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The Value of the Sentinel Effect—Revisited

by Richard Bergstrom

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The underwriting community has known about the concept of the Sentinel Effect (SE)—that self-selection process which directs unhealthy insurance applicants to apply for coverage at amounts where testing is not done, thereby minimizing the chances that their affliction(s) will be discovered—for many years. Yet accurately quantifying the value of the SE remains an illusive exercise at best, because we simply cannot directly measure what we cannot track, or so it would seem.

However, there are ways to indirectly derive surrogate measures for SE and this article proposes one such way that should help the insurance community more fully appreciate the contribution SE makes to the cost effectiveness of one specific underwriting protocol—laboratory testing.

In 1996 oral fluid testing (OFT) was introduced, its Western Blot HIV confirmatory test having finally been approved by the FDA. OFT currently screens for HIV antibodies, cocaine metabolites, and nicotine (cotinine). Because the oral fluid modality easily lends itself to agent collection, total test and lab analysis-related costs can be minimized (under \$20 per applicant), thereby producing dramatically low protective value testing thresholds. How does this help us quantify the value of the SE? Let's take a closer look.

Serum testing for HIV, and urine testing for cocaine and nicotine have been available for years. It is likely, therefore, that many insurance applicants are keenly aware that blood/urine profiles specifically target detection of these antibodies or metabolites. As such, it is not that difficult to conclude that many such well-informed applicants might attempt to place their business in

companies where testing is not performed at all amounts. Hence, the genesis of the SE.

As companies began using OFT in 1996, statistics kept by the testing laboratories unveiled a dramatically different profile for the cohort of applicants tested at lower amounts than that of the blood/urine tested cohort. Table 1 compares the prevalence of HIV-positive applicants as tested by LabOne for serum versus OFT. At the \$25,000 amount band, the HIV+ prevalence rate for OFT applicants is 70% greater than

serum for all ages combined. But when one compares the under \$25,000 OFT cohort to the low-band serum-tested cohort, OFT prevalence rates are 4½ times greater! Dramatic evidence of the SE in action. To be sure, these differences will narrow over time as is always the case as testing methodologies "mature." I believe this phenomenon happens more because of customer awareness, however, than changing prevalence rates in the insurance-buying

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TABLE 1
Positive HIV—Antibody Rates per 1,000 Tested

Age	Serum	OFT	
	\$25-50K	<\$25K	\$25-50K
20-29	0.79	11.75	2.25
30-39	3.62	14.39	4.07
40-49	2.23	8.60	3.27
50-59	1.64	2.11	2.35
All Ages	1.70	7.67	2.88

TABLE 2
Positive Cocaine Rates per 1,000 Tested

Age	Urine	OFT	
	\$25-50K	<\$25K	\$25-50K
20-29	8.36	15.77	7.36
30-39	16.20	36.84	18.37
40-49	10.07	27.37	12.11
50-59	2.86	7.43	3.31
All Ages	5.94	19.17	10.98

TABLE 3
Positive Cotinine Percentages

Age	Urine	OFT	
	\$25-50K	<\$25K	\$25-50K
20-29	21.0%	30.8%	29.0%
30-39	27.5	41.3	36.6
40-49	29.5	39.7	33.7
50-59	26.6	34.6	25.8
All Ages	24.0%	34.8%	31.8%

Sentinel Effect

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population, hence, the further proliferation of the Sentinel Effect. The effect is particularly enhanced by impairments dictated by lifestyle considerations, where the applicant more or less consciously chooses to live a risky lifestyle (smoking, drugs, and so on). Tables 2 and 3 show similar comparisons for urine versus OFT-tested cocaine and cotinine metabolites, respectively. "All ages" prevalence for cocaine detection is about two to three times higher than for urine testing, and cotinine detection by

OFT exceeds urine-tested detection by 30% to 45%—significant differences!

One final sobering thought: As more and more companies begin screening at lower testing thresholds, knowledgeably impaired applicants, seeking to secure coverage at standard rates, will migrate to those companies that have chosen not to reduce their testing limits. This, of course, increases the relative prevalence of impaired risks in the markets of these companies, a phenomenon whose antiselection can actually lend to higher

prevalence rates in some cells than in the general population!

If you think the value of the Sentinel Effect is significant now, what will you think when your company is the only one not testing?!?

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Nihilist Consumers

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Useful and Entertaining

Success awaits those companies that are seen to be extremely useful or highly entertaining, and that realize that for the present, consumers want to be left alone.

Entertainment is viewed as a reward, escape or source of excitement. Although the Olympics failed, last year, consumers bought record numbers of music CDs and movie videos, more adventure trips are being taken than ever before, with Costa Rica and Africa becoming leading destinations; mall spending is down, with the notable exception of Ontario Mills mall (east of Los Angeles), which has wilderness rides, a giant maze, 3-D giant screen television auditorium and a virtual-reality arcade. A typical trip lasts three hours, and sales per square foot are \$100 higher than elsewhere.

In examining some responses to Monica-gate, people have said:

- Sex lives are nobody's business
- Phone conversations between friends shouldn't be taped
- Zealous prosecutors are frightening.

Personal, Not Political

These statements are not so much political as they are personal, reinforcing a desire for privacy. Note also that "push technology" on the Web was labeled invasive, rendering Web surfers passive and eliminating fun from the Web experience. A *PC World* survey found only 8% of the group actually preferred to get their information "pushed" at them.

When dealing with consumers, and attempting to meet the higher thresholds,

it is important to note that a "link" merely facilitates a consumer and company transaction. Whether electronic, agent-based or branch-based, links do not of themselves sustain relationships. When a new link emerges that is faster, cheaper or more entertaining to use, customers break the original link.

A connection with the customer is a sustainable link and offers more than a low price. It may also be more efficient to create connections than to sustain links.

As for the explosions of offerings on the World Wide Web, a close look at what is working on that venue shows the top five product categories to be books, computer hardware, airline tickets, software, music CDs, and tapes.

And the top five categories for percentage sales growth are 301%, airline tickets; 291%, stocks and mutual funds; 111%, computer hardware; 105%, car rentals; 94%, books.

Furthermore, 16% of new car buyers used the Web for shopping in 1997, up from 10% in 1996.

What is the common thread in all of this? These are commodity products. The customer has no need to feel or handle the material, check it for fit or evaluate the look of the products. What you see is exactly what you get.

Realize as well that these products are "display insensitive," in that any truly novel Web site can be easily and quickly duplicated.

A review of offerings that have not worked on the Web would include:

- New Century Network—a joint effort from *Knight-Ridder*, *Times Mirror*, *Gannett*, the *Washington Post* and the

New York Times. Users could receive content from over 140 member publications. This effort was dissolved on March 9, as it appeared to be a service without a demand.

- Charged magazine—an "extreme sports" publication, which was recently pulled after its owners could not find a buyer to take it off their hands.
- Slate magazine—critically acclaimed and owned by Microsoft, it has begun charging users, since the anticipated advertising revenues have not materialized.

These publications were "content and service" without demand. Magazine and newspaper content is complex. Slow Internet links tend to frustrate skimmers waiting for the download process to complete. Also, a contradiction arises between how people read (on a chair or couch with feet up) and how they surf, which is interactive, in the search and acquire mode. The new content doesn't fit the medium. Remember: Be highly entertaining!

So if price is the major consideration, what other factors can be used for product differentiation?

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