Medicare Myths and Realities: A Précis

The Telmarc Group, White Paper No 71 Revised

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1 INTRODUCTION

This document is a revision of a paper written in mid-2009 as a draft working paper on the issue of Medicare costs. Recently there has been a great deal of interest in the costs of Medicare and the assumptions herein have been revisited. Specifically Lois Matelan has indicated that an assumption that was made regarding expected lifetimes was in error and we have subsequently addressed that issue herein[1].

1.1 THE ISSUE AND SUMMARY

The issue which this paper addresses is the assertion that most if not all Medicare beneficiaries receive more than what they contributed. This seems to be predicated upon a report by the Urban Institute and reiterated by journalists of the kind like David Brooks of the NY Times and also republican contenders like Ron Paul. We look at this issue in more detail herein. However we propose a methodology commonly accepted in such circumstances called the net present value, NPV, model[2]. Namely we look at cash flows, discount them, and then compare contributions and disbursements or benefits at a single point in time, in our case at retirement at 65.

The model we use is somewhat simple:

1. We assume a starting salary in 1970 and then we escalate that by a percentage, generally well below inflation. That then yields an ending salary in 2009 when we assume retirement.

2. We assume a Medicare contribution percent of 3% of gross salary. We have not reached any limits with the proposed salaries.

3. We then look at the current annual Medicare costs and we grow them first with inflation and then we add a health care inflation in excess of the core inflation. Thus if we see 2% inflation and we add 3% health care above it the total is 5%.

4. We assume a lifetime of 18 years for someone at 65. We then calculate the NPV for the benefits or distributions from Medicare at age 65.

5. We then compare NPV of contributions and NPV of benefits versus salaries and health care inflation.

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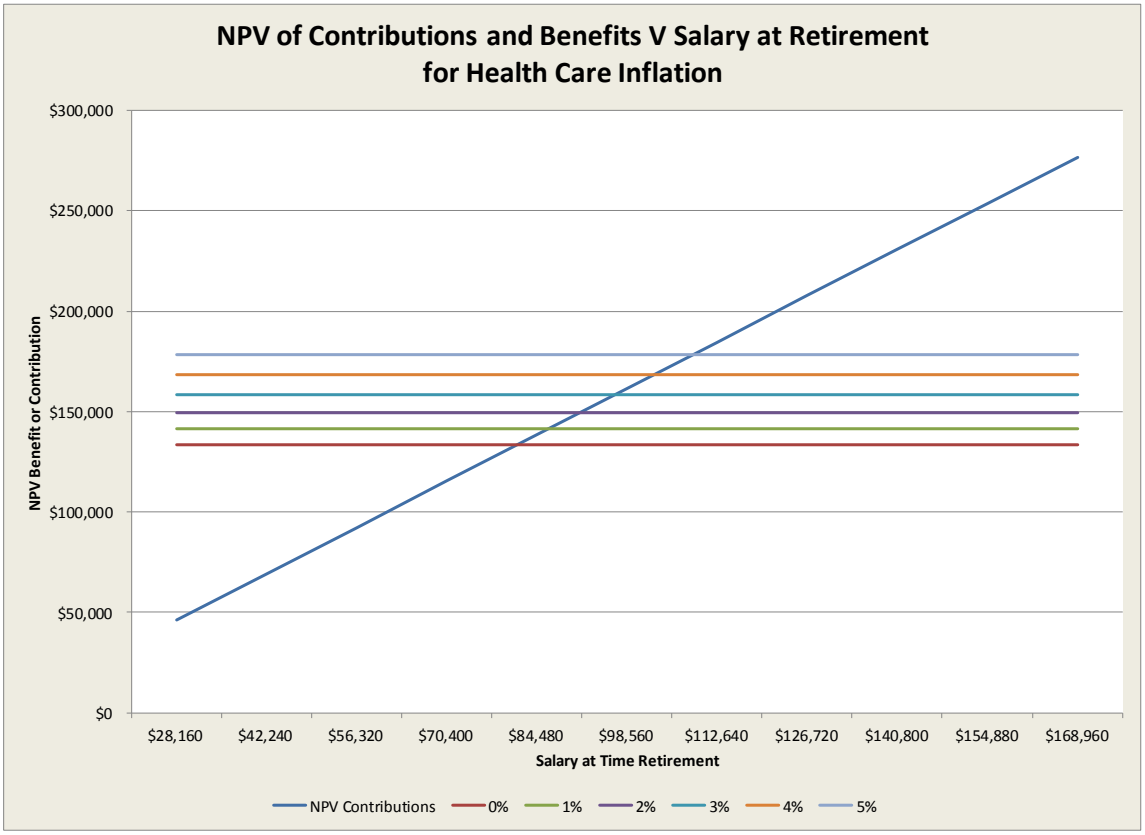
[1] Ms. Matelan in a correspondence to the author indicated that the assumption of a life span from 65 is really 18 years and not the 12 we had used. We agree but there are other factors that may mitigate against the negatives of expanding the life span. We address them herein. We want to thank Ms. Matelan for her many and fine comments and they represent a useful input for this revisions are solely mine and do not reflect those of any other person.

[2] See Koller et al, Valuation, Wiley, 2005 or McGarty, Business Plans, Wiley, 1989. NPV is the accepted methodology for determining values in most legal disputes especially those in Federal Courts.

We show this summary below in the graph. Note that as the salary increases there are point at which the contributions exceed the benefits. At no excess health care inflation it is at about $83,000 and at 5% excess health care inflation it is at about $112,000. Thus unlike the general statement that Medicare is an excess benefit, it is that only for those of lower incomes.



Now when one looks at salary distributions we see that over 40% of people are paying in excess of their disbursements. That means that less than 60% are receiving benefits. In fact the people whose contributions have exceeded their disbursements are in many ways covering those who are not. Thus, the bold claim that Medicare beneficiaries are having a free ride must and should be clarified. Some do have a benefit and many provide a benefit to that group.

It should also be noted that this analysis considers the analysis at a high level but it does go, I believe, much deeper than the Urban Institute. Much finer and detailed analyses may reveal even more critical observations.

1.2 THE ISSUE AND OTHERS

Since this document was initially prepared there have been other such documents presented which make claims which we differ with. A recent study by the Urban Institute

written by C. Eugene Steuerle and Stephanie Rennane, January 2011, entitled Social Security and Medicare Taxes and Benefits Over a Lifetime, states in its conclusion that a single wage earner family where the wage earner earns $43,100 at 65 and retiring in 2010 will get $343,000 in Medicare benefits. That seems to imply that both will get the benefits totaling that amount. They also contend that the total Medicare taxes paid were $79,000 so that the benefit will exceed the contribution. We would not disagree with that conclusion but we will disagree with the analysis of the approach as we did two years ago. The assumption of a single wage earner at 65 making some $43,100 means that they are near the bottom of all wage earners and the analysis fails to consider the distribution of all wage earners. In our analysis we use a spread of wage earners and consider the analysis for a much broader group.

David Brooks of the NY Times states[3]:

Second, we can't let the oldsters get off scot-free. As my colleague David Leonhardt reported in The Times, two 56-years-olds with average earnings will pay about $140,000 in dedicated Medicare taxes over their lifetimes. They will receive about $430,000 in benefits. This is an immoral imposition on future generations. The Ryan budget wouldn't touch this generation, but a bipartisan budget deal should ask middle-class and affluent boomers to make a sacrifice for their country. Slow the growth in health care benefits now and dedicate that money to paying down the debt and investing in the young.

For 2010 the Urban report states benefits of $343,000 and contributions of $109,000 for a couple each retiring in 2010 and each making $43,100. Again we argue that the income is low and the analysis has flaws. We examine them herein.

Our approach simply is as follows:

1. We look at the age of 65 and then look backwards on all contributions and we assume that they had been invested in some reasonable riskless vehicle generating an interest rate which is compounded. We then calculate the net present value, NPV, at 65 of that stream of contributions.

2. We then look forward at Medicare costs. We use the existing costs per Medicare participant and increase them by a medical inflation rate and then find the corresponding NPV at age 65.

3. We then compare the NPV of contributions and the NPV of outward flows and the difference between outward flows and contributions is the excess Medicare benefit. That approach, we feel, is consistent with methodologies commonly employed in such situations and is making a comparison on an equitable basis.

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3 http://www.nytimes.com/2011/04/08/opinion/08brooks.html?_r=1&scp=3&sq=brooks%20medicare%20ryan&st=Search

4. We then look at the sensitivity of the gap, defined as NPV of benefits less NPV of contributions, as a function of salary, inflation, and health care inflation in excess of core inflation.

The key concerns we have with the Urban Institute report is their use of the minimal income per person and per couple as well as their apparent lack of NPV methodology. The other concerns are more actuarial in nature. For example there are people contributing who are deceased before they get a benefit. That is the nature of an insurance plan. There are people who contribute well in excess of their benefits and some who fall below.

Thus our concern is that such blanket statements need significant qualification which is lacking in the journalists who have opined on this issue.

1.3 METHODOLOGICAL SUMMARY

There were many assumptions but I think this is worth addressing. Let me re-articulate what I said or should have said in the original version of this report in 2009.

1. I assumed that the average lifetime of a Medicare beneficiary was 12 more years. This is from the CDC data base. Actually it is 18 years if one reaches 65. I was told the added 6 years was a flaw and indeed it is an error in fact.

2. However, here it gets complicated, there were many Medicare contributors who paid into the system but who died before getting benefits. Should we recognize those contributions? The answer is yes; it is like an insurance plan. But they never benefit. Yet the money must be recognized. So even though the duration is longer the total imputable contributions are greater. Approximately 10% of those paying in are dead by 65[4]. Thus we have about a 7% increase in putative contributions which should be added to the survivors. We will ignore that at this stage but it must be kept ultimately to perform a correct analysis.

3. Does the added 6 years in survival make a difference to my initial analysis? Again, it depends. We discounted future payments by some cost of capital. But they must also be inflated by medical costs inflation. Here it gets sticky. If say the discount factor is 5% from year 13 thru year 18, then this neglected period is an additional 20% to the total NPV at 65. Following me folks? Now if at 65 we had obtained $140,000 and now we have $168,000 but we contributed $174,000 then we still hold water. But wait... If medical care inflation exceed the return on invested capital, then it explodes! However .... one could invest in a portfolio of health care companies and hedge the bet ... We show that it makes a small difference as we stated above which for the argument we believe is not material. The point still is as follows: Urban used low ball numbers for income and showed a benefit for a family. They also did not discount the payment cash flows as should be required. We contend that such an analysis has a fatal flaw doing it that way.

