

REQUIEM OF THE HUMAN SOUL

Copyright © Jeremy R. Lent. 2009. All rights reserved.

The New York Journal

September 29, 2044

Matterhorn Insurance plays genetic favorites

Announcement adds fuel to simmering controversy

Matterhorn, the nation's second largest health insurance company, broke new ground yesterday with its announcement that it would offer deep discounts in health insurance premiums to customers whose genes have been screened and optimized.

Matterhorn's announcement is taking clear aim at a market still in its infancy, but promising huge growth and profit margins. This market comprises people whose genes were optimized before they were born, in the Petri dishes of an in-vitro fertilization (IVF) clinic. There are only three million pre-natally optimized people (PNOs) in the United States right now, and 80% of these are under eighteen and therefore mostly insured by their parents. However, the market is growing at a dramatic rate. This year, approximately one million PNOs will be born, about 10% of new births in the nation. That percentage is increasing rapidly. Analysts predict that, as soon as 2050, 25% of new births will be PNOs.

PNO technology first became publicly available about twenty years ago. When parents choose PNO they go to an IVF clinic which analyzes the genetic make-up of different fertilized eggs. Then, having chosen the best egg, the clinic performs what is known as a digital panel, or d-panel, of tests on the egg. It looks for genes that are predictors of disease – this number has risen over the years from around twenty initially to several hundred nowadays. When genes are identified as a future threat to the embryo, they are either turned off through the application of an enzyme, or the healthy version of the gene is made dominant. In the early years, the cost and complexity, along with uncertainties about the long-term outcome, meant that only a small number of “early adopters” chose this approach for their offspring. However, as the technology has improved, and the long-term benefits are becoming more dramatic, the PNO market is rapidly becoming a mass market.

Matterhorn's announcement yesterday reflects this changing reality. Their proposed discounts, which range from 20% to as much as 60% off base premiums, are based on the anticipated increased health of the PNOs versus the rest of society. A Matterhorn spokesperson yesterday claimed that “even

with these deep discounts, Matterhorn expects this market to be highly profitable, because of the low expected medical costs of the PNO segment.”

The announcement didn’t have much effect on Matterhorn’s share price, which rose by 0.60% yesterday. Industry analysts said that other insurers are likely to follow Matterhorn’s lead with similar pricing plans. However, the announcement boosted bio-technology stocks in the genetic engineering index – up almost 10% on the news yesterday, because of expected increased consumer focus on the benefits of the d-panel.

Social benefit or social plague?

The use of the d-panel has been a forum for controversy from the outset. Christian fundamentalist groups were initially opposed, but some have become supporters once they saw that the technology could reduce the number of abortions for medical reasons. Since then, the controversy has shifted to the question of how the d-panel is used in society. This has now become perhaps the biggest issue in the realm of bio-ethics.

The European Union took a decisive step in legitimizing widespread use of the d-panel two years ago, in 2042, when it issued a directive that all member countries had to make the d-panel available free to its citizens. Member countries were given five years to comply, but six of the Western European nations have already done so. Last month, the British National Health Service came out with projections for the expected reduction in incidence and mortality from certain diseases which are part of the EU d-panel screening. (See Table 1). Some industry observers speculated yesterday that the dramatic numbers in these projections may have been the catalyst for Matterhorn’s announcement yesterday.

Table 1: UK National Health Service projections for expected reduction in incidence and mortality of certain diseases for PNO babies:

Disease	Reduction in Incidence	Reduction in Mortality
ALS/Lou Gehrig’s disease	85%	97%
Alzheimer’s disease	73%	77%
Arthritis	44%	N/A
Breast cancer	62%	78%
Colon cancer	43%	57%
Congenital heart disease	78%	92%
Cystic fibrosis	99%	99%
Diabetes	32%	N/A

Hemochromatosis	76%	82%
Hemophilia	93%	98%
Huntington disease	85%	88%
Leukemia	47%	43%
Muscular Dystrophy	94%	96%
Obesity	25%	N/A
Ovarian cancer	72%	79%
Prostate cancer	33%	13%
Sickle cell disease	61%	82%

Consumer rights advocate groups were arguing yesterday, however, that Matterhorn’s premium discounts was the wrong lesson to draw from the European experience. Instead, they argue that the U.S. should follow Europe’s lead and federally legislate to ensure wide availability of the panel. Dennis Prudhoe, spokesperson for Genetically Optimized America, a public advocate group, said yesterday that “Europe is creating a healthier population than America. Even China has announced plans to phase in free d-panels for their population over the next 10 years.”

“Second step on the slippery slope”

Mr. Prudhoe and others argue that Matterhorn’s approach – the market-based approach – will ultimately lead to two segments of society, the genetically optimized and those whose parents can’t afford access to the d-panel. Matterhorn’s announcement, Mr. Prudhoe stated, was the second step on the slippery slope to that scenario.

The first step, argues Mr. Prudhoe, was taken over 20 years ago, in early 2003, when the insurance industry introduced premium discounts for people who submitted to genetic screening as part of their health insurance application. Federal legislation had outlawed penalty pricing for people with “bad genes”, but the insurance industry side-stepped this restriction by offering, instead, premium discounts for people with “healthy genes”. According to Mr. Prudhoe, the premiums for customers who refused the genetic screening increased substantially, putting overwhelming pressure on new insurance applicants to do the screening. By 2031, they say, 88% of new insurance applicants did the genetic screening.

Mr. Prudhoe argued yesterday that the same thing will happen again, following Matterhorn’s new pricing plan. Families will feel increasing pressure to undergo the d-panel for their offspring; otherwise their children won’t be able to afford health insurance in the future. Those who either can’t afford the d-

panel technology - or don't believe in it - will produce a next generation who will lose out on health insurance, which will only increase the gap between the "haves" and the "have-nots" in the U.S.

The "Market Approach" to Public Welfare

Already, some corporations are offering the d-panel to their employees as an additional medical benefit. Most Silicon Valley companies offer this benefit to employees, and even some of the largest corporations in the country are offering it to employees with five years' or greater tenure. Employee benefits experts say it will be only a few years before PNO becomes a core benefit. This, however, fails to satisfy Mr. Prudhoe and the Genetically Optimized America advocacy group. "Once again", said Mr. Prudhoe, "this development only exacerbates the divide between the haves and the have-nots."

The bio-ethical issues are not likely to go away any time soon. In fact, companies across the world, from California to China, have spent years developing techniques for inserting foreign "donor" genes into an embryo. While no-one has yet claimed they have performed this procedure on a human embryo, it is becoming a standardized and reliable method for producing "designer" animals. This is already improving agricultural productivity, and many say it is only a matter of time until the same methods are used to produce "designer babies". A spokesman for the British National Health Service responded to this claim by saying that "such a development will never happen". According to the NHS, there is a profound ethical gap between screening for optimal genes naturally produced by two parents, and inserting "donor" genes foreign to the parents. However, Mr. Prudhoe and others fear that, if such a technology were ever to be applied to humans, it would create an even greater gulf between the "haves and the have-nots" than currently exists.

- New York Journal analyst, Jerome Wickens.

REQUIEM OF THE HUMAN SOUL

Copyright © Jeremy R. Lent. 2009. All rights reserved.