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Toward Regulatory Efficiency and Modernization — ACLI Explores Optional Federal Chartering for Life Insurers and Life Reinsurers

by Monica M. Hainer

Both industry and regulators alike have recognized the need for overhauling the present system of life insurance regulation. More than two years ago, the American Council of Life Insurers (ACLI) undertook a thorough review of life insurance regulation; the review acquired added urgency with the passage of the Gramm-Leach-Bliley Financial Services Modernization Act in November 1999. Resulting analyses revealed that life insurance regulation has not kept pace with rapid changes in the financial services marketplace and hinders life insurers' abilities to effectively serve the needs of consumers.



Today, life insurers compete not only with one another but also with banks and securities firms. At the same time, these

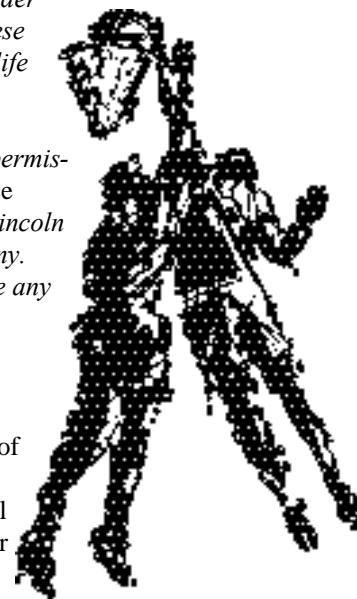
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Joe Athlete vs. Joe Average: Who's The Safer Mortality Bet?

by C. Allen Pinkham

Editor's Note: The misbehavior of professional athletes, from drug abuse to car crashes, surfaces constantly in headlines across the country. It's no wonder insurers take a dim view of these "bad boys" when it comes to life policies.

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When Bobby Phillips of the Charlotte Hornets basketball team died earlier this year after a high-speed race in his Porsche with another player, some observers commented that it was just another example of the "bad boy" conduct to which many professional athletes seem especially prone. "There are so many incidents," reported NBC on May 23, "that some say they make America's sport pages read like a police blotter."

With the media spotlight often on drug and alcohol abuse, violence, and car crashes (like the one that took Phillips' life)

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among athletes, it's no surprise that they're often perceived as poor insurance risks — even by many in the business of risk. For example, Lincoln Re often finds it difficult to bind our retrocessionaires for professional athletes at normal rate levels.

But are professional athletes actually worse mortality risks than other insurable young males? To ascertain the facts, Lincoln Re undertook a study of the risk of death among professional male athletes in one of the four major team sports. We focused on mortality risk only during the athletes' careers because their policies often do not persist past their playing days, particularly if the policies are owned by their teams for contractual reasons.

How the study was designed

Our study examined mortality among players on a seasonal basis, with each year of experience extending from the start of the playing season through the end of the subsequent off-season. (For instance, the 1970 basketball season ran from November 1, 1970 through October 31, 1971.) Thus, two basketball players who died recently are counted in the 1999 season even though the deaths occurred in 2000. The study begins with each sport's 1970 season and ends on May 31, 2000 (March 31, 2000 for baseball since that was the natural end of the 1999 season). Consequently, the 1999 season is only 50% complete for basketball and hockey, and 75% complete for football.

In 1987, a professional football players' strike resulted in three games played primarily with replacements. Of the approximately 1000 replacement players, most did not play in any other NFL games, so their exposure was excluded from the study. (None died during the 1987 season).

To calculate expected deaths, we used the first-duration select rates from the

Society of Actuaries 1975-80 table, adjusting by experience year. The year 1977 was pegged at 100%, and we assumed that the mortality changed by 2% per year for the other years (i.e., 1970 uses 114% and 1999 uses 56% of the '75-'80 table). The first-duration select rates should represent an overly conservative assumption (i.e., the mortality ratios will be higher because we assume too few deaths). While athletes receive complete annual physicals and access to top-notch medical care, the focus is primarily on their immediate ability to play.

As a result, some athletes demonstrate ratable minor medical impairments (such as abnormal builds, diabetes, asthma, etc.) that do not preclude them from playing. Also, some athletes with non-medical impairments (having files which show driving under the influence of alcohol, drug use, hazardous avocations, etc.) would be rated or declined by insurers. Many of these impairments would be discovered in the insurance underwriting process, so many of the worst mortality risks (and presumably a disproportionate share of the early deaths) would be declined.

