Rish Management Practices and their Impact on Insurance Premiums and Loss Reserves

Aaron L. Mulrooney,
Kent State University
Kent, OH

Rob Ammon
Slippery Rock University
Slippery Rock, PA

The purpose of this presentation is to relate the findings from a survey instrument used in a study of risk management practices at municipal stadiums. Of the 67 municipal stadium surveys included in the initials mailing, 39 were returned, of which 35 were complete, for a return rate of 58%.

■ RISK MANAGEMENT

A significant outcome of this study was the lack of agreement between municipal facility managers on a number of critical issues in risk management. The literature has identified risk management as an integral element of any facility management operation while the importance of a risk manager has also been stressed (Christiansen, 1986; Clement, 1988; Cotten, 1993; Girvan, 1990, Kaiser, 1986; Miller, 1989; Nilson & Edginton, 1982; Ross, 1985; Sharp, 1990; van der Smissen, 1990).

A facility manager's duty of reasonable care normally is divided into three areas: (a) to provide a safe environment from injurious or defective products, (b) to exercise care in the maintenance of the facility and its equipment, and (c) to protect the patrons from injurious acts by third parties (Wong, 1988). In many facilities these functions normally are assigned to risk managers or addressed by a safety committee. However, without the assistance of a risk manager, a breach of any of these duties could subject the stadium director to a lawsuit for negligence. Thus, it would seem prudent for concerned facility administrators to employ to risk manager on a full-time basis. Data indicated more than 71% if the surveyed stadiums did not use a risk manager and more than 51% of the facilities never used a safety committee.

In order to provide a better service for the fans and to protect the facility management against litigation, issues such as availability of a risk manager or safety committee need to be addressed. With today's astronomical negligence awards and the large amount of publicity which surrounds any sport controversy, a logical assumption would be that the cost of a risk manager would be much less than resulting litigation. In addition, the tremendous negative public relations which would result from litigation could affect community support for an extended period of time. The preponderance of available literature reviewed in this study, over-whelmingly indicated the necessity of risk manager or safety committee. Anything less, in the researcher's opinion, is not only foolish, but an unprofessional gamble by stadium management with the safety and lives of their fans.

An additional area of concern regarding risk management pertained to the lack of communication between concession stands and emergency officials. More than 48% of the stadium directors revealed their concession stands were "never" in radio contact with medical and law enforcement officials and less than 49% had the availability of a telephone. These stands are a source of tremendous congestion and high spectator volume, thus the chances of a medical emergency or disruptive behavior brought about by crowded conditions necessitate proper and viable channels of communication. Antee and Swinburn (1990), when discussing event management stated that everyone connected with an event must be made to understand that communication is a necessity for public protection. Though lack of communication for concession stands is not as dangerous as failing to employ a risk manager, the potential for spectator injury, loss of community support, and possible litigation should not be ignored.

A risk management area in which the majority of facility directors did agree, pertained to insurance coverage for spectator injuries. Over 77% of the respondents possessed this type of insurance coverage. Christiansen (1986) stated that in recent years public agencies have witnessed their liability insurance premiums increasing by as much as 800%. Perhaps this cost is why as many as 14% of the stadiums did not have this coverage. Proper risk management, however, has proven in some cases to decrease insurance premiums (van der Smissen, 1990). Insurance premiums presently exist which allow clients a 10% discount on medical and liability premiums if the insured has a proper risk management plan in place at the time of a risk review (Schmid, 1989).

While 80% of the stadium operators possessed an evacuation plan more than 74% have "never" actually practiced it. A third of those who practiced it in the past three years. The courts may find the existence of a plan not constituting reasonable behavior if the facility administration does not practice it.

Analysis indicated that 47% of the stadiums without a risk manager or safety committee were involved in some kind of litigation, during the past five years. It was interesting to observe that 59% of the facilities utilizing a risk manager or safety committee were also involved in litigation. It could be that the stadium directors began to use risk managers or safety committees after litigation occurred. However, having a risk manager could have prevented the litigation. Also, because filing a suit is relatively easy, a risk manager or safety committee may not reduce litigation, but

could significantly affect the outcome. Or there could be no relationship. the data indicated that this was an area needing further research and a second study will be conducted to determine if any of specific game management practices could serve as predictors of future litigation.