[4] http://www.pbgc.gov/prac/interest/erisa/erisa-section-4044-mortality-tables.html#2011

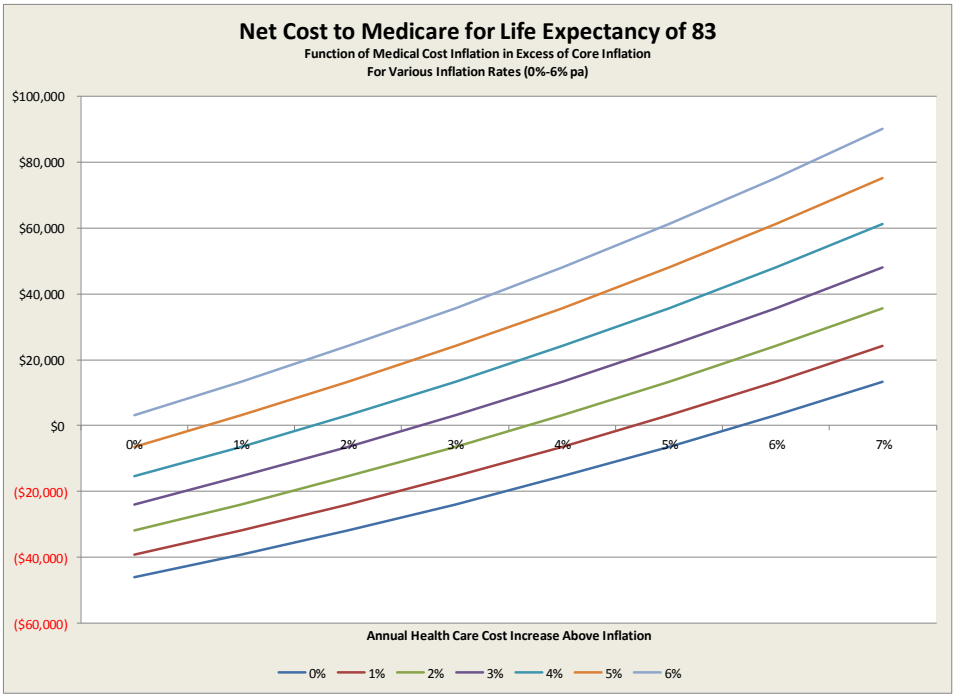
4. My analysis was different from the one critiqued since they assumed a single income family who made $45,000 by age 65 which is just above poverty[5]. My argument was that one should still look at the average not the lowest. Still feel that is correct. Yet the real method should be to consider a real distribution of incomes and weight them. Also one must add in the contributions of those who did not survive to 65 but who contributed. This is somewhat difficult as are all allocation algorithms. This is why I used the average lifetime and not the average lifetime given one had reached 65. This was a plug for the lost revenue from those who did not survive.

5. Then there is the issue of race and sex. Blacks have lower survival and women live longer than men. I did not look into this detail. For example white women have been paid less than men but live longer and benefit more. So ... I really cannot comment but it is a fact ... that is why it is insurance.

So bottom line, was 12 years wrong, yes in a specific manner, no in a general sense. Was the conclusion in error; yes in an exact science manner given the way the problem may have been defined but no when one considers the orders of magnitude of difference when including the data.

However, the main time bomb in all of this is the issue of the inflation in health care. If that exceeds economic growth the system is doomed. Yet that assumes the past is prologue to the future and unchangeable. If we look at the changes in health care we can see clear signs that it is possible to reduce costs thru genetic approaches. However. the costs of life style diseases such as type 2 diabetes, most often driven by obesity, will soon smother the system. That is the challenge, it is a challenge of the present, and has yet to be voiced except by the current President's spouse who went bravely to the front. Should we tell people what to eat, yes if we are forced to collectively pay for the consequences, no if they agree never to charge us for their costs. It is just a matter of dollars and sense! The analysis is shown below.

[5] http://aspe.hhs.gov/poverty/11poverty.shtml See this for poverty level. For a family of 2 it is $14,710 in 2011.



As expected it is really not that different. Let me explain:

1. I assumed a typical lower middle class worker with a reasonable job. Starting work in 1970 with $16,000 pa but never really going anywhere so I gave him a 6% p.a. raise. Remember that is thru Carters 18% inflation period.

2. I assumed 3% Medicare tax as was the law.

3. I assumed the payment was invested at 6% during this period. Not too bad.

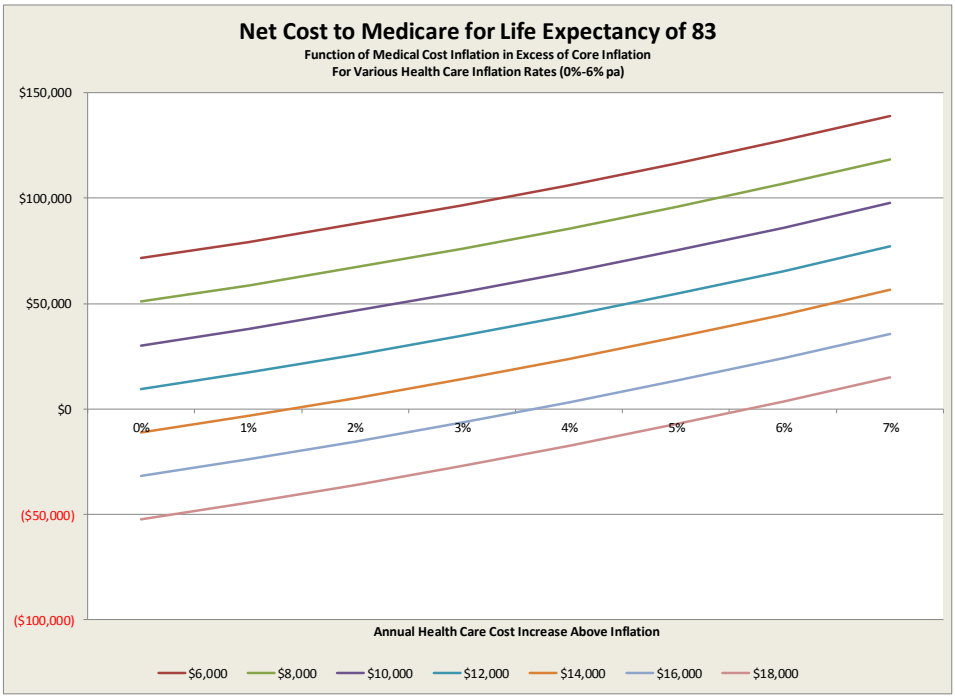
4. I assumed that the person retires at 65 and lives 18 years. Simple but still skews the real actuarial result. So they live to 83.

5. Assume inflation and Medical care costs rise. I have parameterized the data accordingly.

6. Then I plotted at age 65 the difference between the NPV of Medicare Benefits and Medicare Contributions. The net is the "excess Medicare benefit". Worst case it is $100,000 only if health costs exceed inflation by a factor of 2! Not the several hundreds of thousands that others complain about making no assumptions about such costs.

My argument regarding Medicare I believe still stands. The Brooks et al argument assumes a two family household where the age 65 income in the bottom 30 percentile. I assume for my analysis a lower middle class individual. Can we adjust this across all of the society, yes, just lots of work but I believe the conclusion will not change much. I have also tried to parameterize the results on income as well.

Now I have also parameterized this versus starting salary to give an idea as to the benefit.



Note that for the very poor, starting at $6,000 p.a. in 1970 and receiving marginal raises and with medical inflation 7% in excess of core inflation we can generate an individual benefit of almost $150,000! That is possible but it is for an extreme segment of the population not on average! One can always take an extreme number and spin it without making the necessary qualifications. The problem here is that it is indeed complicated, and requires some analyses across several cases. We do that herein to gain fuller insight.

1.4 SOME BASIC FACTS

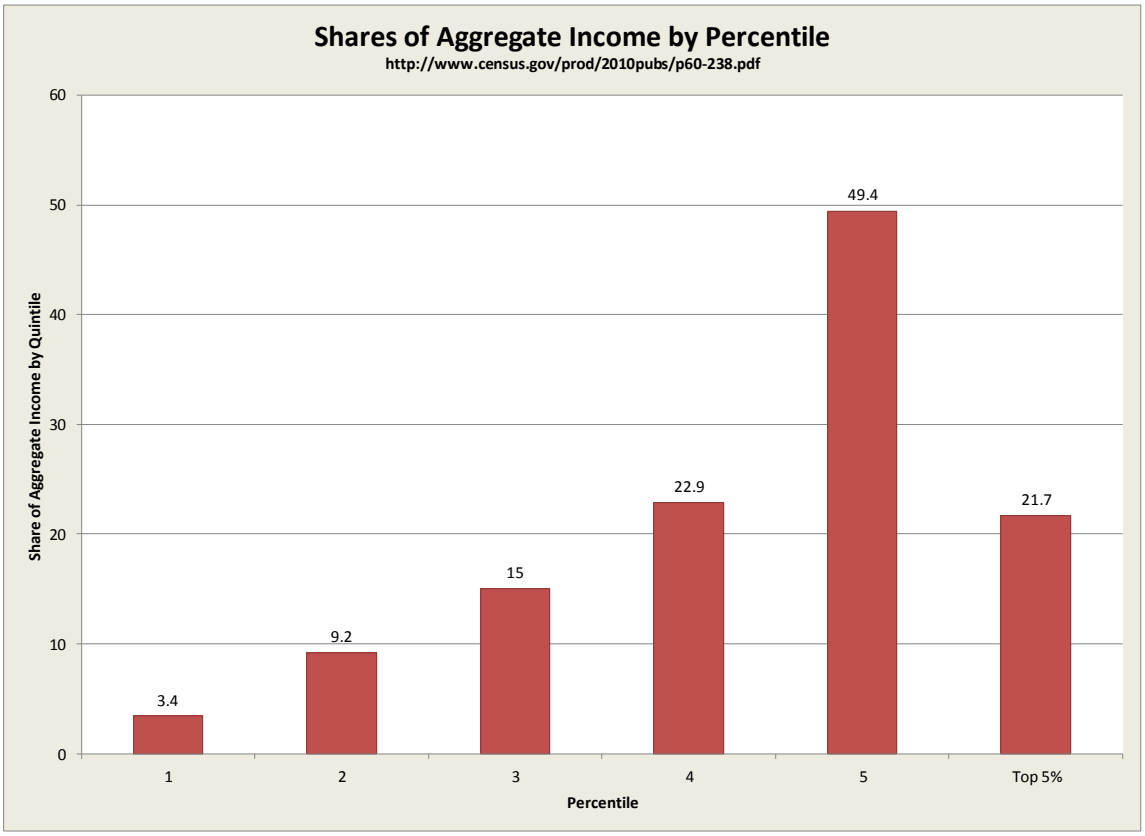
The median income for those between 55-65 in 2009 was $56,973[6]. This is the median. The aggregate income is about $4 trillion[7]. Specifically that report states:

*The **aggregate income of nearly 21 million US households now considered affluent was $3.6 trillion in 2006, and it's expected to grow more than 27% over the next four years, reaching $4.6 trillion in 2011**, according to "The Affluent Market in the US," a new report from Packaged Facts. Affluent households account for only 18% of all households but they now control nearly half of aggregate US household income, according to the study. The super-affluent segment of the market - 2 million households with an income of $250,000 or more - wields even more leverage. Super-affluent Americans account for*

[6] http://www.census.gov/prod/2010pubs/p60-238.pdf See Table 1.