Mortality results prove favorable

Table 1 shows the mortality ratio results (with 95% confidence intervals) by decade for each of the four major professional team sports. The mortality ratio is generally favorable, but not significantly less than expected. While basketball players show an overall mortality ratio above 100%, the small number of deaths renders the result statistically insignificant. The results by decade, while mostly favorable, are also mostly insignificant. Note the large fluctuations in some decade results, particularly for baseball, with 10 deaths in the '70s and none in the '80s; and football, with two in the '70s and 10 in the '80s.

While the favorable results obtained

are not significantly better than expected at the 95% confidence interval level, remember that we used a rigorous mortality assumption (first duration select rates for all players). In practice, each player would be underwritten, rated for higher mortality when appropriate, and the worst risks would be declined. A less rigorous mortality assumption probably would have yielded a significant favorable result. In any case, the mortality for professional athletes is similar to what calculations based on the insured table would project (and probably a bit better).

When reviewing cause of death (COD), we found differences between professional athletes and insured groups of similar-aged males (see table 2). The athletes died from violent causes more often and from medical causes less often than the insured population. Given the relative youth of the players and the difficulty of playing with severe medical problems, this seems logical. Of the violent deaths, auto accidents (often involving alcohol) were most common, but tragic accidents (commercial airline crashes, drowning, homicide, etc.) also took players' lives.

* * *

TABLE 1

BASEBALL						
Decade	Exposure	Adj		Mortality Ratio	95% CI	
		Expected Deaths	Actual Deaths		LL	UL
1970s	9108	6.5	10	153%	73%	2822%
1980s	10215	5.9	0	0%	---	---
1990s	11603	5.1	3	59%	12%	174%
TOTAL	30926	17.5	13	75%	40%	127%

BASKETBALL						
Decade	Exposure	Adj		Mortality Ratio	95% CI	
		Expected Deaths	Actual Deaths		LL	UL
1970s	3378	2.4	2	85%	10%	306%
1980s	3257	1.8	3	164%	33%	479%
1990s	3762	1.7	4	242%	65%	621%
TOTAL	10397	5.9	9	154%	70%	293%

FOOTBALL						
Decade	Exposure	Adj		Mortality Ratio	95% CI	
		Expected Deaths	Actual Deaths		LL	UL
1970s	13272	9.5	2	21%	2%	76%
1980s	16081	9.3	10	108%	51%	198%
1990s	14989	7.2	10	139%	67%	256%
TOTAL	44342	26.0	22	85%	53%	128%

HOCKEY						
Decade	Exposure	Adj		Mortality Ratio	95% CI	
		Expected Deaths	Actual Deaths		LL	UL
1970s	5188	3.8	3	79%	16%	231%
1980s	7352	4.5	2	45%	5%	162%
1990s	8115	3.7	3	82%	16%	238%
TOTAL	20655	12.0	8	67%	29%	132%

GRAND TOTAL						
Decade	Exposure	Adj		Mortality Ratio	95% CI	
		Expected Deaths	Actual Deaths		LL	UL
1970s	30946	22.2	17	77%	45%	123%
1980s	36905	21.5	15	70%	70%	115%
1990s	38469	17.6	20	114%	114%	176%
TOTAL	106320	61.3	52	85%	85%	111%

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Joe Athlete vs. Joe Average: Who's The Safer Mortality Bet?*continued from page 9*

TABLE 2

Ages 20 - 29	Pro	Lincoln Re	SOA
	Athlete	95 -99	85 - 90
Accidents	73.0%	42.2%	31.1%
Suicide	8.1%	11.8%	12.7%
Homicide	5.4%	18.7%	5.6%
Circulatory	8.1%	5.9%	18.1%
Neoplasms	5.4%	4.8%	14.1%
Other Medical	0.0%	16.6%	18.4%
Ages 30 - 39	Pro	Lincoln Re	SOA
	Athlete	95 -99	85 - 90
Accidents	84.6%	27.5%	19.2%
Suicide	7.7%	10.6%	9.6%
Homicide	0.0%	6.7%	3.7%
Circulatory	0.0%	18.0%	28.4%
Neoplasms	7.7%	15.9%	20.5%
Other Medical	0.0%	21.3%	18.5%

The Return of Ms. Re

After a long sabbatical, Ms. Re has agreed to return to the Reinsurance Section Newsletter and to once again be available to answer your reinsurance questions. For those unacquainted with Ms. Re, she is the "Dear Abby" or "Ask Mr. Knowledge" of the reinsurance world. In responding to your questions, Ms. Re calls upon her many reinsurance friends to assist her in answering. So, if you have any questions for Ms. Re, please contact Dean Abbott, the newsletter editor, via e-mail at dean_abbott@allianzlife.com, and he will make sure that she receives them.

