

## **A Good Death for a Good Life**

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Ana Maria Fund 2003 Research Competition Winner

The objective of the research is to investigate and provide new insight in some aspect of economic considerations in end of life decisions

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### **Is Health a Flow or a Stock?**

The late visionary economist Kenneth Boulding (The Economics of the Coming Spaceship Economy) once profoundly asked whether human welfare is a flow or stock. Specifically, he wondered whether eating itself is a good thing, or is it being well fed. Similarly, we can wonder whether staying alive with constant medication is a good thing, or is it being in good health with little or no medical assistance?

The answer to the second question may seem obvious. But it is really not. William Nordhaus (The Health of Nations) claimed that the value of longer life expectancy is about as large as the value of all other consumption goods and services put together over the last century. If the longer life expectancy is a result of mass vaccination, lower infant mortality, cleaner water, healthier diets, and better sanitation, then we are talking about inexpensive stock maintenance. We can all agree that this was a good thing. Indeed, 25 of the 30-year gain in U.S. life expectancy since 1900 are attributable to advances in public health (MMWR 1999). But much of the remaining five-year gain in life expectancy was the result of our medical ability to turn once fatal acute illnesses into chronic diseases requiring high medical maintenance (Bunker et al 1994). Moreover, such high maintenance for chronic diseases has often diverted scarce medical resources from the deteriorating public health infrastructure. It is hard to agree that keeping alive with constant medical intervention is an unmixed blessing.

But the mass-media obsession with health as being a flow game is unmistakable. It celebrates each new medical discovery that promises to turn acute illnesses into chronic diseases requiring expensive maintenance. It marvels at every medical success in preserving genes that promise to reproduce more chronic diseases.

The pharmaceutical companies are absolutely preoccupied with health care as a flow game. They are not interested in vaccine developments that could eliminate flow maintenance of deadly diseases. Instead, billions are spent on turning acute illnesses into chronic diseases and finding drugs that could sustain chronic diseases.

It is this preoccupation with treating health care as a flow game that has exploded our health care budget. If more health-care spending is equated with increase in welfare, then society would have maximum welfare when every able body is engaged in the health care industry as well as being a customer of its products.

In this single-minded quest to sustain chronic diseases, we have forgotten a simple rule to gauge the standard of living of an economy. We used to think that the smaller the household budget that is spent on food, the higher the standard of living is. What is not spent on food could then be spent on discretionary non-food items with higher marginal utility. Similarly, the smaller the share of labor force engaged in raising food, the more developed a country is. What labor that is not spent on producing food can then be diverted to non-farming pursuit of higher marginal value. If this criterion is still valid, then it should make sense to say that the smaller the household budget that is spent on health care, the higher the standard of health is. Similarly, the smaller the share of labor force engaged in health-care industry, the better off a country is. After all, there are many other developed countries with higher or similar life expectancy that spend a much

smaller share of their GDP on health care. Are they worse off or better off than the United States?

It is true that these countries that spend a lower percentage of their GDP on health care may not be able to perform heroic treatments and keep alive some patients with chronic diseases requiring very expensive patented drugs. But the loss of life expectancy from such inadequacies has been more than made up for with lower infant mortality, better general health-care coverage, and healthier lifestyles.

### **The High Cost of Flow-centric Treatments**

Comparing marginal cost with marginal benefit of expenditure is a standard practice in any rational resource allocation. But there is an element of unreality in the marginal cost-benefit analysis in medical treatments. The advent of biotech “miracle drugs” can push up the cost per dose to thousands of dollars. For example, Zevalin, a biotech last-resort cancer treatment that uses monoclonal antibodies to attack lymphoma cells costs \$28,000 per injection with uncertain results. Fudara, a new chemotherapy drug for leukemia, cost \$400-\$750 per day per infusion. And Taxol, a treatment for breast cancer, costs \$1757 per infusion (Lagnado, 6/18/2003). In many cases, these are not one-time cures. There are expensive follow-up treatments and chances of remissions. The degree of diminishing returns of such flow-centric treatments can be gauged by the high threshold cost of \$100,000 per life-year gained that has been suggested to evaluate the cost effectiveness of drug treatments. Not many people make \$100,000 a year. But the medical community apparently thinks that it makes sense to prolong life for one year at considerably more than an average patient can make a year from gainful employment.

