INTRODUCTION: Patients & Their Dentists

Empowerment Cannot Be Translated As Entitlement. **Lawrence Weiner, Bookshelf.**

Today's healthcare environment has undergone a new sense of self-empowerment, with patients increasingly seeking more decision-making involvement. Such self-directed consciousness is not without its inherent responsibility. The mission of an empowered patient, realizing superior and realistic healthcare expectations, is unquestionably a challenging process. In light of its improved health benefits, significant financial savings, and rewards through psychological self-satisfaction, that mission provides an opportunity well worth the effort.

The broad and complex concept of personal empowerment is itself a relatively modern principle.* *Empowerment is an ideology that involves self-esteem; it is a societal vision that promotes a positive sense of community and that holds a categorically optimistic attitude regarding interpersonal human interaction.* Based on personal experiences and expertise, each reader necessarily brings his or her own perspective to this endeavor and to our public forum regarding the socioeconomics of health and health care in America.

To be a well-informed patient and be able to ask and recognize the pertinent questions as well as to comprehend intricate answers, one must become more knowledgeable about a myriad of existing health issues. An empowered patient needs to take the initiative by becoming exceedingly aware of actual disease processes and treatment options. Such patients will then be better able to gauge healthcare providers and evaluate their proposed treatment plans, material and technique recommendations, the time-durations involved and the estimated fees.

Historically, dentistry and medicine have had a crisis-oriented evolution. Through the ages, this focus on crisis management has often resulted in some rather outlandish critiques. The ancient Greek philosopher,

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*Empowerment was initially popularized in the mid-twentieth century by American Civil Rights organizations promulgating 'political' empowerment for their constituents.

Heraclitus of Ephesus, who is said to have "flourished" around 500BC, states in his Fragments (#58): "Physicians who cut, burn, stab, and rack the sick, demand a fee for it which they do not deserve to get."

Going beyond crisis orientation, the trends in contemporary healthcare continue to subsume a more "holistic" approach with a more modern anticipative or "preventive" perspective. In both medicine and dentistry, these encompassing concepts of holistic and preventive care, focus their emphasis on the *interrelated causes* of disease, rather than merely symptoms, effects, or even treatments. Despite the newer, rewarding curative philosophy, and centuries of advancement in health science and technology, many of today's patients continue to become disgruntled with the quality of their care and that of their healthcare providers.

In dentistry, an old adage: "Be true to your teeth or else they will be false to you" also remains as universally valid today as it has ever been. In light of recent, more direct, scientific relations between dental health and general health, the consequence of a good dentition has gained an even greater significance. Nevertheless, many patients may also become especially conflicted when it comes to their dental care and associated dental care costs.

In the year 1990 Americans were spending $31.5 billion annually on dental services in private practice; by 2001, the figure reached $67.5 billion (yet, less than 5% of the total U.S. health-care costs).[1] About 75 percent of dental costs, directed to treatment and management of caries and periodontal (gum- and bone-tissue) diseases alone.[2-3] Each year, "dental conditions" account for 164 million hours of missed work, 52 million hours of missed school, and 13 million restricted activity days.[4] The additional human discomfort and suffering caused is somewhat more difficult to determine.[5]

The *rate of increase* in dental services expenditures was 15.9% *less* than the rate of increase for national, overall health services expenditures. However, dental expenditures do continue to increase, and reached $98.6 billion for 2007. Dental care costs are also projected to reach $155.4 billion by the year 2015, outpacing the rate of growth in United States' gross domestic product (U.S. GDP**) by 23.2%.[6]

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*GDP price index measures the prices paid for goods and services produced by the U.S. economy. GDP is adjusted for changes in prices and inflation throughout the year and can be thought of in terms of changes in actual purchasing power.

American's total per capita healthcare spending, in 2007 approached $7,500 annually. By 2010, this figure may reach $9,000. As a percentage of GDP, the growth in national healthcare spending held steady, at 16% in 2006-2007 (also see APPENDIX 2: Healthcare Graphs.) But by 2015, the healthcare cost has been projected to reach 19% of GDP and 40% by 2050.[6,7] In 2007, average health care spending for a family of four exceeded the *total annual earnings* of a minimum-wage** worker.

An increasing complexity and associated high costs of healthcare demand a much more diligent inspection by patients individually and society as a whole. How patients can hope to cope with these increases in dental and their related medical expenses, and what they can attempt to do about them is one of the central concerns of this book.