Due to the small number of deaths, we were unable to draw many statistically significant conclusions. However, a review of the deaths and their circumstances (see table 3) produced two noteworthy observations:

1. Few star players were among the deaths. Instead, we found a random mix of young players and older veterans, of prominent players and obscure journeymen.
2. Most of the deaths occurred in the off-season. Rather than promoting trouble, time away from home seems to at least reduce the chance of athletes dying in their own automobiles.

TABLE 3

Baseball Deaths:

<i>Athlete</i>	<i>Date of Death</i>	<i>Age</i>	<i>Cause of Death</i>
Cliff Young	11/4/93	29	auto accident
Tim Crews	3/23/93	31	boating accident
Steve Olin	3/22/93	27	boating accident
Thurman Munson	8/2/79	32	plane crash
Lyman Bostock	9/23/78	27	homicide
Mike Miley	1/6/77	23	auto accident
Danny Frisella	1/1/77	30	dune buggy accident
Danny Thompson	12/10/76	29	leukemia
Bob Moose	10/9/76	29	auto accident
Don Wilson	1/5/75	29	suicide
Roberto Clemente	12/31/72	38	plane crash
Chico Ruiz	2/9/72	33	auto accident
Herman Hill	12/14/70	25	drowning

Basketball Deaths:

<i>Athlete</i>	<i>Date of Death</i>	<i>Age</i>	<i>Cause of Death</i>
Malik Sealy	5/20/00	30	auto accident
Bobby Phillips	1/12/00	30	auto accident
Reggie Lewis	7/27/93	27	cardiac arrest
Drazen Petrovic	6/7/93	28	auto accident
Ricky Berry	8/14/89	24	suicide
Nick Vanos	8/16/87	24	plane crash
Bill Robinzine	9/16/82	29	suicide
Terry Furlow	5/23/80	25	auto accident
Wendell Ladner	6/24/75	26	plane crash

Football Deaths:

<i>Athlete</i>	<i>Date of Death</i>	<i>Age</i>	<i>Cause of Death</i>
Eric Turner	5/28/00	31	stomach cancer
Derrick Thomas	2/8/00	33	auto accident
Rodney Culver	5/11/96	26	plane crash
David Griggs	6/19/95	28	auto accident
Jeff Alm	12/14/93	25	suicide
Dave Waymer	4/28/93	34	cocaine overdose
Jerome Brown	6/25/92	27	auto accident

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Joe Athlete vs. Joe Average: Who's The Safer Mortality Bet?

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TABLE 3 (continued)

Football Deaths:

<i>Athlete</i>	<i>Date of Death</i>	<i>Age</i>	<i>Cause of Death</i>
Eric Andolsek	6/23/92	25	auto accident
Shane Curry	5/3/92	24	homicide
Fred Washington	12/21/90	23	auto accident
Brad Beckman	12/18/89	24	auto accident
Ralph Norwood	11/24/89	23	auto accident
Stacey Toran	8/5/89	27	auto accident
David Croudip	10/10/88	30	cocaine overdose
Don Rogers	6/27/86	23	cocaine overdose
David Overstreet	6/24/84	25	auto accident
Kirk Collins	2/22/84	25	cancer
Joe Delaney	6/29/83	24	drowning
Larry Gordon	6/25/83	29	cardiac arrest
Rusty Chambers	7/1/81	27	auto accident
Troy Archer	6/22/79	24	auto accident
Chuck Hughes	10/24/71	28	cardiac arrest

Hockey Deaths:

<i>Athlete</i>	<i>Date of Death</i>	<i>Age</i>	<i>Cause of Death</i>
Dmitri Tertyshny	7/23/99	22	boating accident
Steve Chiasson	5/3/99	32	automobile accident
John Kordic	8/8/92	27	cocaine overdose
Pelle Lindbergh	11/10/85	26	automobile accident
Don Ashby	5/30/81	26	automobile accident
Scott Garland	6/9/79	27	unknown
Bob Gassoff	5/27/77	24	motorcycle accident
Tim Horton	2/14/74	44	automobile accident

Are the pros really such cons?