[7] http://www.marketingcharts.com/topics/demographics/us-affluent-household-aggregate-income-to-reach-46-trillion-in-2011-388/

only 1.2% of households but generate 12% of household income. Their average annual household income is $435,000,



If we use the aggregate income and distribute it according to the census data we obtain the table below.

Shares of Aggregate Income by Percentile	*Percent*	*Employed (000,000)*	*Total Income (000,000)*	*Average Income per Employee*	*Average Income per HH*
1	3.4	28.00	$374,000	$13,357	$15,847
2	9.2	28.00	$1,012,000	$36,143	$42,881
3	15	28.00	$1,650,000	$58,929	$69,915
4	22.9	28.00	$2,519,000	$89,964	$106,737
5	49.4	28.00	$5,434,000	$194,071	$230,254
Top 5%	21.7	7.00	$2,387,000	$341,000	$404,576

The problem we have with this information is it is not definite for those 65 and retiring. It is averaged across the entire population.

From the Census we also obtain the following[8]:

[8] http://www.census.gov/hhes/www/income/data/historical/inequality/index.html

2009	Lowest fifth	Second fifth	Third fifth	Fourth fifth	Highest fifth
Income per HH	$15,289	$37,045	$59,907	$90,962	$189,486
Total Income	$359,407,696	$870,839,042	$1,408,269,793	$2,138,298,311	$4,454,361,094

For a total aggregate income of close to $10T.

From the Medicare Trustee Report we have:

Year	Medicare Income	Medicare Expenditures
1970	$8.20	$7.50
1975	$17.70	$16.30
1980	$37.00	$36.80
1985	$76.50	$72.30
1990	$126.30	$111.00
1995	$175.30	$184.20
2000	$257.10	$221.80
2001	$273.30	$244.80
2002	$284.80	$265.70
2003	$291.60	$280.80
2004	$317.70	$308.90
2005	$357.50	$336.40
2006	$437.00	$408.30
2007	$462.10	$431.70
2008	$480.80	$468.10
2009	$508.21	$509.00
2010	$486.01	$522.80

Thus the gross receipts for Medicare in 2010 were $486B. However each enrollee must pay $1,200 per year for Part B and assuming 45 Million enrollees this amounts to about $50B from this source and thus we have $436B from income which means a total income of $14.53 T.

Now if we assume an aggregate income of affluent HH of $4.6 T on the 21 M such HH discussed above and assume a Medicare tax of 3% then we should be getting in 2011 about $138B from that base alone. For a total income of $10T from census data we obtain $300B[9]. From the Trustee report we calculate an aggregate income of $14.53 T, comparable to the GDP.

The main point that we are making is that in order to accurately analyze Medicare it is essential to understand the details of the income distribution. It must be understood that Medicare was an insurance plan wherein the insurance rate was scaled to income not fixed. Indeed if poor people are sick then they benefit from the plan disproportionately to

[9] One must be careful on the 3% Medicare tax since there has been a maximum but it is an increasing maximum. Since we have not the detail as to the income and maximum data we have erred on the high side.

those of higher incomes. In fact those of higher incomes actually are excess payers into the plan as it is now. The more one makes the more one must contribute to the plan.

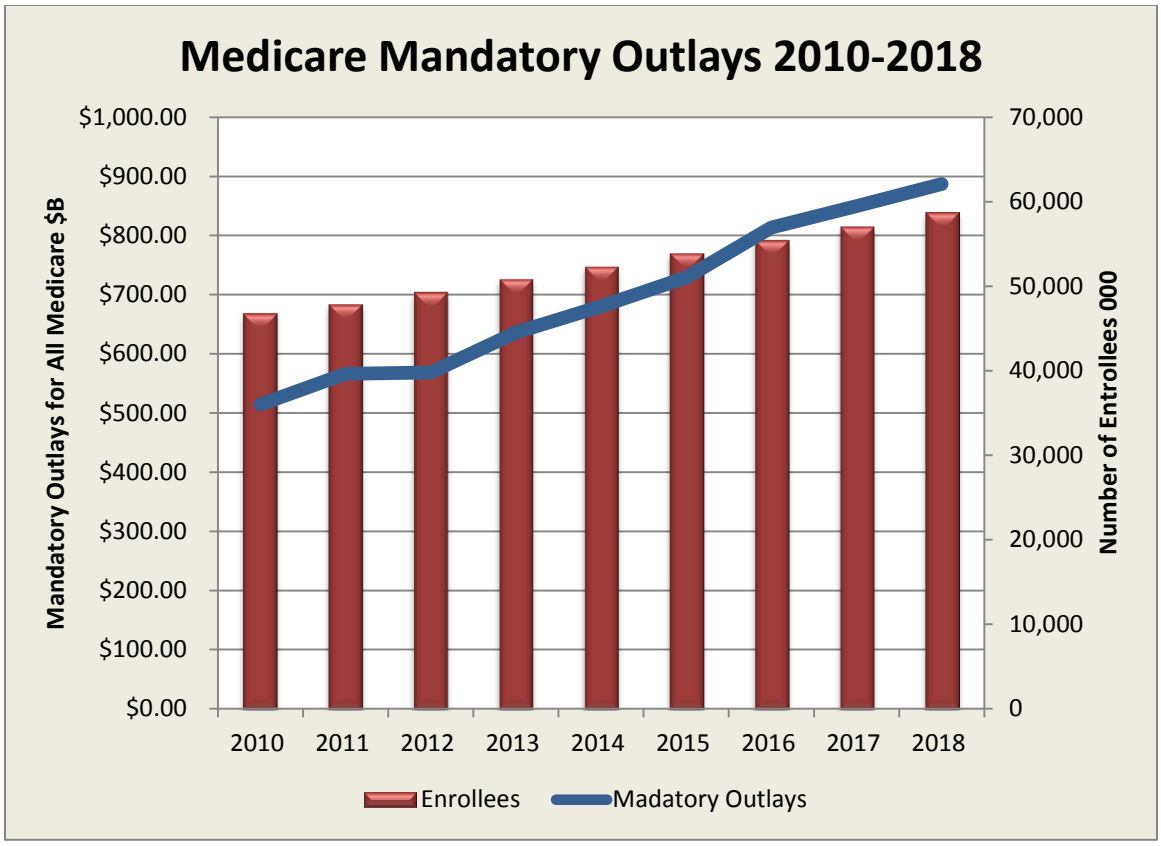
1.5 MEDICARE AND THE ISSUES

Medicare has become the whipping boy in the discussions concerning health care. There are a massive amount of myths about Medicare that have been spread abut, from the Administration, Congress, as well as in the Media. This Note addresses several key issues and attempts to clarify them and thus place Medicare in a better light. People have made such statements as "Medicare takes up 70% of the health care costs" or "Medicare is too expensive" or "Medicare is unfunded".

There is the perception amongst many that Medicare is some form of Government handout, when in reality the majority of Medicare recipients have contributed almost two time what they ever will receive in benefits from the system. Medicare has in reality become like Social Security, a system for Congress to rob the piggy bank and use the funds taken from the future recipients and use them in ways that all too often benefit the lawmakers alone.

The current President has recently specifically argued that the main problem in cost control in health care is Medicare and that the proposed legislation before Congress would cut $500 billion from Medicare expenditures and that this would have a significant impact on health care cost control, one assumes and hopes that such a cut is over time. We strongly disagree based upon a plethora of facts and we further will argue that the focus on Medicare is a distraction which takes the attention away from problems which are exploding on the tail ends of the cost curves.

To examine one aspect of the cost issue with regards to Medicare we first examine some general characteristics of Medicare. The following charts depicts the Government's projection for Medicare over the period considered by the current Legislation in Congress:



Now all one has to do is look at the Mandatory Outlays and see that they start at about $500 Billion in 2010 and grow the growing population to about $900 B in 2018. By cutting $500 B from this total, one assumes this is a cut of about 7%. If that is correct then the result is not drastic.

The problem with healthcare is not Medicare, however, it is life style diseases which are exploding in the younger population which demand chronic and costly care. We detail these results herein.

The commentators on these efforts, both left and right, appear to have no understanding of the facts. A recent writing by Martin Feldstein in the Wall Street Journal states[10]:

"One reason the Obama administration is prepared to use rationing to limit health care is to rein in the government's exploding health-care budget. Government now pays for nearly half of all health care in the U.S., primarily through the Medicare and Medicaid programs. The White House predicts that the aging of the population and the current trend in health-care spending per beneficiary would cause government outlays for Medicare and Medicaid to rise to 15% of GDP by 2040 from 6% now."

[10] See: http://online.wsj.com/article/SB10001424052970204683204574358233780260914.html

The fact is that in 2009 the total health care exceeds $2.5 Trillion and the Medicare costs are $450 B, and adding Medicaid, another $200B, that is hardly half. It is $650B of $2.5 T which in my calculation is 25%! It is the false writings of people like this which give rise also to bad judgment.

Thus there is a morass of factual errors abounding in the debate on health care and further, as we have argued before, there is a mindset that looks at the past and projects it forward. It fails to look at what is changing in the delivery of health care.

In this Report we focus on what can be changed today as well as what will be changeable using the currently developing technology and techniques. The objective is to show in one simple Table what the impact of a few simple steps can have on the delivery of quality care.