Expensive drugs are often used with expensive surgical and non-surgical procedures. Organ transplants, coronary bypasses, kidney dialysis are each multi-thousand dollar procedures with low survival rates. For example, kidney transplant surgery costs \$80,000 to \$120,000 and requires \$500 to \$1,200 per month in lifelong drugs to keep the recipient from rejecting the organ (Beck 2003).

And as life expectancy increases, more people are likely to succumb to age-related illnesses, such as heart disease, strokes, arthritis, and back problems. On top of these largely naturally occurring diseases, there are also life-style related diseases such as diabetes, colon cancer, high blood pressure, and obesity. Each of these illnesses requires expensive flow-centric treatments.

Thus, flow-centric medicine has increased the use of expensive treatments among more people and concentrated a disproportionately larger share of the health-care pie on fewer people. It has been estimated that 3% of the population consumes 40% of the health-care dollars (Gleckman, 8/26/2002).

### **Why Flow-centric Medical Care Is So Dominant?**

*The medical-industrial complex* - The maintenance of any stock requires constant flow. The medical-industrial complex is no exception. If all the population needs is a once-in-a-lifetime inexpensive injection, the medical-industrial complex would collapse overnight. To maintain itself and grow, it must provide more and higher profit-margin care. Turning acute illnesses into chronic diseases that require regular expensive medications is one sure way for the pharmaceutical companies to thrive. It is no secret that the U.S. medical establishment has bulked up in expensive equipment and medical specialists that must

depend on an increasing flow of expensive care to sustain itself. For example, the state of California alone has more MRI machines than the whole of Canada. Its ratio of medical specialists to general practitioners is much higher than any other country in the world. Little wonder that most doctors are in favor of doing anything medically necessary and possible for the patients regardless of costs.

*Third-party payment insurance* – But what sustains the constant flow of expensive care? If patients must individually pay for their own care, few could afford care whose costs far exceed their future capacity to repay. In other words, treatment would stop when marginal cost exceeds marginal benefit. But health insurance in the U. S. has practically prevented this law of rational resource allocation from operating. The idea of pooling resources to insure against major unexpected financial misfortunes is of course unexceptionable. But health insurance is not like other property or casualty insurance. If property or casualty insurance is like a self-replenishing pool, health insurance is more like a cancerous commons. It is like a commons because there is no concept in health insurance that is equivalent to depreciated replacement value in property and casualty insurance. Simply put, a victim with property or casualty insurance is never paid anything over the depreciated replacement value of the damaged property or the maximum coverage of the policy. As a result, premium is adjusted only when the underlying risk changes. On the other hand, a person with health insurance can routinely demand treatment that frequently costs way more than the individual's future earning capacity. And as the medical-industrial complex keeps coming up with expensive treatments for chronic diseases, these costs keep going up in tandem. In other words, the replacement value of a hopelessly ill person is assumed to be infinite or the life-time coverage cap.

*The political-judicial-media complex* – If health insurance is indeed a classic commons, excessive uses from individuals would simply destroy it. But health insurance is a commons that can encroach upon surrounding areas to stay ahead of collapsing from over-exploitation. In 1966, The U.S. spent 6% of its GDP on health care, and another 6% on education, from kindergarten on up. Today, it spends 14% on health care, and still 6% on education (Lamm, 2000). The Federal and state government have mandated an increasing number of expensive treatments in both public and private health plans. For example, renal dialysis was mandated for Medicare and Medicaid patients in 1972. The number of state-mandated benefits increased to 1,000 in 1997 from only 7 in 1965. A 1997 study prepared for the National Center for Policy Analysis, a non-profit public policy research institute in Dallas, found that the 12 most common mandates add as much as 30% to the health-insurance costs of the average family per year (Martinez, 2/21/01). If the government is slow in mandating benefits, the courts stepped in to order expensive treatments. Such frequent court orders have basically undermined the gateway role of denying cost-ineffective treatments as one of the important means for HMOs to contain health-care costs.