Drug use, assaults, and bar fights among professional athletes attract attention in the media, but we wanted to know if these behaviors actually occur more often than in the population at large. One study we reviewed indicated that in a sample of 509 professional football players, 21% had been arrested for crimes of a more serious nature.¹ (A *Newsweek* article also comments on the increased risk of violence among athletes who associate with friends with whom they grew up and who may have serious criminal backgrounds.)² However, a subsequent study found that the violent crime arrest rate

among a sample of NFL players was less than half that found in the general population (taking age, sex, and race into account).³ While not identical to a comparison with an insurance applicant population, the latter study nonetheless indicates that the risk level is not as great as might be presumed.

Motor vehicle accidents are the most common cause of death for athletes in the study. To put the risk into context, we compared it to the number of motor vehicle deaths expected in the general population. We used U.S. Department of Transportation death counts for male drivers and U.S. Census Bureau popula-

tion estimates to calculate age-specific death rates for 1998.

Using these rates, we would expect more than 50 motor vehicle driver fatalities in the combined study (the fatality rates have fallen over time, so if we adjust for the higher rates in earlier years, we would actually expect more deaths from motor vehicle fatalities than from all causes using the duration 1 select rates from the SOA 75-80 table). Actually, there were, at most, 22 motor vehicle driver fatalities among the athletes studied, assuming all were drivers when details were unknown. Although the number of motor vehicle

deaths seems substantial, it's actually less than half that to be expected in the age-matched general population.

To see whether the athletes in our study tended to exhibit poor driving records, we reviewed a random sample of 85 insurance application files to estimate the adverse Motor Vehicle Report (MVR) rate for professional athletes. We found only 8 applications (11%) with MVRs poor enough to be rated under Lincoln's underwriting guidelines, a percentage similar to industry estimates of 8-12%.⁴ (Among the professional athletes in the sample, we found that about 65% had at least one violation and 35% had two or more.) Another noteworthy finding: only about 40% (62 of 158) of violations in which we knew the month of occurrence happened during the active sports season. This is consistent with the fatalities finding, as both occur disproportionately during the off-season period.

To explore how many of the deaths in this study were related to the status and lifestyle of the athletes (often a concern of underwriters), we attempted to identify which deaths could be deemed status-related. The issue is highly subjective, as a certain amount of status and fame accrue to anyone chosen for a professional athletic team, and even the minimum salary seems like an enormous windfall, particularly to players from an economically disadvantaged environment. For our study, we reviewed factors that might be classified as status-related, including drug use, star player status, excessive lifestyles enabled by their financial means, expensive toys (such as airplanes and boats), and loss of status resulting in suicide. Even with a liberal definition of status-related deaths, few fell into this category. Most were simply tragic happenstance or occurred under circumstances common to other young males.

Could underwriting have helped identify these risks?

How many of these athletes would have been identified as adverse risks in the normal underwriting process? Insurers

would certainly face limitations, both legal and practical, on how much information could be obtained and used. In many cases, underwriting would merely result in more appropriate risk classifications (particularly true for aviation and avocation risks) — rather than solely identifying risks that could be declined.

At least for cocaine-related deaths, the increased risk might have been identified with cocaine screens performed for underwriting purposes. However, some of the deaths in our study occurred prior to insurers instituting routine cocaine screens, so drug use would have been discovered only if *current* underwriting practices had been used. It's also likely that the cocaine screen would have been negative if the athlete had abstained from cocaine in the few days prior to the exam and blood draw, which is usually scheduled in advance. The most recent cocaine-related death in our study occurred in 1993, prior to the implementation of random drug testing programs by professional sports leagues. In truth, the teams' own testing programs are more likely than insurers' screens to help prevent future drug-related deaths, as the former's random, unscheduled nature makes them more likely to reveal a problem.

As for the motor vehicle deaths, we would probably find adverse MVRs or alcohol abuse problems among some players. About 10% of insured males this age would be expected to have ratable adverse MVRs, so we might find a somewhat higher percentage among the deaths in our study (perhaps 15-20%). However, most of them either would not have ratable adverse MVRs or we would not find complete records in the underwriting process, but this is typical for other young male insurance applicants.