2 AN EXAMPLE OF THE CURRENT MINDSET

The opinions which are running rampant as regards to cost control in health care are now running to the extremes. We briefly look at a recent article which details several of these extreme proposals. George D. Lundberg, MD, is former Editor in Chief of Medscape, eMedicine, and the Journal of the American Medical Association and is a highly respected physician[11]. In a recent article he makes several proposals to reduce health care costs. These proposals give an example of how extreme the arguments have become.

Lundberg suggests:

"*1. Intensive medical therapy should be substituted for coronary artery bypass grafting (currently around 500,000 procedures annually) for many patients with established coronary artery disease, saving many billions of dollars annually....2. The same for invasive angioplasty and stenting (currently around 1,000,000 procedures per year) saving tens of billions of dollars annually*."

Yes it would save billions but at what human cost. He is suggesting pharmaceutical treatment rather than surgical. However with 90% blockage or more there is no evidence that drugs will do anything. This is strange since the body of medical evidence is overwhelming that surgery and stents do have beneficial results. The question is the classic $/QALY result but even there we have a positive result.

He continues:

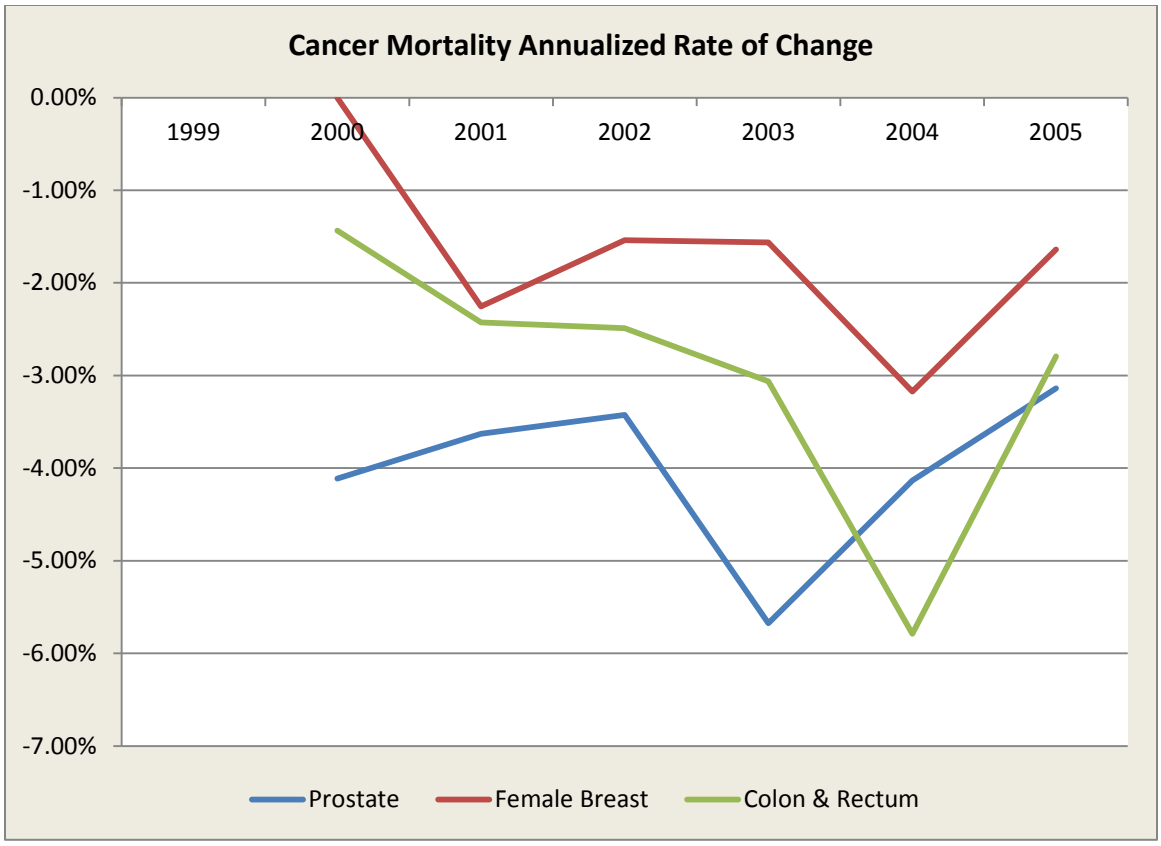
"3. Most non-indicated PSA screening for prostate cancer should be stopped. Radical surgery as the usual treatment for most prostate cancers should cease since it causes more harm than good. Billions saved here....

This is patently false as has been demonstrated in the recent literature. Screening has dramatically reduced the death from prostate cancer. It is now declining at the rate of

4. Screening mammography in women under 50 who have no clinical indication should be stopped and for those over 50 sharply curtailed, since it now seems to lead to at least as much harm as good. More billions saved."

The evidence on breast cancer is also overwhelming positive as regards to screening as well. We show in the Figure below that the mortality for the three major screenable cancers have an annual rate of decrease which has been consistent over the past decade.

[11] See http://www.thehealthcareblog.com/the_health_care_blog/2009/08/how-to-rein-in-medical-costs-right-now.html



To look at this even more, one need just search either JAMA or NEJM and one needs go no deeper into the specialty journals. There is a prostate cancer debate which really should be a debate on the genetic makeup of the specific type of prostate cancer. "Watchful waiting" works on those indolent forms but regrettably we do not have adequate genetic markers readily available. In fact PSA screening is a great way to accumulate the data. He continues:

"*5. CAT scans and MRIs are impressive art forms and can be useful clinically. However, their use is unnecessary much of the time to guide correct therapeutic decisions. Such expensive diagnostic tests should not be paid for on a case by case basis but grouped along with other diagnostic tests, by some capitated or packaged method that is use-neutral. More billions saved...6. We must stop paying huge sums to clinical oncologists and their institutions for administering chemotherapeutic false hope, along with real suffering from adverse effects, to patients with widespread metastatic cancer. More billions saved*."

Yes on the imaging he may have a point. In the old days the physician could determine what ligament was at fault by just examining the motion of the limb and at the other extreme one could do an ultra sound on an ovary before the MRI and CAT of the abdomen. However to distinguish between a block or bleed stroke there is no other way, you need a CAT. As to chemotherapy, take taxol and breast cancer, it does work, take the childhood leukemias, they are cured now whereas thirty years ago the child died. So I am amazed as to this out of hand dismissal of chemotherapy. Yes it is problematic with many

cancers, such as melanoma, but there is clinical evidence of where it works and where it does not.

Finally he says:

"*7. Death, which comes to us all, should be as dignified and free from pain and suffering as possible. We should stop paying physicians and institutions to prolong dying with false hope, bravado, and intensive therapy which only adds to their profit margin. Such behavior is almost unthinkable and yet is commonplace. More billions saved."*

One could not agree more. The classic phrase spoken by a dying patient is something like, "It's time to go now..." and the patient all too often knows that the end is near. Managing pain, managing and respecting dignity, they are all critical. The past blog on advance care planning speaks to that issue. Yet as we have stated there the issue is all too often a cultural and family issue, less the patient qua patient.

Dr. Lundberg is so respected a physician and is such a figure of prominence in the Medical profession that it is a question why he made these remarks. As one would typically ask, what is the basis for your statement, and also at what cost; human and financial? Yet what he is saying is reflected in the political debate as well.

Before commencing on the details of the list it is first necessary to details some of the facts on Medicare. The current President and commentators on both the left and the right have been targeting Medicare. In this section we present a simple summary of the facts. Simply:

1. Medicare just does not cost that much relative to other costs.

2. Medicare recipients in many cases have contributed more in payment to the system than what they will receive from the system. Thus Medicare is NOT something that the current taxpayers are paying for, it was already paid for.

3. The Press and commentators, both left and right, fail to deal with many of the facts. They attack Medicare as the problem. The real problem is NOT Medicare but in many cases it is the diseases due to life style choices such as Type 2 Diabetes which is primarily due to obesity. The problem with many of these lifestyle diseases is that they are chronic, such a kidney failure, heart disease, such diseases which we can now keep the patient alive, but at great costs. Those costs then just explode when they enter Medicare. We have argued that Medicare can be better controlled by controlling the life style diseases.

3 BASIC MEDICARE NUMBERS

The debate on Medicare has all too often been done without regard for the underlying numbers. It does not take a great deal of analysis to begin to see that there truly is no problem. Let us begin with a few numbers regarding Medicare and the totality of health care costs. We use 2008 as a base year and round up all health care costs to $2.5 trillion.

Metric	(2008)
Total Pop (000)	304,000
Medicare PoP (000)	45,221
Total Costs $000,000.000	$2,500
Medicare Costs $000,000,000	$454
Percent Medicare PoP	14.9%
Percent Medicare Costs	18.2%
$ per Medicare	$10,046
$ per Others	$7,905
Lifetime Non Medicare	$513,838
Lifetime Medicare	$120,555

Now we can make some critical observations:

1. The Medicare patient costs on average $10,046 per year and since they live on average at most 12 years their total burden, with 2008 care levels, is $120,555.

2. In contrast, the non Medicare patient costs $7,905 per year and has a total burden until Medicare kicks in of $513, 838. This is five times the Medicare burden.

3. 15% of the population is on Medicare and 18% of the health care costs go to Medicare. Considering that Medicare patients are much older, by definition, this is not an unreasonable spread. These numbers are a far cry from the touted 70% of health care going to Medicare. Also considering that the Medicare patient ultimately dies, a fact of nature, and that with such a pool the costs of dying are included and non-consequential, it is amazing that Medicare even spends so little.

4. 40 million of the people who should have insurance do not, so as a back of the envelope calculation they cost about $320 billion per year, whereas Medicare costs $454 billion. However the Medicare patient has, for the most part, contributed to Medicare but the uninsured has made no contribution. In fact it is reasonable to assume that this pool of uninsured, due to desire or inability, may very well be more costly than Medicare. They are the ones with morbid obesity and they are the ones driving up the health care costs per GDP and they are the ones hanging around in a chronic state of health. If choices should and must be made let us look there as well if not first perhaps. We truly need the wisdom of a Jonathan Swift to make things clear.

