What is the Reasonable Value of Future Medical Care?

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A common challenge in economics and business is determining the fair-market value of products and services that have not yet "entered" the market. If consumers have not yet signaled a "willingness to pay" for the product or service, it is difficult to predict the fair market value. However, for products and services that fairly well defined, we can overcome this hurdle by simply taking the current fair-market price or reasonable value, increasing that price for inflation and the decreasing the price for "net present value" (i.e., the "time value" of money).

In the health care industry, however, products and services are not always easily defined, and current medical "prices" tend to not reflect reasonable value or fair-market value in the economic sense. Instead, current prices reflect antiquated "chargemasters" and rate sheets that feature prices that literally nobody pays. In fact, the best way to describe medical care prices is that they are "aspirational;" a medical provider would like to receive those "retail" prices, but instead they routinely settle as payment in full for amounts considerably lower. There are countless examples of this—it is a characteristic of the U.S. medical industry that has endured for decades.

In personal injury cases, it is becoming increasingly common to see life care plans (LCPs) or other related medical documents (e.g., medical records, care plans, patient discharge notes, etc.) that speculate on services that may be needed in the future. The two issues listed above are only part of the problem with the typical LCP. These LCPs very commonly contain four critical errors:

(1) they rely on list prices, which are not reflective of the reasonable value of the services purported to be necessary in the future;
(2) they are not "dynamic" in that they assume the status quo "medical marketplace" for the entire remaining life expectancy;
(3) they assume that the patient will have an "average" life expectancy (i.e., according to life tables), regardless of the presence of serious comorbid conditions; and
(4) LCPs rarely consider inflation and net present value (NPV). We now discuss each of these in a little more depth.

Reasonable Value

To reiterate, medical bills and charges from hospitals and doctors are not reflective of reasonable value, yet reasonable value and fair market value are normally the amounts allowed by courts.1 This holds true for past charges and for estimates of future charges. From the LCPs that we have reviewed, the majority of them assign prices to medical services by calling providers and speaking to someone in the accounting or billing office. The responses they receive are reflective much more of "chargemaster" type rates and are not reflective of reasonable value. Moreover, prices are often given in whole, heavily rounded-off numbers, suggesting some respondents might be at best estimating and at worst guessing. There are a

number of simple solutions to this problem, such as using publicly available data on "usual, customary, and reasonable" (UCR) charges specific to the relevant geographic area.

Static Landscape

Only in personal injury cases does the U.S. suddenly seem to have the least innovative health care sector on the planet, with LCPs confidently assuming the medical care marketplace will remain unchanged in the next 40 or 50 years. The reality could not be more different; the U.S. has the most innovative health care sector in the world. While it is of course difficult to predict how the landscape will evolve, some things are very easy to predict. For example, it is unlikely that the U.S. Patent Office will extend the patent on a brand name drug for much more than 20 years. Most of the brand name drugs on the market now have already burned up at least 10 of those patent years. So why is Ms. Smith expecting to need brand name pain killers at brand name prices for the next 40 years, when for at least 30 of those years the pills will have a fair market value of about $0.25 per pill? In general, the U.S. health care system is constantly striving to find cheaper and more efficient ways of delivering care. In some LCPs, there may be some products and services that we know are going off patent or becoming obsolete; valuation should be adjusted accordingly.

Life Expectancy

In some cases, individuals will have comorbid conditions that are likely to impact life expectancy (LE). These include diabetes, heart disease, obesity, smoking, and serious injuries to the central nervous system (e.g., head and spine).[2] In some instances it may be appropriate to consider likely LE decrements associated with these medical conditions. Most physicians can make these determinations, but in the field of health economics we are accustomed to conducting extensive studies of survival using clinical trial data.[3] Thus, as health economists we are adept at studying the medical literature to determine evidence-based survival and LE decrements associated with various conditions. Such decrements may then be used to develop a more accurate estimate of LE. Also we caution that in some cases these preexisting comorbid conditions generate their own need for medical services, and such services should not be included in the LCP (and should also be netted out from analyses of past medical bills).