Alcohol's presence at sporting events is a controversial topic, but an issue that can be handled with proper planning (Antee & Swinburn, 1990; Chafetz, 1990; Miller, 1993; Sharp, 1990; Wong & Ensor, 1985). Since 69% of the respondents authorized the sale of alcohol at their football games, several issues become paramount. The majority of stadium managers employ policies that: pertain to the sales and consumption of alcoholic beverages, provide staff training in effective alcohol management techniques, place limitations on the size and number of beverages allowed per sale, allow the confiscation of alcohol when brought into the stadium, and deny stadium entry to intoxicated spectators. These policies have become very important, especially now that 42 states allow plaintiffs, under dram shop laws, to sue the establishment that allowed the defendant to become drunk (Chafetz, 1990). Therefore, in facilities where alcohol is sold, appropriate policies must be implemented. Written policies, trained staff, limitations on purchases, and prohibiting stadium entry to the intoxicated are all necessary to maintain a successful alcohol policy. These procedures not only diminish the number of intoxicated fans, but help to send a message to all spectators as to the type of behavior condoned by the stadium management. this helps the management maintain a safe and enjoyable environment.

Two additional procedures that could provide assistance in managing an effective alcohol policy need to be investigated. Litigation has demonstrated that tailgating, if unsupervised, can be quite expensive to the facility (*Bearman vs. University of Notre Dame*, 1983). Wong and Ensor (1985) suggested that tailgating may occur if proper limitations are imposed and it is supervised. forty-five percent of the 20 stadium respondents who allowed tailgating indicated that no supervision took place at their permitted tailgating activities. This lack of control by stadium management is irresponsible and puts spectators in a potentially dangerous situa-tion. In addition, it exposes the stadium management to a risk of litigation. The safety and well being of the spectators must be a paramount concern of the administration.

The *Bearman* case found that the University had a duty to their spectators as long as the fans remained on the facility property. This duty extends to those watching the game as well as those walking through the parking lots. Ninety-seven percent of the facility directors "always" or "frequently" reported the presence of security personnel in the parking lots during and after the games, while 3% "never" provided security. Based on these data the author recommends that job descriptions for these parking employees could easily be amended to assist with monitoring tailgating activities.

More than half of the respondents (66%) had a written medical services plan in existence; however, 29% did not have such a plan. While 57% had identified emergency situations related to football games, 40% never identified these emer-gency situations. Emergency situations related to football games, such as alcohol

abuse and related injuries, breathing problems, heat exhaustion, cardiac arrest, frostbite, insect bites, and broken bones, need to be identified and included in an emergency plan (Berlonghi, 1990). Van der Smissen (1990) mentioned that improper or inadequate medical services and assistance may be determined to demonstrate negligence. As previously determined, while not responsible for every injury which occurs, facility management has a duty to the spectator or invitee to provide a safe and secure environment. Omitting these problems from a plan or not possessing a plan at all is a gamble most facility directors cannot afford. If the philosophy of a stadium administration is to provide a safe, enjoyable, and secure environment for their spectators, these omissions are unconscionable.

■ RISK AND GAME MANAGEMENT PARADIGM

In conclusion, the following represents an optimal risk management paradigm for municipal football stadiums, derived from current research and literature. Common practices in the field, contemporary legal findings, and data secured from the study also contributed to the models composition. Other non-stadium facilities may adopt this paradigm with minimal alterations. In addition, use of this model may assist in the development of future workshops and conferences.

1. Facility management should evaluate the feasibility of employing a risk manager in a full-time capacity. The basic tenet of this rationale should be to guarantee a safe, enjoyable, and secure environment for spectators, to reduce the potential for monetary or personal injury loss. If full-time employment appears cost-prohibitive, designate someone to the position as a part-time assignment. If this proves unfeasible, create a safety committee from present employees.

2. The facility manager should discuss the facility's insurance coverage and exclusions regarding liability insurance with the risk manager or insurance broker. In addition, the manager should emphatically demand spectator injury coverage of at least $1,000,000.

3. The stadium director, in consultation with the risk manager, should create the proper policies to report and investigate accidents and injuries. Monitoring and maintaining these policies should insure their continual effective functioning.

4. The facility administrator in conjunction with legal counsel and the risk manager should brief all event staff and crowd management employees on the meaning and implication of negligent actions.

5. The facility manager should require indemnification clauses in all contracts for use by outsiders. In addition, these contracts should include a clause requiring a certificate of insurance naming the facility as co-insured, with a minimum coverage of $1,000,000.

6. Stadium administration, based upon their facility's philosophy, should decide if alcohol sales will occur during football games. If management decides to authorize the sale of alcohol, the facilities risk manager should devise a written policy regarding this consumption and sale. This written policy should include limitations on the size and number of drinks permitted per sale. The written policies should also include procedures for the cessation of alcohol sales during the game. Experts also recommend that the sales cease at the beginning of the third quarter. In addition, the facility administration should provide alcohol management training such as TIPS or TEAM for those employees involved in its sales.