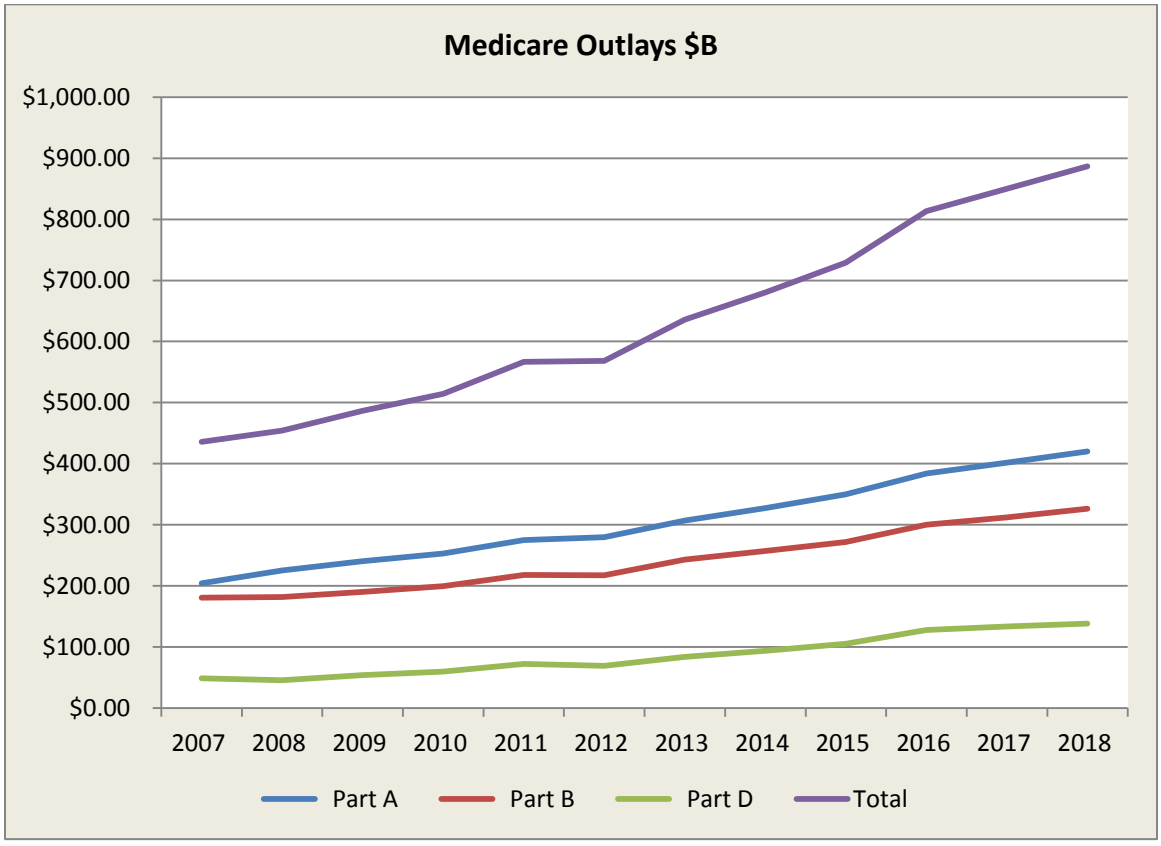
On the basic principle of fairness and equity, the person who contributed should receive before the person who has not. It is not at all clear if Congress and the Press have the slightest insight into the facts.

4 COSTS OF MEDICARE

We now address the question of the financial viability of Medicare and the contributions made by the Medicare recipients to the fund. Again it is critical to remember that Medicare as Social Security is an insurance plan which has been contributory for most. That means that for the most part the typical employed or self employed person has made 45 years or more of contributions to their own Medicare fund. It is not something that taxpayers are paying for, it has already been paid for. The recipient has paid for it.

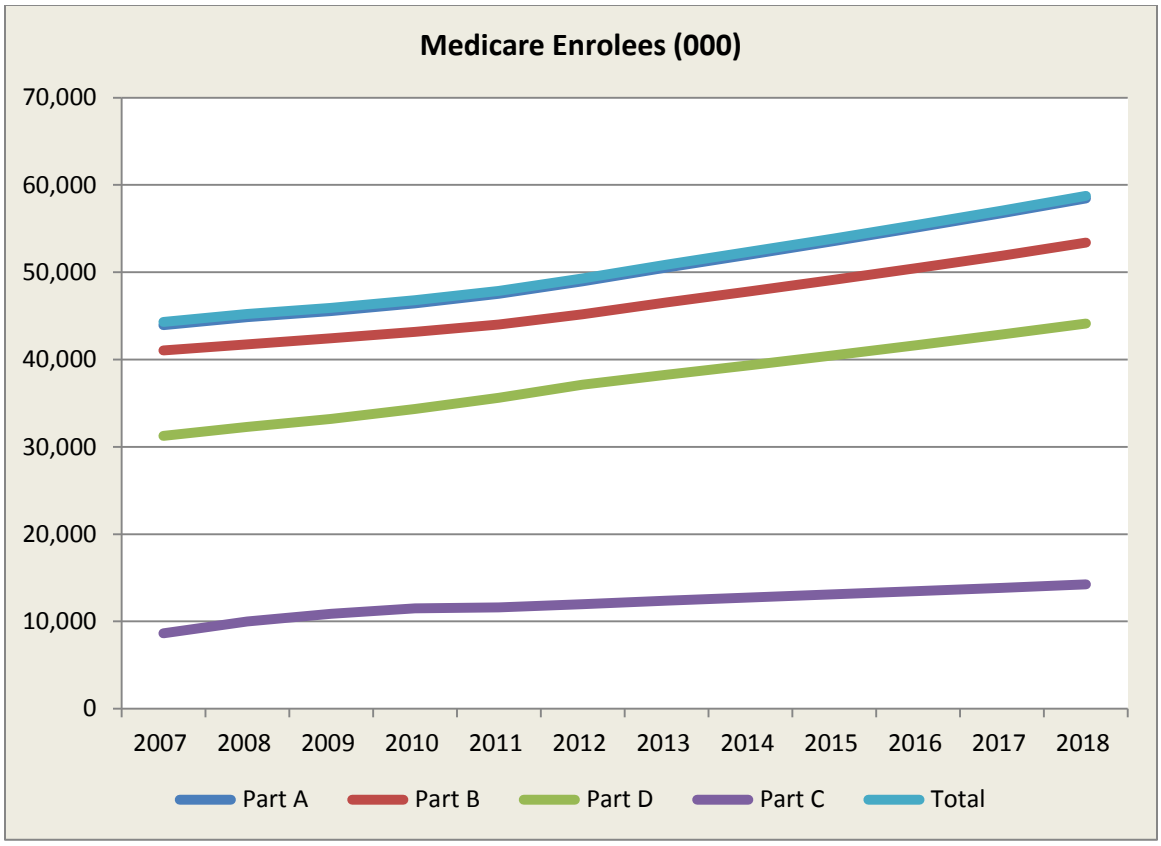
To explore this issue we first look at some of the details regarding Medicare funding. We first present the CBO estimated costs, then the HHS estimates of participants and finally the cost participant per year.

The CBO Cost Estimates are presented below. We show Parts A,B and D as well as the total. The growth in the total is substantial over the period to 2018 dominated by the inflow of the Baby Boomers.

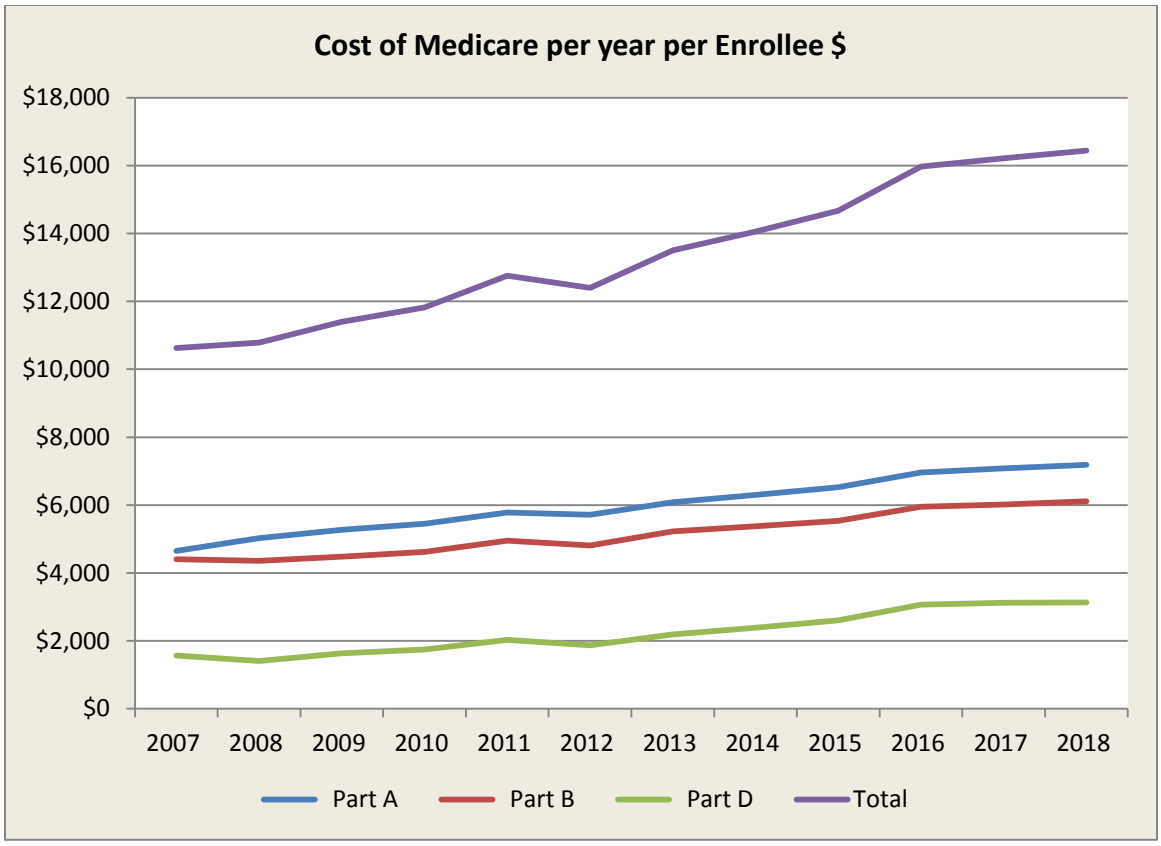


The total participants are presented below. These are the Baby Boomers referred to above. One should remember that the enrollment starts at 65 and that the average life span for a male is about 75 and a female 79. Thus there will be a dominance of females receiving benefits even if many had not contributed as much as the males, although that is

shifting as the younger group of working females is included. What that means is as we approach 2018 the females will have contributed equal to the males so the "free rider" status which may have been attributed before is no longer the case. All Medicare participants will have contributed as we have discussed before.