In dentistry, unlike some professions, such as media, finance, or law, the individual fee normally originates solely from actual, hands-on, chair-side service and is never hourly-based. Unlike even in "interpretive" medicine, dental fees are essentially all manual-labor/results based. Dental fees are rarely, if ever, calculated with any primarily "diagnostic" function or with any time-taken relation. Furthermore, dental-fee payment for preventive or extended "patient-instruction" services has failed to ever gain practical acceptance. This fee structure has made possible some fiscal savings, but has acted as a double-edged sword and has encouraged patient education and prevention, often not specifically included in currently established fee protocols, to become a substantially secondary concern.

This book will try to provide a working knowledge, with useful insights, in order for patients to better assume the vital responsibility of becoming active and effective participants in their optimum oral health. Some may argue that a little knowledge in the layperson can be troublesome, even dangerous, in decision making. I believe, such exclusionary thinking is inherently flawed. Familiarizing patients with genearal terminology, concepts, and options, provides a fundamental *oral-health literacy* and improves their ability to uderstand and communicate with their dentist. Furthermore, the more discerning your questions, the more complete and respectful will be your healthcare providers' responses.

Investing a little time to better understand oral disease and quality dental care, you and your family may effectively save time, pain and money, in maintaining future oral health and long-term general health.

** Federal Minimum Wage Rates, 1955–2009: www.infoplease.com/ipa/A0774473.html

Comprehensive dental patient education includes a number of central components:

1. Knowledge of proper *oral hygiene and preventive home care*.
2. Recognition of *oral-health to general-health interactions*.
3. Consideration of related *current research findings*.
4. Understanding of *nutritional-health issues*.
5. Awareness of prevailing *dental equipment and treatments*.
6. Attention on *financial and insurance options*.

The emerging realm of "managed care" has created a significant source of confusion. Managed care involves issues that go beyond basic, current "standard of care" matters (what is ordinarily expected from those reasonably well qualified). Even for good dentists everywhere, managed care vs. fee for service has had everything to do with the shades of gray arising when being ruled by two masters simultaneously. Researchers and payers for health care services have initiated methods to examine the *value* of their expenditures,[8] but outcomes measurement remains elusive for oral health care.[9-11] The intentions of managed care must balance the primary treatment priority of reaching the greatest number of people with that of providing each patient the highest quality care. Certainly also, even for the well informed, this overwhelming managed care question does not have simple answers.

The Institute of Medicine defines health care quality as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."[12] Though quantity and quality are not mutually exclusive, an empowered patient needs to become better educated so he or she can begin to balance the many existing options and hope to save money while avoiding poor decisions about personal and family health.

One could understand why managed care groups have been reluctant to publicize details on matters of care "quality." The notion of equal quality care at a reduced price would be seriously undermined if the different levels of care quality, involving proceedures, materials and technique, were made routinely available to the general public. I do not understand the dental profession's failure to make more substantial, candid and specific clarifications on many of these treatment quality matters. Individual dentists, and the profession as a whole, should better recognize the

importance of bringing such issues to clearer light. Perhaps the time required and the economic costs of better patient education have always been formidable obstacles. Avoiding a future dental- and general-healthcare crisis, make such patient education now, an economic and moral necessity.

We have all heard that controlling bacterial buildup through proper home care, with periodic dental check-ups, is the best way to preserve oral health and prolong the life of your natural teeth. Like many other forms of disease, the rational for periodic check-ups is that early dental disease detection is crucial. Patient neglect allows simple problems to continue and can result in costly, painful, time-consuming treatments. The eventual consequence of such neglect will often be tooth loss, which is avoidable. However, with the conscientious application of superior oral-dental knowledge, the realistic overall cost of any eventual periodic check-up may be appropriately curtailed, reducing your immediate expense while still minimizing other, susequent dental-treatment needs.

Beyond dental hygiene skills, the realization of the importance of your complete patient knowledge is essential toward achieving your highest level of overall oral health and, thus, optimum general health. In a very practical sense, this book is designed to give you very specific personal awareness in the field of dentistry and oral health.

While there may be a plethora of currently available books on both dental and general health, most ignore the important *interrelationship* between these two disciplines. Thoroughly understanding these very relevant links and their realistic applications can have destinct and beneficial results.

This book has a general chronology. Depending on your immediate interest, feel free to start with any section or any chapter first. Each section can subsequently be used as a specific reference guide. Occasionally, slightly more technological passages and many *weblinks* are also included, for those who desire more comprehensive analyses. In the latter part of the book, you will find several sections that discuss some of the current issues surrounding America's healthcare and healthcare delivery systems.

Individual needs may differ, so *please consult your general dentist and primary-care physician about any recommendations contained in the following pages.* Any and all the generalized information herein contained should definitely be carefully reviewed with your own health-

care professional who will be better acquainted with more specifics about your own, most current and very personal, healthcare needs.