And if the government and courts are not forthcoming, the mass media is never far behind in presenting a sympathetic story of the seriously ill to shame the health insurers into giving in.

### **Scorched Earth Strategy**

Health-care costs for the hopelessly ill are of course not limited to third-party funding. How much individual families can afford to spend out of pocket depends on their net worth and how liquid the net worth is. The more liquid their net worth is, the harder it is

to say no to further private spending on postponing death. Here, the Federal and state governments, insurance companies and financial institutions are only too happy to help the vulnerable to cash in their illiquid life savings. For example, the Congress has passed laws to facilitate the tapping of home equity through reverse mortgages. In these mortgages, the bank sends the home owner a tax-free monthly check, instead of the other way round. Neither principal nor interest need be paid until the home owner dies and the home is sold. Reverse mortgages have been more widely offered since the Federal Housing Administration started insuring reverse mortgages against property value decline in 1988 and the Federal Home Loan Mortgage Corp. and the Federal National Mortgage Association committed to creating a secondary market in FHA loans (Weinrobe, December 8, 1988: A16).

Even death benefits from life insurance policies are not beyond reach. So called “living benefits” are increasingly available from life insurance companies that sell policy with “living benefits” riders, and from finance companies that buy the right to death benefits from the hopelessly ill for profit (Atchison, June 19, 1989: 79 and Dunn, February 19, 1990: 140). Here again, the government is encouraging such wealth liquidation. Some state insurance commissioners are writing regulations to create a sellers’ market for “living benefits” by setting minimum payments and encouraging competition (Dunn, February 19, 1990: 140).

### **Blocked Exit**

It is exactly this single-minded approach to provide endless and eventually futile treatments for chronic diseases in the United States that makes end-of-life decisions such a divisive issue. In a flow-centric health-care culture, assisted death for chronically ill patients poses a fundamental threat to the prevailing ethos. The prevailing ethos says that rational resource allocation rule should not be applicable to life-and-death issue. We can junk a clunker if it costs more to maintain it in working condition than to replace it with a newer one. But we should never assist a hopelessly ill patient who is “crazy” enough to forego futile treatments, especially if the purpose is to conserve scarce resources and avoid pain and sufferings. To them, this slippery slope is too dangerous to contemplate. Once assisted death is legalized, what is to prevent it from applying it to cases where the hopelessly ill patients do not volunteer to die?

### **Assisted Death as a Safety Valve**

It is increasingly obvious that unless health-care spending is treated like any other spending, health-care spending will threaten to eat up the whole GDP. Already, it threatens to lionize the federal and state government budgets. And if this run-away train is going to be stopped, assisted death for the hopelessly ill must be legalized because it is an indispensable safety valve in a rational health-care system.

To make assisted death politically acceptable, it is frequently promoted as a way to achieve patient autonomy by reducing needless pain and sufferings. The counter-argument of the opposition is that aggressive palliative care can reduce pain and sufferings to tolerable level. In other words, opponents to assisted death think that more flow to prop up a deteriorating stock is the best answer. In this as in other political battles, each side tries to avoid the most fundamental economic issue. Namely, there are diminishing returns in any spending. A point will eventually be reached when any further

spending would yield no net marginal benefit. And this is true no matter who is paying the bill.

When that point is reached, further spending should be stopped and assisted death should be offered as a gracious exit. If assisted death is not allowed as a safety valve, the system would explode when treatment is denied.

### **Compensated Assisted Death**

Given the current health insurance system, however, simply offering assisted death would not reduce overall health-care spending. Whatever resources that are saved by those who volunteer to die earlier would simply be diverted to more futile treatments for those who should have chosen, but refuse to choose, assisted death. If the saved resources in the form of foregone treatments are not to be so wasted, part of them should be given to the voluntary early exiters as death benefits (Fung, 1993). Such compensated earlier exits would benefit both the exiters' beneficiaries and reduce the resource demand on the health-care system.