The cost per participant calculated from the above two is presented below. Given our previous analyses and the above comments regarding contributing participants, we see that the expenditures for the period thru 2018 are still less than the contributions from participants!



We thus argue that the Medicare participants will have contributed substantially in excess of their withdrawals by 2018 and that the excess has been spent by the Government rather than being used as specified. In addition we assumed in our earlier calculation a 20 year life for males and females post 65 and we know that it is substantially lower, only 10 for males and 14 for females. This makes the contribution excess even greater. This clear cold fact must become an element in the debate, and not a victim.

5 MEDICARE ENROLLEE PAYMENTS

We now look at where the Medicare money has come from. Simply it has come from the participant and enrollees. They have contributed all of their lives to both Medicare as well as Social Security. It is now worthwhile to perform a simple calculation on how much a Medicare Enrollee has actually contributed to the system. We know what the enrollee will get from the system and then comparing the two we can see what equity deficit there may be.

One of the major points of confusion is looking at the costs on a per enrollee basis or on a per HH basis. We find this a difficult choice because of the complexities of a HH. If the wife is younger than the husband by some degree then the Medicare is really a single person, as is the case for a wife older than the husband. This matter is one of complexity in the analysis. Thus we will attempt to focus the analysis on individuals and not on HH.

5.1 A SIMPLE MODEL

Let us make several realistic and simple assumptions.

1. Assume an enrollee starts employment in 1970 making a salary $16,000 per year. This is a reasonable salary for a professional at that time. We will look at this number later and modify it accordingly. We have performed sensitivity analyses on this issue and it will show that some will have benefitted more than others.

2. Assume that salaries increase at 5% per year and that the average annual interest rate or return on investment was 6%. Namely the economy from 1970 to 2005 grew along with inflation at 6%. This means that as his salary grew the contributions were collected and prudently invested as one would do with any future annuity fund. Clearly this increase has not applied during the past three years. Yet in the 1970s and 1980s this type of increase was less than inflation.

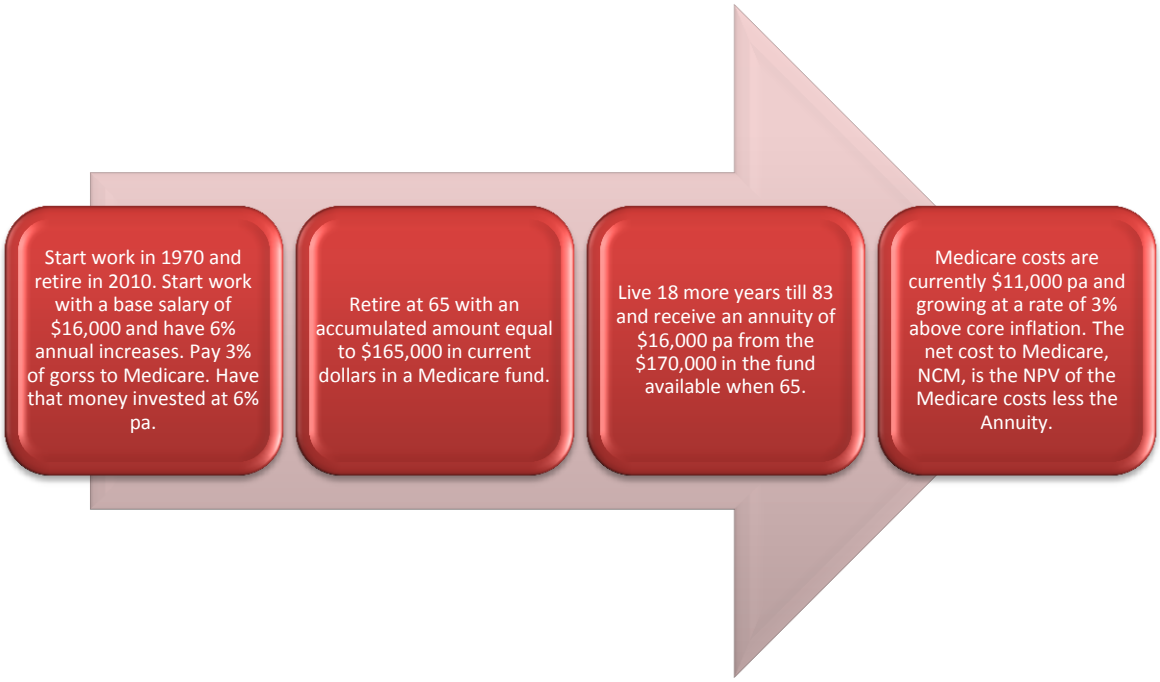
3. Assume that, per the law, the employee contributed his 3% of his gross salary to the Medicare fund, which was the law starting in 1965. He contributed directly 1.5% and his employer contributed 1.5%.

4. Assume that the person retires at the end of 2010 at the age of 65. He has statistically 18 years to live.

5. Using a simple calculation we see that in 2010 he has accumulated about $166,000 in his Medicare fund which can now pay out for the next 12 years.

6. Now assume we take the $166,000 and invest it in a similar fund to payout over 12 years we find the annual payout would be $20,000 per year.

7. However, his Medicare costs are only $11,000 per year so that he should also get an additional check of $9,000 per year! That does not happen!



We show the summary details of this model below. The fact also is that this simple model scales, namely we can cut the starting salary in half, to $8,000 per year in 1970 and we still have paid for Medicare!

Below we plot the following:

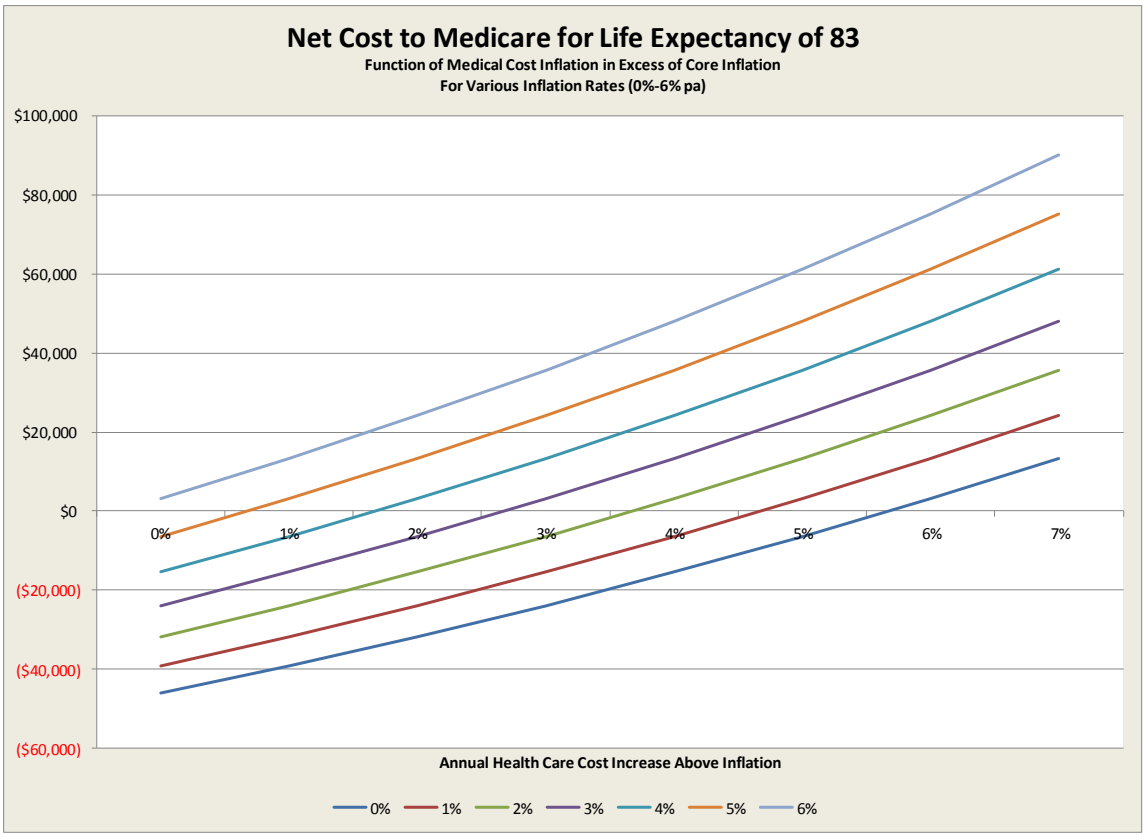
NPV(Obligations forward in Medicare)- NPV(Contributions in past at retirement)

= Net Cost to Medicare (NCM)

This means that if the NCM is negative that the subscriber has donated more than they will receive. If positive then the subscriber gets a benefit. Sort of reminds people of a derivative! Saw them lately!

5.2 THE ADVANTAGE OF MEDICARE

We now take this simple example we have developed and calculate the NCM for our hypothetical employee. We show this below.