Underwriting might provide valuable indicators of increased risk in cases involving a history of mental illness (relating to suicide deaths), aviation risk, and foreign travel risk. The level of medical screening routinely done each year by the sports teams, particularly for heart and circulatory disorders, may also serve to flag problems and improve mortality. Two

of the players who died earlier (Gordon and Hughes) might have benefited from current medical screening technology. Finally, a player's contract often precludes him from participating in certain activities (like hazardous avocations), so obtaining a copy of the contract for underwriting review probably would be beneficial.

Athletes — no more risky

While many believe that professional athletes are poor insurance risks, our mortality study raises questions about whether the facts support this perception. With careful underwriting, professional athletes are no worse mortality risks than other insurable young males.

C. Allen Pinkham is a senior consultant - internal research, at Lincoln Re, where he performs various research studies concerning mortality, cause of death, medical impairments, and other topics.

Mr. Pinkham holds a bachelor's degree in mathematics from Wabash College, Crawfordsville, Ind., and a master's degree in actuarial science from Ball State University, Muncie, Ind. He is an associate member of the Society of Actuaries and a member of the American Academy of Actuaries and the American Statistical Association. Mr. Pinkham joined Lincoln in 1983, spending his first nine years in its former Employee Benefits Division before joining Lincoln Re in 1992.

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Endnotes

1. Jeff Benedict and Don Yaeger, *Pros and Cons: the Criminals Who Play in the NFL*, © 1998, Warner Books.
2. Mark Starr and Allison Samuels, "A season of shame," *Newsweek*, May 29, 2000.
3. Alfred Blumstein and Jeff Benedict, "Criminal violence of NFL players compared to the general population," *Chance* 1999; Vol. 12, No. 3, pp. 12-15.
4. Danny Perkins, "The new driving risk," *On The Risk*, 1994; 4:44.

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Attention To Lapse Rates Required For Pro Athlete Policies

Using the same lapse rates for young male professional athletes as for other young males in the general insured population would be like offering the same meal to a llama and a tiger. You better make adjustments if you plan to keep them both healthy.

Anticipating expected lapse rates is crucial to developing premiums that will be both competitive and profitable for professional athletes. While it may not be possible to develop a separate set of premiums to use for professional athletes, the actuary should be aware of the impact higher expected lapse rates will have on policies sold to professional athletes. Such policies generally coincide with the athletic careers of these athletes. This period of time may be insufficient to fully recover all expenses associated with issuing the policy.

The insurer working with the young professional athlete would be wise to study the average length of time insurance stays in force in relation to the athlete's contract as well as the mortality rate of young male athletes seeking life insurance.

Looking at athlete risk from the retrocessionaire's perspective

by Julie Hecke, Assistant Vice President, New Business Services, Lincoln

Editor's Note: A significant share of the large-case market involves risk associated with professional athletes — whose applications often exceed the combined retentions of the direct writer and reinsurer's retention and retrocession capacity.

However, recurring headlines about misbehaving high-profile athletes have prompted more than one retrocessionaire

to express concerns about accepting coverage on these athletes. The *perception* is that mortality rates are higher for athletes compared to other insurable young males. Lincoln Re decided to test this perception and conducted a study of the mortality of young professional male athletes.

Overall, the conclusion of Lincoln Re's study is that there is not a significant difference in athletes' mortality compared to the mortality of other insurable young males.

While every capacity decision must be made on sound underwriting, Lincoln Re anticipates that sharing study results with retrocessionaires will help alleviate some of their concerns associated with risk assumed on athletes and prevent further reductions in capacity available to the reinsurer and issuing company.

Currently, many retrocessionaires are not comfortable with large amounts of inforce and applied-for coverage on athletes, often associated with the explosion in salaries paid to athletes and their lack of supervision. Many retrocessionaires agree to be bound on the reinsurer's underwriting only if the athlete is not considered to be "high profile." Such a determination is subjective, and its underlying criteria is often inconsistent.

Some retrocessionaires reduce the amount of coverage they will accept automatically on athletes compared to other risks; others reduce the acceptance amount only if the total inforce and applied-for insurance on the life exceeds a certain amount. In addition, retrocessionaires frequently reduce their approval amount — even on risks they underwrite facultatively.

In addition to finding no significant difference in athlete mortality compared to the mortality of other insurable young males, Lincoln Re also found that only a small portion of deaths were on star players who might be considered "high profile" risks.

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