Compensated earlier exits may sound like a convoluted way to reduce wasteful health-care expenditures. But it is the only way that asymmetric incentives of current health insurance can be redressed. Under the current system, terminal patients have no incentives to forego expensive but ineffective treatments. If terminal patients could convert projected expenditures on futile treatments and other entitlements into death benefits by choosing assisted death, then the incentives would be symmetric. If death could be voluntarily chosen and confer benefits to the still living, the sense of tragedy from death could be balanced by intergenerational bonding.

### **Unrealized Potential Saving**

Although there is formidable opposition to legalizing assisted death, it is not clear how many hopelessly ill patients would volunteer to die even if assisted death is perfectly legal. One Oregon study claims that even in a state where assisted death is legal, twice as many hopelessly ill patients actually chose starvation than assisted death to end their lives (Associated Press 7/24/2003). In the 4 years of the study, only 55 terminally ill patients chose physician-assisted death in Oregon. Similarly, a Lancet study of 6 European countries shows that physician-assisted deaths represent less than 3% of all deaths even where they are legalized (van der Heide 2003).

Whether more volunteers will be forthcoming when assisted death is nationally legalized remains to be seen. What is not in doubt is that a disproportionate share of health-care resources has been devoted to end-of-life treatments. 25% of U.S. health-care spending is expended in the last year of life. That's roughly twice the level of spending in comparable countries (LeConey). This concentration of resources to postpone death is more pronounced in the older age groups. For example, it was estimated 25-35% of Medicare expenditures in any given year was spent on only 5-6% of those enrollees who would die within that year (Callahan, 1987: 130).

If only 60% of these end-of-life medical expenditures were saved and 60% of these savings were converted into death benefits for the volunteers, 9% ( $25\% * 0.6 * 0.6 = 9\%$ ) of the end-of-life medical expenditures could be devoted to medical or non-medical expenditures with higher marginal returns. But what could we do if even compensating volunteers would not produce enough volunteers?

### **Decentralizing Tragic Choice**

The alternative to endless futile and expensive treatments must be blocked. But who is going to set treatment limits? The third-party payers, whether taxpayer or privately funded, have certainly not been very successful in denying treatments. The reason why they have not been very successful is that their decisions are too visible and centralized. Centralized decisions on life-and-death issues heighten the sense of tragedy because the conflicts between the ethical principles of utilitarianism and compassion are highly visible and explicit. For example, most people would be resigned to an aggregate tragic outcome if it were a result of impersonal interactions of individual decisions. But if the same outcome were a result of a centralized decision, most people would be repelled by it (Calabresi & Bobbitt, 1978). In health-care financing where decisions on how to spend the pooled premiums are made by central administrators, this insight for avoiding a sense of tragedy is ignored. As a result, a denial of funding for life-and-death treatments engenders a profound sense of tragedy. Also, centralized decision makers are easy targets for political and legal challenges.

If the same total health-dollar budget were decentralized to the hands of health consumers who must independently decide on whether to fund specific life-and-death cases, their decisions wouldn't be easily subject to political and legal challenges.

### **Setting Treatment Limits through Health Unions**

The decentralized health dollars still have to be pooled to fund catastrophic illnesses. But the pooling agencies would be responsible for only recruiting willing contributors from the same pool for specific cases and has no independent power to reallocate the raised fund for other purposes. This separation of the fund-pooling from the fund-allocating functions serves both to limit the endless enlargement of the health-dollar budget and make treatment limits defensible. Because funding decisions had been decentralized to individual contributors, special interests for new causes would have to dilute their lobbying efforts among the many contributors to the individual risk-sharing pools. And when increasing total funding to the national pool could no longer guarantee increased funding to the new causes, the pressure to increase funding to the pool would be reduced. Such a reduction of lobbying pressure in turn makes it possible to tie the cap of the national health-dollar budget to the GDP. The absolute size of the health budget will grow, but no faster than the growth rate of the GDP.