Inflation & Net Present Value

Surprisingly few LCPs bother to adjust data for inflation and net present value, though virtually any other type of forward-looking analysis would be required to do so. In some cases, it is appropriate to adjust future care for inflation and NPV. This is particularly the case when an individual may require services for a relatively long time period, such as all remaining years of life. These adjustments are less important for shorter time periods, such as 5 years or less.

In the health care industry, there are several options for inflation, but the most straightforward recommended approach is to use the Consumer Price Index (CPI).[4] To adjust for inflation, we typically use the 12-month CPI, which as of September 2019 was equal to 1.7%.[5] The NPV adjustment requires the use of a discount rate. In health care markets, there

is a wide range of discounts typically applied; we typically use the midpoint of these commonly used discount rates (4%).[6]

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1 See generally G.A. Nation, "Determining the Fair and Reasonable Value of Medical Services: The Affordable Care Act, Government Insurers, Private Insurers and Uninsured Patients," Baylor Law Review 65, no. 2 (2013).

2 See generally J. Bae, Y. Y. Kim, and J. S. Lee, "Factors Associated with Subjective Life Expectancy: Comparison with Actuarial Life Expectancy," J Prev Med Public Health 50, no. 4 (2017); J. C. Brooks et al., "Long-Term Survival after Traumatic Brain Injury Part Ii: Life Expectancy," Arch Phys Med Rehabil 96, no. 6 (2015).

3 See generally C. Williams et al., "Estimation of Survival Probabilities for Use in Cost-Effectiveness Analyses: A Comparison of a Multi-State Modeling Survival Analysis Approach with Partitioned Survival and Markov Decision-Analytic Modeling," Med Decis Making 37, no. 4 (2017).

4 See generally A. Dunn, S. D. Grosse, and S. H. Zuvekas, "Adjusting Health Expenditures for Inflation: A Review of Measures for Health Services Research in the United States," Health Serv Res 53, no. 1 (2018).

5 BLS, "12-Month Percentage Change, Consumer Price Index, Selected Categories," (Washington, D.C.: U.S. Bureau of Labor Statistics, 2019).

6 See generally Arthur E. Attema, Werner B. F. Brouwer, and Karl Claxton, "Discounting in Economic Evaluations," PharmacoEconomics 36, no. 7 (2018).

REFERENCES

Attema, Arthur E., Werner B. F. Brouwer, and Karl Claxton. "Discounting in Economic Evaluations." [In eng]. PharmacoEconomics 36, no. 7 (2018): 745-58.

Bae, J., Y. Y. Kim, and J. S. Lee. "Factors Associated with Subjective Life Expectancy: Comparison with Actuarial Life Expectancy." [In eng]. J Prev Med Public Health 50, no. 4 (Jul 2017): 240-50.

BLS. "12-Month Percentage Change, Consumer Price Index, Selected Categories." Washington, D.C.: U.S. Bureau of Labor Statistics, 2019.

Brooks, J. C., R. M. Shavelle, D. J. Strauss, F. M. Hammond, and C. L. Harrison-Felix. "Long-Term Survival after Traumatic Brain Injury Part Ii: Life Expectancy." [In eng]. Arch Phys Med Rehabil 96, no. 6 (Jun 2015): 1000-5.

Dunn, A., S. D. Grosse, and S. H. Zuvekas. “Adjusting Health Expenditures for Inflation: A Review of Measures for Health Services Research in the United States.” [In eng]. Health Serv Res 53, no. 1 (Feb 2018): 175-96.

Nation, G.A. “Determining the Fair and Reasonable Value of Medical Services: The Affordable Care Act, Government Insurers, Private Insurers and Uninsured Patients.” Baylor Law Review 65, no. 2 (2013): 426-72.

Williams, C., J. D. Lewsey, D. F. Mackay, and A. H. Briggs. “Estimation of Survival Probabilities for Use in Cost-Effectiveness Analyses: A Comparison of a Multi-State Modeling Survival Analysis Approach with Partitioned Survival and Markov Decision-Analytic Modeling.” [In eng]. Med Decis Making 37, no. 4 (May 2017): 427-39.