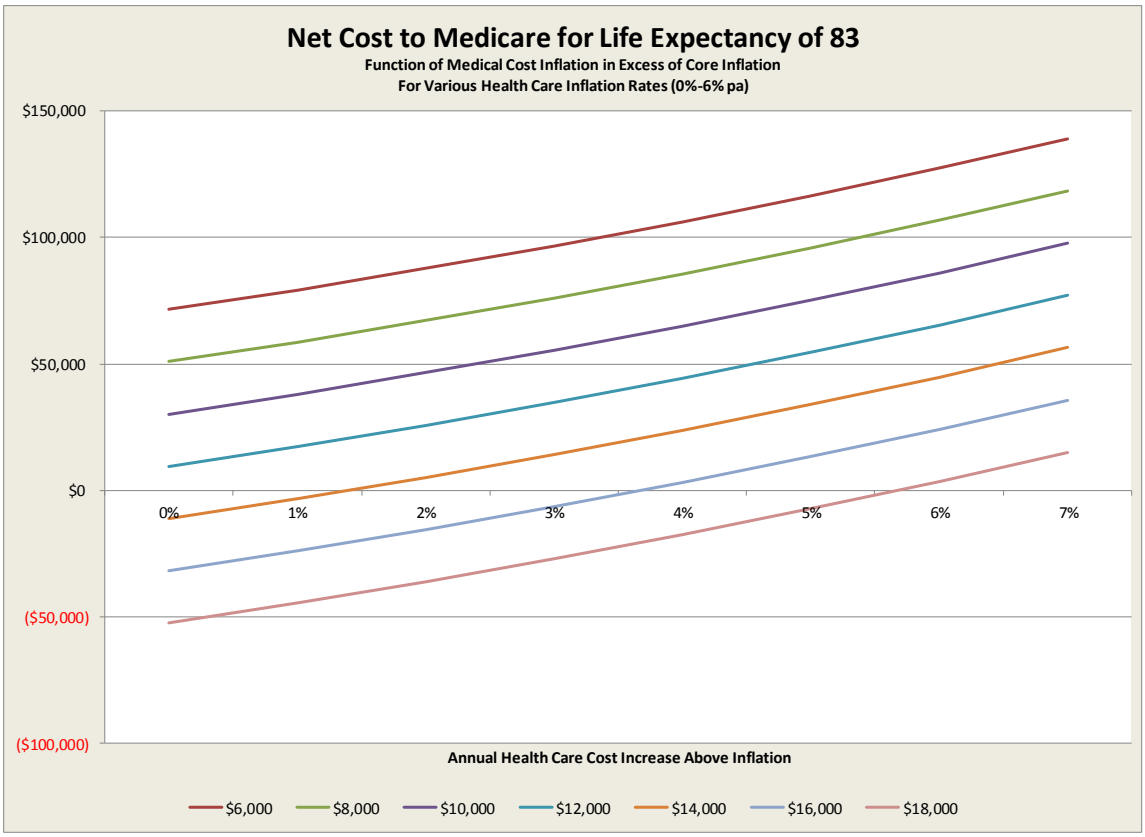


This is a rather powerful chart. It belies all the "facts" that those who maliciously attack Medicare present. Let us look at a person who works for 40 years. The typical American. This person goes to college and then starts work in 1970 at $16,000 per year and gets annual raises at 5% per annum. This is NOT some corporate executive and NOT some uneducated worker. It is in many ways the typical American. The engineer, the school teacher, the salesperson, the person on the GM factory line, the police officer and the like. They contribute 3% of their gross to Medicare. We assume it is saved and invested at say 6% per annum by the Government, a real bad assumption.

Then at 65 we add all of the savings up and we get a total of $165,143 in a lump sum amount. We take that amount and put it in an annuity. Now we assume that this person lives another 18 years and we ask what is the payout per year that this person gets from this annuity. It is about $15,000, well in excess of their personal cost of an insurance plan even at the rate of today's private plans. Furthermore it is substantially less than any Medicare benefits for a while. We then assume that the person enters into an agreement with Medicare to hand over his annuity for Medicare coverage. Is this a good deal? It all depends. If Medicare can control costs they may do well.

5.3 THE PROBLEM WITH MEDICARE

Now we examine what happens as salary drops. We show the NCM below:



This is where problems begin to be seen. For people at $6,000 p.a. in 1970 and slow income growth, they make well less than $40,000 by retirement, they benefit greatly when the health care inflation is well above core inflation. Here we show that only for a few with initial incomes above $14,000 and low health care inflation do we have a negative value. For a low wage earner and high health care inflation we see that they benefit with an NPV of over $100,000 in that case. Thus we can characterize those who benefit as those who have had low wages all their career and in an environment where health care costs escalate well above core inflation.

We can present this in another fashion, namely the salary at entry to Medicare. We do this in the Table below:

Starting Salary 1970	$6,000	$8,000	$10,000	$12,000	$14,000	$16,000	$18,000
Ending Salary 2010	$42,240	$56,320	$70,400	$84,480	$98,560	$112,640	$126,720

Note that the ending salary of $42,240 which was used in the Urban study is at the low end. Yes we agree that poor people are subsidized.

5.4 THE MEDICARE ISSUES

Thus what is the problem with Medicare and how can it be fixed. This simple back-of the-envelope calculation, which can be performed by any high school student seems to be missed by the economic brains in the current Administration. Any VC, any entrepreneur, any banker, could do this calculation. Also the Medicare recipient pays an additional amount into the fund on an annual basis and the Medicare payments typically cover at most 60% of the actual costs, thus leaving a substantial amount to be paid by the Medicare recipient.

The conclusions of this simple calculation are as follows:

1. The Medicare recipients who work a lifetime often get much less than what they contribute. This is especially the case for those who have been moderately successful in their life. They often pay in more than they receive.

2. Health care inflation is the most significant factor in assessing the overall risk. When we look at the sensitivity of the analysis we see that even small increases can cause the system to explode. The question is why? The answer we believe is the excess of life style diseases incurred before an enrollee enters Medicare. That is obesity, alcohol, smoking and the like. They contribute great amounts to chronic disease which we can now treat but at great costs. In a perverse manner the advantage of lung cancer is that medicine can do little and the patient dies quickly. The problem with other life style diseases like those resulting from obesity is that medicine can now keep the patient alive indefinitely. Yet at an enormous cost to the taxpayer. Perhaps those costs should be recouped up front.

3. Those who run Medicare are often taking actions which actually tend to drive costs up. Let me give an example from a recent patient. The individual has a family history of Type 2 Diabetes but has managed to keep his weight down, exercises, eats well, but there is a blood sugar problem. To ensure it is controlled, he tests his blood sugar twice a day and religiously records it. He has done this for ten years until Medicare arrives. Then Medicare tells him he cannot do this unless he is on insulin and his secondary insurer follows Medicare mandates, denies him further coverage, and will not even allow the patient to pay for the blood sugar monitoring tabs himself. The patient must go to a Pharmacy and pay out of his pocket at three times what he could get it for from his plan. This is Medicare. Someone doing something so as not to cost the taxpayer is penalized! Only the Government would do this.

One must ask why those who represent the elderly, such as AARP, would even allow such a plan to continue.

6 THE PRESS AND ITS STATEMENTS

We have discussed the Brooks discussion earlier. We continue here with some older discussions because they still have merit in understanding how some in the Press think.

In recent NY Times articles there were two op-ed pieces on Medicare. One from their erstwhile conservative voice, Douthat, and one from an author of a book, Dooling. We focus on these two articles, Douthat vs Dooling, because they occurred back to back in the NY Times and because they allegedly represent opposing views of health care and the ensuing debate.

Let me begin by stating two facts:

(i) Medicare is an entitlement because the people entitled to it have already paid for it

(ii)The Dominant Costs in Health care are from Lifestyle Disease States and these are incurred before commencing Medicare and are not in any way compensated for.

We now want to demonstrate the validity of these facts which are either rejected by the above authors or ignored because they somehow like so many in the Press fail to examine the facts.

Fact 1: Medicare is an entitlement because the people entitled to it paid for it. As we have shown, the average worker in the US puts 65% more into Medicare than they will ever get out! Where does the money go, well Congress takes it and spends it. Medicare funding is NOT the problem, Congress is! On average a Medicare beneficiary lives 12 years and costs $12,000 per year. Then they die!

Yet as Douthat states:

"*In this future, somebody will need to stand for the principle that Medicare can't pay every bill and bless every procedure. Somebody will need to defend the younger generation's promise (and its pocketbooks). Somebody will need to say "no" to retirees...That's supposed to be the Republicans' job. They should stick to doing it*."

It appears as if Douthat wants Republicans then to "Kill Grandma!" as the phrase goes. One should inform Mr. Douthat that the Medicare recipient just wants some portion of their contribution back! The Medicare recipient is not even demanding all of their money, just a fraction. Yet one could also look at Mr. Douthat and see that his BMI, his girth, is rapidly increasing and that he may very well be a burden to the health care system with the threat of Type 2 Diabetes taking its toll. The recipients of Medicare may be taxed again to support Mr. Douthat's life style choices.

On the left side of the Times spectrum, well more likely in their center, a Mr. Dooling states:

"*With so much evidence of wasteful and even harmful treatment, shouldn't we instantly cut some of the money spent on exorbitant intensive-care medicine for dying, elderly people and redirect it to pediatricians and obstetricians offering preventive care for children and mothers? Sadly, we are very far from this goal. A cynic would argue that this can't happen because children can't vote (even if their parents can), whereas members of AARP and the American Medical Association not only vote but can also hire lobbyists to keep the money flowing*."

Again, for Mr. Dooling, it is not his money but it was the money of the patient getting the care. I agree with the principles of advance directives and I have seen all too frequently the death of a loved one from a debilitating disease, cancer, and the like, and one recognizes that reasonable care is required.

You cannot "save" a person with multiple brain mets from a malignant melanoma, or a colon cancer patient with massive ascites from the met to the liver or a prostate patient with hundreds of bone mets. You can hopefully minimize their pain and treat them with the dignity of a human being.

The question is what basis does Dooling have for the massive amount of "exorbitant intensive care". As I look at the data and examine the processes the evidence for such explosive costs of the elderly are not there.

Fact 2. The Dominant Costs in Health care are from Lifestyle Disease States

Lifestyle Diseases is the euphemism that the Press uses for those younger folks who smoke, engage in risky practices such as drugs, and are overweight and obese. It has been estimated that the costs of Type 2 Diabetes, caused primarily by obesity, is now $275 B per year and growing at 4-6% per annum. Cancer incidence is declining at 4% per annum and cancer mortality at 5% per annum. Thus the costly diseases of the old are declining while the highly costly diseases of the young are rapidly increasing. The burden on the health care system over the next twenty years will be from these lifestyle diseases, self inflicted, and not the diseases of the old. Cancer is relative cheap to treat as compared to the chronic disease of Type 2 Diabetes including blindness, neuropathy, kidney failure and cardiac diseases. The Type 2 Diabetes costs go on for decades! In addition when Type 2 Diabetes starts the patient may no longer contribute to their insurance plan and they truly go on the dole.

As Mr. Mackey, the CEO from Whole Foods has stated:

"*Unfortunately many of our health-care problems are self-inflicted: two-thirds of Americans are now overweight and one-third are obese. Most of the diseases that kill us and account for about 70% of all health-care spending —heart disease, cancer, stroke, diabetes and obesity—are mostly preventable through proper diet, exercise, not smoking, minimal alcohol consumption and other healthy lifestyle choices*."

Also a NY Times columnist, Mr. Leonhardt, states:

"*The promise of that system is undeniably alluring: whatever your ailment, a pill or a procedure will fix it. Yet the promise hasn't been kept. For all the miracles that modern medicine really does perform, it is not the primary determinant of most people's health. J. Michael McGinnis, a senior scholar at the Institute of Medicine, has estimated that only 10 percent of early deaths are the result of substandard medical care. About 20 percent stem from social and physical environments, and 30 percent from genetics. The biggest contributor, at 40 percent, is behavior.*"

In the analysis of my recent Book I clearly make this point using data and projecting forward. The problem is not the old folks who have contributed to their Medicare twofold but the young fat folks who will have lifestyle disease well ahead of any 70 year old who has at best 7 more years of life.

