropractic office visit, this savings would more than pay the total bill of chiropractic services nationwide! As a corollary, this would theoretically also save anywhere from 11,850 - 60,000 lives each year. Finally, it would save all the legal costs and man-hours lost to litigation relating to the reduced drug-related morbidity and mortality.

What is the purpose of this exercise? Simply to advance the argument that integrative health care is clearly in the best interest of the patient, in addition to being the most cost-effective. This most certainly includes the chiropractor as one of the individuals expected to perform a complete physical examination of the patient. With the patient's health care, to say nothing of health care costs spiralling out of control at stake, the obvious solution is none other than to heed that charge from Mission Control (with an apology to gender bias): Gentlemen, let's work the problem!

*References*

1. Gopnik A. America's coach: a new biography of Vince Lombardi looks at the legend. *The New Yorker* September 20, 1999, pp. 124-133.
2. Gaumer G, Abt Associates, Inc. Presentation at Canadian Chiropractic Association, Toronto, Ontario, Canada, November 18, 1995.
3. Johnson JA, Bootman JL. Drug-related morbidity and mortality: a cost-of-illness model. *Archives of Internal Medicine* 1995;155:1949-1956.
4. System out of control. *The Philadelphia Inquirer*, September 12, 1999.
5. Lazon J, Pomeranz B, Corey P. Incidence of adverse drug reaction in hospitalized patients. *Journal of the American Medical Association* 1998;279:1200-1205.
6. Chapell LT. Testimony before Committee on Government Reform (U.S. House of Representatives Committee on Government Reform website]. Cardiovascular Disease: Is the Federal Government Doing More Harm Than Good? EDTA chelation therapy. Available at [http://www.house.gov/reform/hearings/chelation3\\_10\\_99/Chapell.htm](http://www.house.gov/reform/hearings/chelation3_10_99/Chapell.htm) . Accessed May 15, 1999.
7. Unnecessary hysterectomies, the second most common major surgery in the United States. Hearing before Subcommittee on Aging of the Committee on Labor and Human Resources, United States Senate, One Hundred Third Congress, first session, May 5, 1993.
8. Herman R. Back surgery: doctors urge caution amid growing criticism of the common operation. *Washington Post* health section, April 18, 1995.
9. Paradise JL. Managing otitis media: a time for change. *Pediatrics* 1995;6(4):712-715.
10. Froom JL, Culpepper L, Jacobs M, DeMelker RA, Green LA, van Buchem L, Grob P, Heeren T. Antimicrobials for acute otitis media? A review from the International Primary Care Network. *British Medical Journal* 1997;315:98-102.
11. Witte W. Medical consequences of antibiotic use in agriculture. *Science* 1998;279:996-997.
12. Rosner AL. FCER Forum. The backlash against alternative medicine. *Dynamic Chiropractic* November 2, 1998; 16(23).
13. Rosner AL. FCER Forum. A walk on the wild side of allopathic medicine: going ballistic

instead of holistic. *Dynamic Chiropractic* April 19, 1999;17(8).

14. Bunk S. Is integrative medicine in the future? Debate between Andrew Weil, MD, and Arnold Relman, MD. *The Scientist* 1999 13(10):1,10-11.
15. Freeman KB, Bernstein J. The adequacy of medical school education in musculoskeletal medicine. *Journal of Bone and Joint Surgery Am* 1998;80A:1421-1427.
16. Hurwitz EL, Aker PD, Adams AH, Meeker WC, Shekelle PG. Manipulation and mobilization of the cervical spine: A systematic review of the literature. *Spine* 1996;21(15):1746-1760.
17. Carey TS, Garrett J, Jackman A, McLaughlin C, Fryer J, Smucker DR. North Carolina Back Pain Project. The outcomes and costs of care for acute low back pain among patients seen by primary care practitioners, chiropractors and orthopedic surgeons. *New England Journal of Medicine* 1995;333(14):914-917.
18. Haldeman S, Kohlbeck FJ, McGregor M. Risk factors and precipitating neck movements causing vertebral artery dissection after cervical trauma and spinal manipulation. *Spine* 1999;24(8):785-794.
19. Goertz CH. ACA statistical survey on chiropractic practice. *Journal of the American Chiropractic Association* 1998;35(11):30-34.

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