The new and valuable information that follows should help guide you towards more cost-effective self-direction as a wiser healtcare consumer. Improving your dental-oral-health education is the key to self-motivation intelligent inquiry, and discerning decision-making, in your achievement of good, long-lasting, efficacious oral health. Broader understanding will elavate your dialogue and facilitate your right to take a more active role in your own dental/oral healthcare and that of your family.

I sincerely hope that by introducing you to some new possibilities for better oral health and quality dental care, you will fulfill your inherent potential of *a lifetime of functional teeth and gum*s, thus, promoting superior overall health and extending the quality of your longevity.

(For over twenty-five years we have had the privilege of providing state-of-the-art excellence in dentistry to thousands of patients on the Upper West Side of Manhattan. Because of our particular attention to patient education, patient comfort, fear management and an innovative patient video-viewing system we have appeared internationally on CNN News and have been featured in major national dental and consumer magazines. Also see: *www.LongevityLogic.com* and *MaxCare.us.*)

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I. A HEALTH HISTORY

Learn and Live.
Motto of the American Heart Association.

HUMAN DIET - BRIEF TIMETABLE: A strong set of teeth is nothing to sneer at. Studying squirrel-sized reptile fossils from Russia, paleontologist Robert Reitz concluded that a stout set of teeth marked a great evolutionary leap forward and may have been the key to vertebrate conquest of dry land.[1] Anthropologists postulate that an efficient dentition was no less essential to our earliest ancestors. Like many other land animals of the period, the hunter-gatherer diet of early (Paleolithic) man consisted primarily of regionally available fruits, berries, leaves, vegetables, nuts, and only occasionally eggs, fish, poultry and meat.[2] Eating primarily raw foods, early humans could not hope to survive without strong teeth. A brief review of how man's diet has evolved from the days of our hunter-gatherer ancestors through to the present day provides a better understanding of the lasting importance of a strong set of teeth for health and longevity.

Early man's hunter-gatherer diet was intermittent, based on what was available in the wild, and it required active movement from place to place by all members of the nomadic group. Though extensive information is limited, hunter-gathers were likely lean and efficient. Grains and legumes became the dietary staple approximately 10,000 years ago, when people began to settle in cities, plant crops and raise animals for food.* About 5,000 years ago an agriculture-based civilization arose along the banks of the Nile River in Egypt. Egypt flourished for over 3,000 years, longer than most other civilizations in history, and therefore much

[Photo: "Camille Ann Cooke sees her shadow"]

*Despite the many noted achievements attributed to such cereal-based societies, a curious argument has been proposed that agriculture's technological developments may have actually been a negative sociological turn in the evolution of our species. It has been proposed that agriculture's less nomadic and more territorial societies fostered war, slavery and accelerated environmental degeneration.

is known about them. The change to an agricultural diet consisted of more cooked foods and had higher levels of carbohydrates and sugars.

For the more affluent Egyptians, food supply became abundant and comparatively secure. It remained nutritional, still based on fresh, organic vegetables and fruits, low in fat, only with grains included to a greater extent than at earlier times. Agriculture, initiated a period of dental and general health "modification." Though food remained relatively unprocessed and natural, ancient Egyptians were *not* known for good health. Their mummies show extensive obesity and other modern diseases.

In 1962, geneticist James Neel proposed the existence of a thrifty gene to explain why desert-farming Pima Indians in Arizona had 69% obesity and the highest rate of Type 2 diabetes worldwide. Pima Indians in Mexico, eating a diet similar to the diet of their ancestors and still doing hard physical labor, remain healthy. Thrifty genes refer to a greater ability to store fat.** Thrifty genes seem to have been a genetic adaptation that provided fuel during lean times when food sources were scarce.

Neel further theorized early benefits of such thrifty genes in surviving cycles of feast and famine experienced by the Pimas and their early ancestors, dating back two thousand years. The cultural shift to agriculture and its associated increases in population has often lacked the flexibility of the nomadic hunter-gatherers also allowing widespread famines to occurr, even into more recent times. Like hunter-gatherers, many such agriculture-based peoples did not experience perpetual abundance, until recent times, at least in the developed world. Institutional medicine has continually advanced and life expectancy has also continued to increase, thus , altering the character of human disease.

The genetics of obesity has been widely postulated and extended to the more general, worldwide population. Because modern industrialization has made high-carbohydrate and fatty foods available all year long, a thrifty gene is no longer useful. Such an early genetic advantage can now become harmful, as stored fat, originally used during scarcity and famine, is now simply retained. Much less active lifestyles further

**Singly or in combination, many genes are good candidates for "thrifty genes." One in particular, Lipin, has bee dubbed "the fat gene."These genes regulate various hormonal fluctuations that are involved in glucose storage, breakdown and synthesis of fat cells, metabolic rates and body temperature, and genes regulating appetite and energy expenditure at the central nervous system level.