The Press, on both left and right, seem to be at war with the old folks, their parents, those in Medicare. This is not going to end well.

7 MEDICARE BOTTOM LINE

What is the Medicare bottom line? Is it going bankrupt? Are the current beneficiaries getting a free ride? Should it be privatized? Must it be changed? What must be changed?

1. Medicare is clearly providing services in excess of its ability to sustain payment. Medicare controls costs by a heavy hand but at the other extreme it pays for many things which should be electives and payment made by or at least shared by the enrollee. It pays for many things which are not part of the normal care of a patient. I have seen examples like giving IgG transfusions to alleged Lyme disease patients for the cost of $300,000. To my knowledge I cannot find any clinical evidence of this. It supports prolonging life when hospice is the better choice. That is half Medicare and half cultural. It becomes the payer of life style diseases and allows a free ride for those who should have had an obligation to take better care of themselves.

2. Some beneficiaries get significant benefits. One must recognize that many Medicare beneficiaries need little care. The back of the envelope number is that 10% of the Medicare patients use 90% of the dollars. That often is the problem. Many of the dollars are poorly and inefficiently spent. Part is also gaming of the system, I do not mean fraud but finding the rules to follow to maximize return. The more rules the more gaming. However for those beneficiaries we have identified, and we have argued that they are well over half, they put more into the system than they take out. The globalizing of Medicare as a group who all get more than they contributed is both false and is highly unprofessional on the part of alleged journalists. Is it hard to understand, a bit, but sometimes you have to think, even a little bit.

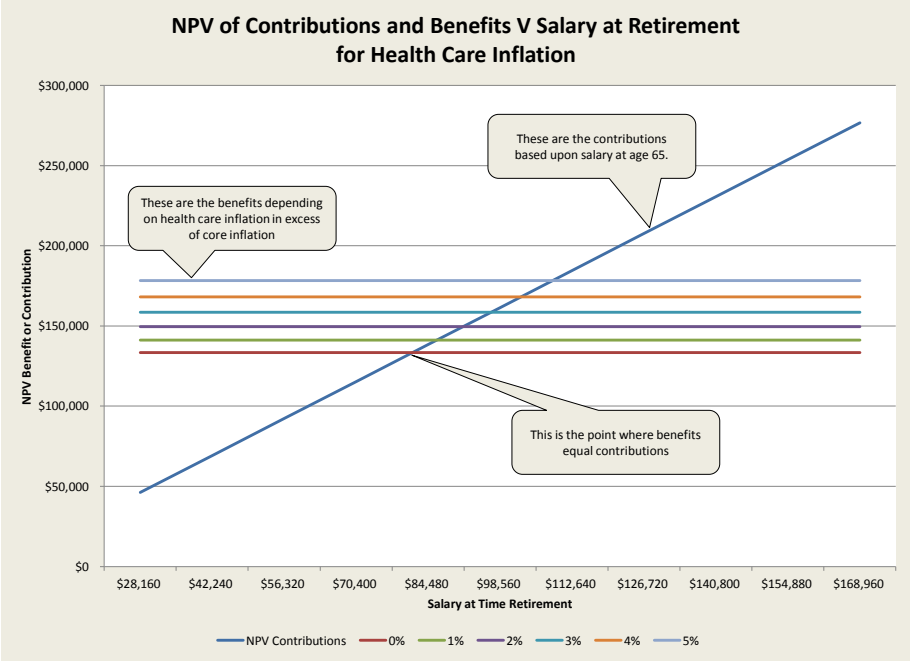
3. Changing Medicare? First should we privatize it? Not clear that it will make it better. Yet not clear is will be worse. It is one of those, on the one hand and on the other. Changing does not mean eliminating. Change is hard, even more so for older people. But what of other changes. One of the major issues is that of moving the eligibility age, from 65 to say 67 or even 70. What would happen is we moved it? First the NPV of the amount going out would decrease. Would the NPV on contributions increase? It depends, since we would assume people would remain employed. That is a problematic issue. Not that people would want to do so it is that someone 67-70 would find it near impossible to find a job! Age discrimination is rampant and unless there were a quid pro quo allowing some form of Coasean litigation to remedy it the revenue in would at best be problematic. Then we can let the date slip and we can also increase the contribution from 3% to 4%. I had shown a couple of years ago that such a change would bring things into balance again.

4. There is also the significant issue that many new Medicare beneficiaries are obese and bring with them in this condition the sequelae of Type 2 Diabetes and its significant problems. In addition the obese epidemic is most felt in those of lower income so that in effect the Medicare system will be highly burdened with those coming into it in the

future. It is exacerbated by the fact that they will already be receiving medical care and that their contributions will be well below the addition benefits they will receive due to their poor health. This problem is more explosive than any others we face in Medicare.

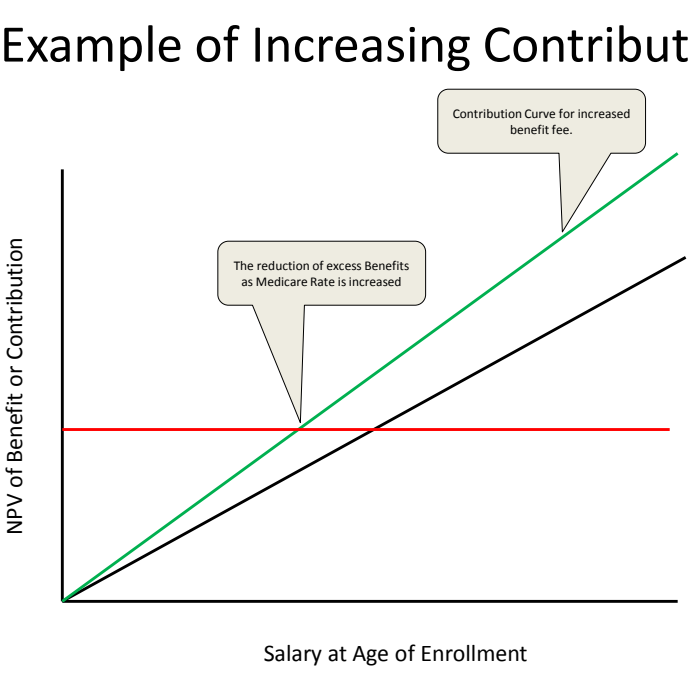
As for policy analysis we make some brief comments on how the analysis we have herein can be applied.

I thought it would be useful to provide some more details on how the curve I presented may be useful to policy makers. I consider a few cases.

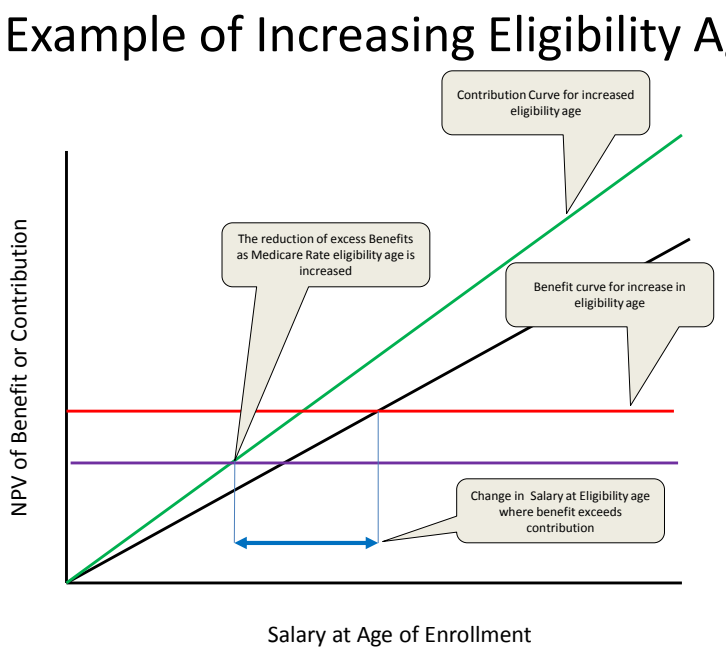


First the above chart shows the details of what we had plotted. Not the contribution increasing and the benefits as horizontal but increasing as health care inflation increases. Now let us look at three cases.

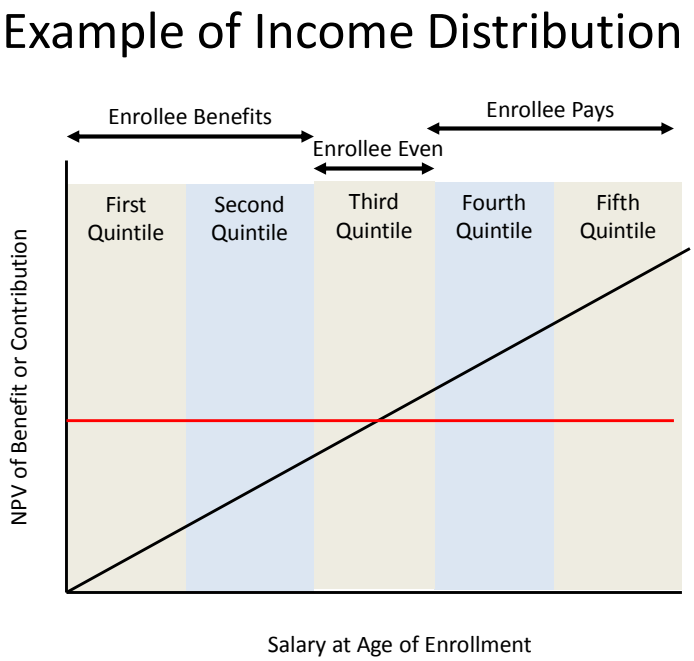
Case 1: This is the case of increasing the contribution from 3% to say 4%. Note the horizontal remains fixed but the contribution increases. Thus the salary at which a benefit occurs decreases meaning that fewer people get a free rid if you will.



Case 2: Here we increase the age of eligibility and the contributions increase and the benefits decrease.



Case 3: We look at income brackets by quintile. We show that in this case, say the balanced example, the lower two benefit and the upper two pay and the middle quintile averages out even.



Now from a policy perspective this gives a simple tool to see what the impact would be across large income groups. If we were to use this with our numerical analysis we could readily see the impact of increasing eligibility to 67 and increasing contribution to 4%. We believe that such a change over say the next few years would solve the Medicare issue. Just a thought.

The Telmarc Group