Without loss of generality, let us assume the national budget for health care from all sources were divided equally among all U. S. residents who then decided what treatments they wanted to fund. With an equal amount of health dollars, health consumers can pool their risks by joining health unions (Fung, 1998). Health unions are fund-raising organizations for members with similar treatment philosophy. There could be as many health unions as there are enough critical masses around different treatment philosophies. Unlike health insurers who collect premiums up front, health unions simply channel funds raised from the healthy to the medically needy members on a case-by-case basis.

To guide members to choose wisely, health unions publish consumer reports on the cost effectiveness of current and new medical treatments. Under the veil of ignorance, individual health consumers who do not know in advance what diseases they might have would have much less difficulty in arriving at a tradeoff between the long and complex factors involved in measuring cost-effectiveness of various treatments and comparing interpersonal health utility. Individual consumers making the tradeoffs also do not have

to worry about setting irreversible precedents. They can change their mind about future trade-offs depending on changing circumstances.

To ensure that members of the health unions would not simply sit on their health budgets, two-thirds of their budgets must be set aside for risk pooling. The other one-third is reserved as their personal health budget to be spent on health care of their choice. Members could access the restricted pooling fund only in response to funding appeals and if their own needs for treatments exceed their annual personal health budget. Union officials will cast a proxy vote for those members according to their stated treatment preferences if no responses are received from the members by the specified fund appeal deadline. Members needing fatal help but who could not raise enough funds will receive no less than their net contributions to other members in the past. Health unions whose members do not believe in rational treatment limits will go bankrupt and would not be able to fund even cost-effective treatments.

Treatment limits based on equal health-dollar budget and decentralized choices are both fair and unchallengeable. And with the alternative to endless futile and expensive treatments effectively blocked, the alternative of assisted death would become very appealing.

#### **Resisting the Urge to Treat**

However, several studies (e.g., SUPPORT 1995) have found that in spite of advanced directives to the contrary, many terminal patients are routinely administered CPR or other expensive treatments in hospitals. Hospitals will continue to disregard patient wishes unless they are made to absorb the cost of the unauthorized treatments. Health unions could require their members to file mandatory advanced directives and refuse to raise funds to reimburse the cost of any unauthorized treatments. Hospitals that want to do business with health unions could be made to agree not to collect from members' personal fortunes for such unauthorized treatments unless members have specifically waived their rights not to be billed. Wealthy individuals who want to avail themselves of endless treatments could, of course, pay for such expenses out of their own pockets.

#### **The Duty to Die?**

However much we can do to make it easier to die voluntarily, the initiative must ultimately come from the hopelessly ill. Modern medical advances and third party payment system might have contributed to dragging out death in a lot of cases, but it remains true that a lot more hopelessly ill just refuse to give up. Society can deny financial assistance to such selfish behavior, but their refusal to quit gracefully must be confronted ethically. Many opponents to assisted death are concerned that a right to die might become a duty to die. Indeed, unless the general population has internalized a sense of duty to die to avoid being a burden to society and their loved ones, no external encouragement or discouragement can really solve the problem of expensive death.

#### **The Brave New World of Assisted Death**

The "miracle" of modern medicine and third-party-payment health insurance have for too long lulled us into thinking that all deaths should be indefinitely postponed at all costs. As a culture, we associate immortality as a physical existence residing in a material body no matter how wasted the body actually is. We customarily say an era associated with the accomplishments of a celebrity has ended when the celebrity passes away when in fact that era has long ended when that celebrity has stopped producing. We eulogize a person



at funeral not so much for the benefit of the deceased as to be defensive about his/her death.

With assisted death, one can choose the most appropriate time and appropriate way to die and the most appropriate way to pass on one's remaining wealth (Fung 1993). Every assisted death would no longer be a personal defeat but instead could be a magnanimous gesture for the continued economic and genetic good of one's community. One's immortality thus depends not only how well one lives one's life but also how well one dies one's death.

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