7. The stadium manager should implement procedures that prohibit alcohol from being brought into the facility. Authorizing the crowd management personnel at the entrance gates to confiscate any alcohol brought to the entrances will prevent the introduction of alcohol from outside the facility.

8. The facility operator should establish procedures, with assistance of the risk manager, to deny entry to the stadium to anyone judged to be under the influence of alcohol. Allowing a refund to these individuals will help to preclude many legal conflicts.

9. The stadium director, after consulting with legal counsel, should establish written policies regarding the ejection of unruly, disruptive, or intoxicated fans. An "incident form" should accompany each of these ejections, describing in detail what actions preceded the ejection. Questioning the person being ejected and asking if he/ she requires medical assistance before being escorted out of the facility will assist in limiting future litigation. A picture of the ejected should accompany each incident form.

10. The crowd management policy should insure the use of proper signage. These signs should: (a) direct fans to various facility locations and services, (b) identify at the entrances prohibited items not allowed in the stadium, and (c) direct fans on major roadways to the facility and the appropriate parking lots.

11. The facility administration, upon advisement from the risk manager, should establish a written medical service plan. This plan should include procedures for emergency medical transportation and be coordinated with the local law enforcement officials.

12. The facility manager, after consulting the risk manager and law enforcement officials, should design and implement an emergency evacuation plan. The plan should identify the specifics necessary to cause an evacuation, who is responsible for making the evacuation decision, what specifically is said, and how the information should be disseminated to the spectators. Practice of this plan should occur at least once a year.

■ PRODUCTS OF THE RISK AND GAME MANAGEMENT PARADIGM

After instituting the risk and game management paradigm, several results are possible. At a minimum, however, the facility should have:

- a reduction in the number of accidents
- a reduction in the number of injuries that occur
- a reduction in the number of insurance claims/ lawsuits
- a reduction in the amount of dollars spent on paying damages.

As a result of these reductions, a positive impact on the either insurance premiums or loss reserves is likely to occur. By using simple statistical procedures a facility manager could produce information that could save his or her facility significant amounts of money in terms of premium payments and/or loss reserves maintained by the facility.

■ MEAN LOSS CALCULATION AND UTILIZATION

When looking at insurance premiums it is important to understand that the premium payment is directly related to the risk of loss that is being insured against. In order to determine what risk is present for a given type of facility, it is important to look at the past history of the facility. Looking specifically at the losses that occurred in the past, a table should be created that indicates the amount and frequency of the losses. (See Table I) By taking numerous random samples, the resulting curve plotting the error that is produced has been mathematically proven to be normally distributed irregardless of whether or not the original population or single sample is normally distributed. (Greene, 1983) Given this normal distribution, the sample mean and standard error can be calculated as follows:

**Average Losses for Stadium X
Over a 10 Year Period**
TABLE 1

Average Dollar Loss (X)	Number of Incidents (n)	Loss
250	750	187,500
500	200	100,000
1,000	50	50,000
2,500	50	125,000
5,000	10	50,000
10,000	2	20,000
Total	1,062	532,500
Mean Loss (M) = $501		

Standard Deviation
TABLE 2

X - M	(X M)² x n	Weighted Squared Deviations
-251	63,001 x 750	47,250,750
-1	1 x 200	200
499	249,001 x 50	12,450,050
1999	3,996,001 x 50	199,800,050
4499	20,241,001 x 10	202,410,010
9499	90,231,001 x 2	180,462,002
Total		642,373,062
Mean of Squared Deviations	604,871	

$$\text{Standard Deviation} = \sqrt{604{,}871} \text{ or } 778$$

$$\text{Standard Error} = \frac{778}{\sqrt{1061}} \text{ or } 24$$

From the tables above, it can be seen that the average loss that could be expected to occur in the future should not exceed $501. But, a more useful statistic would be to develop a maximum loss which the mean should fall at or below given a specific confidence level. (see Figure 1) For example, given the standard error of $24 we could be 95.45% confident that the maximum mean loss would not exceed $549 (2 standard errors). At a confidence level of 99.73% the maximum mean loss should not exceed $573 (3 standard errors).