***In evolution science, the more complex a species, the *slower* its genetic adaptation to environmental changes. Also see: British research from the University of Oxford and the Peninsula Medical Center in Exeter on the "FTO gene."

predispose the population to obesity. Because humans are complex organisms, our genetics can only play slow catch up.*** That genetic predisposition toward fat retention, once so advantageous to life, now predisposes our current population to greater health risks.

Along with genetics and sedentary life-styles, obesity is now recognized as also having many interrelated triggers, some well beyond psychological and emotional.† Our recent past has seen particular increases in processed food, often with use of dyes, chemicals and excess fats; It is widely accepted that "poor," conventionally regimented eating habits and certain aspects of modern, refined diets, further, contributed to the obesity problem.†† Much of our food may now also require extended storage and transportation *before* reaching consumers. These developments tend to increase the use of preservatives and antibiotics and, more importantly, can also result in reduction of natural, nutritional content (see: "The 100 Mile Diet" by A. Smith and J.B. Mac Kinnon; also see cookbooks from Alice Waters, founder of Chez Panisse.)

Organic and/or fresher produce may remain generally available. But, for a working family of four, with a 2010 median national household income of $46,326 (dual earner households have a higher median income of $67,348)[3], such produce can become unaffordable or can often be time-preparation prohibitive. Facing a current *healthcare crisis in America*, even those who may not deal with obesity personally, will pay some price for those who do, in our rising overall medical costs, lost productivity, and perpetuation of many other societal ills.

A relationship between diet, oral health, and nutrition has now been well docmented. Many of us may be aware that an increased consumption of highly processed, fried, fatty, salty and over-cooked foods have been linked to obesity, arteriosclerosis (hardening of the arteries), hypertension (high blood-pressure), diabetes, and even cancer and Alzheimer's disease. However, an Academy of General Dentistry (AGD) study of baby boomers, ages 45 to 64, revealed they were unaware that certain oral disease symptoms are linked to serious, generalized disease and illness elsewhere in our bodies. *How our oral health and teeth affect our general-health, and contribute to many of our most serous diseases is, only recently, becoming better understood.*

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†Henig Marantz R. Fat factors. Microbesity? (on infectobesity) NYT Magazine (published) 08/13/06.

††Halweil R. Eat This, on Diet, Longevity and Nutrition (published) 12/98.

CURRENT PERSPECTIVES:

Globally, extensive research demonstrates that malnutrition causes extremely serious reductions in the body's ability to fight infections.[4] The full nutritional impact of oral health and a good dentition on overall health and well-being has also, recently been extensively documented.

The first step in the absorption of nutrients begins with an adequate ability to chew.* The condition of your teeth determines your ability to chew and thus directly impacts what kinds of foods you are capable of chewing. Saliva contains special enzymes that begin the digestion process from the moment food enters the mouth. Patients who suffer from dry mouth are more likely to be undernourished.[5] A study at the Harvard School of Dental Medicine and Public Health found that people who required full or even partial dentures following tooth loss tended to prefer more processed and over-cooked foods. The greater number of teeth lost, the more significant was the less nutritious food preference. The Harvard researchers also suggested that people with extensive tooth loss are unable to enjoy a complete variety of foods and thus continued their "hunger reflex" and ate more, trying to satisfy for a loss of "taste and fulfillment."

A person who is obese or overweight is not necessarily over-nourished; rather, he or she is likely to be undernourished. I also believe that any actual decreased nutritional absorption, often resulting from a reduced chewing ability may be central to sustaining the "hunger reflex." It is this *nutritional hunger,* to satisfy actual cellular needs, that may continue to drive an increased food consumption. If your body doesn't get the nutrients it needs from the food you eat, it calls for more nutrition. Your brain then translates this need as hunger. Obesity research is also continuing on the genetic factors in the hunger-reflex, as well as on the possible correlations between viral- and microbial-facilitated nutrient absorption and the propensity towards weight gain.

Much of the food available for quickly satiating hunger is not nutritious and the relief it provides is therefore short-lived. Still needing nutrients, your body soon calls out for more food intake. This is also why high-quality food- and vitamin-supplements may sometimes effectively assist

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*As far back as the late 1800's, nutritionist Horace Fletcher (1849-1919) popularized the practice of chewing ones food thoroughly (~20 times) for better digestion. For years, chewing many times was known as "fletcherizing."