FIGURE 1
Maximum Expected Mean Losses

501   525 549 573
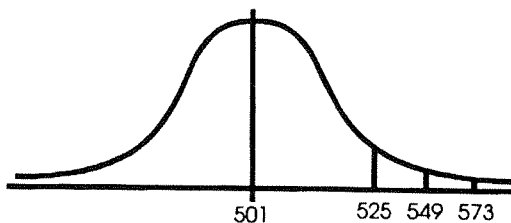
68% certain the mean loss will be between 501 & 525
95% certain the mean loss will be between 501 & 549
99% certain the mean loss will be between 501 & 573

These figures represent what the maximum mean loss should be for a large number
of years. Any one year may fluctuate higher or lower than the mean losses shown
above. (Greene, 1983)

■ SETTING LOSS RESERVE AND CALCULATING PREMIUMS

At this point the data collected can be used in two ways. First the data can be
used to set loss reserves. A loss reserve fund could be set up if the facility manager
decides that the risk is best managed through self-insurance. In the example given
above, a prediction could be made that the mean loss for a year would not exceed
$573 with an average of 106 incidents per year 99.73% of the time. A loss reserve
could then be set at $60,738 for the year even though the estimated mean loss should
be $53,636.

If the facility managers choose to insure the risks, the data can again be used
to determine what a fair premium would be. For example, the maximum expected
loss at a 99.73% confidence level is known to be $60,738 per year. If the insurer has
expense loading of 30% (see Appendix A), the premium quoted should not exceed
$60,738*(1.43) or $86,855 per year. (Greene, 1983)

■ SHIFTING RISKS WITH THE PARADIGM

As stated earlier, the risk management paradigm should assist in reducing risks
within a facility and therefore premiums and payments made due to injuries should
also be reduced. To illustrate the impact of risk reduction, assume that the number
of incidents that occurred in the first example drop by 30% in each loss category.
A new table of losses and frequencies could then be created as follows:

TABLE 3

Average Dollar Loss (X)	Number of Incidents (a)	Loss
250	525	131,250
500	140	70,000
1,000	35	35,000
2,500	35	87,S00
5,000	7	35,000
10,000	1	10,000
Total	**743**	**368,750**
Mean Loss (M) = $496		

By simply reducing the total number of incidents in each category by 30% the mean
loss has dropped from $501 to $496. Again, using the same method as above, the
standard error can be determined as follows:

Standard Deviation
TABLE 2

X - M	$(X - M)^2$ x n	Weighted Squared Deviations
-246	60,516 1 525	31,770,900
4	16 1 140	2240
504	254,016 1 35	8,890,560
2004	4,016,016 x 35	140,560,560
4504	20,286,016 x 7	142,002,112
9504	90,326,016 1 1	90,326,016
Total		413,552,388
Mean of Squared Deviations	556,598	

$$\text{Standard Deviation} = \sqrt{556,598} \text{ or } 746$$

$$\text{Standard Error} = \frac{746}{\sqrt{742}} \text{ or } 27$$

Given a standard error $27, the maximum expected mean loss is $550 at a confidence level of 95.45% and at a confidence level of 99.73% the maximum expected mean loss would be $577.

■ IMPACT ON LOSS RESERVES AND PREMIUMS

With a 30% reduction in the number of incidents coupled with the resulting the $5 decrease in mean loss it should be expected that loss reserves could be set at lower levels than in the first example. Assuming we are again looking at a 10 year period, the average number of incidents per year would 74 with a maximum loss of $577 at a confidence level of 99.73%. Loss reserves would therefore need to be set at $42,698 which would result in a savings of $18,040 in loss reserves.

Savings should also be evident in the premium payment. The premium payment was $86,855 in the first example. With the 30% reduction in incidents, the resulting premium would be reduced to $42,698*(1.43) or $61,058. The resulting premium payment savings is $25,797. By showing an insurance carrier that losses and risks have been reduced, over a period of time, the facility should be able to negotiate a lower premium based upon a similar statistical analysis.

■ CONCLUSION

By implementing the risk management paradigm, the facility managers should be able to develop sound risk management practices and procedures. As a result, fewer incidents of injury and/or damage should result. This information can then be used to demonstrate that the facility is less of a risk for an insurance carrier. By being less of a risk, loss reserves can be set at lower levels and/or insurance premiums can reduced which can save the facility thousands of dollars in the long run.

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APPENDIX A

Expense Loading

Load is the profit that an insurance company makes on the premium you pay. It cannot be simply calculated like a growth rate or profit margin. The reason for this is that agents receive a commission and there are administrative expenses housed in your premium on top of the profits that go directly to the insurance company. Thus, when load is calculated the 'real' amount that you pay is a higher percentage than is indicated by the load percentage.

LOAD TABLE

Load	Multiplier
20%	1.25
25%	1.33
30%	1.43
35%	1.54
40%	1 67

Example: Statistics indicate that Company X should have a pure premium of $50 month to insure against theft. If the insurance company has an expense load of 30% the final premium payment will be $71.50 as opposed to the arithmetic rate of $65.