



The status of womens athletic training programs in selected colleges and universities
by Peggy Jo Pedersen

A thesis submitted in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE
in Physical Education
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Abstract:

The purpose of this study was to determine the status of women's athletic training programs in selected colleges and universities. Specifically, the study attempted to determine the range of care and supervision provided to female athletes by training personnel, the qualifications of health care personnel, and the facilities and equipment available for use.

The study was delimited to 73 selected head women's athletic trainers in the Region Six A.I.A.W., Division III institutions, for the 1980-81 school year. It was further delimited to the use of data collected through the use of a questionnaire designed by Meyer and the researcher. Questionnaires were sent to 73 institutions and 52 responded, for a 71 percent return.

Results from the questionnaire supported the following conclusions: 1) the student trainer was the primary health care personnel employed at games and practices, 2) less than one-third of the institutions employed a certified athletic trainee, 3) on-call personnel were employed more frequently than personnel present at actual competitions and practices, 4) most institutions had a physician on call during competitions and practices, 5) basketball teams had the services of the greatest percentage of qualified health care personnel, 6) attendance by health care personnel was higher at games versus practices, 7) physician services were available at the majority of schools, 8) all responding institutions offered protective taping, 9) preventive taping, rehabilitation, first aid and injury evaluation, and transport of the injured were provided by most institutions, 10) not all institutions provided first aid and injury evaluation, 11) the whirlpool was the most widely possessed therapy unit, 12) the majority of institutions did not have electrotherapy modalities, 13) most schools had an ice machine, 14) the majority of equipment and supplies surveyed were on hand in the training facilities, 15) the quality of women's athletic training programs varied greatly, 16) the quality of health care and personnel assigned was inconsistent from sport to sport, 17) 31 percent of the institutions had no safety breaker outlets for hydrotherapy equipment, and 18) health care for female athletes seemed less than adequate at some institutions.

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June 3, 1982

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IN SELECTED COLLEGES AND UNIVERSITIES

by

PEGGY JO PEDERSEN

A thesis submitted in partial fulfillment
of the requirements for the degree

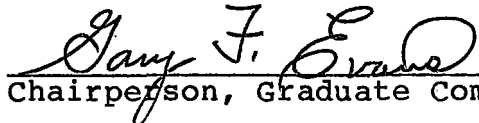
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ABSTRACT

The purpose of this study was to determine the status of women's athletic training programs in selected colleges and universities. Specifically, the study attempted to determine the range of care and supervision provided to female athletes by training personnel, the qualifications of health care personnel, and the facilities and equipment available for use.

The study was delimited to 73 selected head women's athletic trainers in the Region Six A.I.A.W., Division III institutions, for the 1980-81 school year. It was further delimited to the use of data collected through the use of a questionnaire designed by Meyer and the researcher. Questionnaires were sent to 73 institutions and 52 responded, for a 71 percent return.

Results from the questionnaire supported the following conclusions: 1) the student trainer was the primary health care personnel employed at games and practices, 2) less than one-third of the institutions employed a certified athletic trainer, 3) on-call personnel were employed more frequently than personnel present at actual competitions and practices, 4) most institutions had a physician on call during competitions and practices, 5) basketball teams had the services of the greatest percentage of qualified health care personnel, 6) attendance by health care personnel was higher at games versus practices, 7) physician services were available at the majority of schools, 8) all responding institutions offered protective taping, 9) preventive taping, rehabilitation, first aid and injury evaluation, and transport of the injured were provided by most institutions, 10) not all institutions provided first aid and injury evaluation, 11) the whirlpool was the most widely possessed therapy unit, 12) the majority of institutions did not have electrotherapy modalities, 13) most schools had an ice machine, 14) the majority of equipment and supplies surveyed were on hand in the training facilities, 15) the quality of women's athletic training programs varied greatly, 16) the quality of health care and personnel assigned was inconsistent from sport to sport, 17) 31 percent of the institutions had no safety breaker outlets for hydrotherapy equipment, and 18) health care for female athletes seemed less than adequate at some institutions.

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CHAPTER 1

INTRODUCTION

Sports, competition, and injury go hand-in-hand in regard to intercollegiate athletics. According to Calvert and Clarke (1979:445), it is widely accepted that injuries do occur when highly skilled and motivated athletes compete against time, space, and other highly skilled and motivated athletes. In recent years the rapid growth of sports facilities, equipment, and participants has far exceeded the means by which we venture to make play safe, health promoting, and yet enjoyable. (Borozne 1977:9)

The need to reduce the inherent risks of sport is not a new concept. Recognition and development of a philosophy of safety in sport dates back to ancient times. The existence of trainers and physicians in athletics can be traced back to the works of Herodicus and Galen in the days of ancient Rome and Greece. From the time of Galen, however, until the Nineteenth Century and the advent of intercollegiate athletics in the United States, there was an absence of athletic training specialists. (Meyer 1979:12-13)

Despite its early beginnings, the multifaceted approach to athletic training programs that we see today in varying degrees in educational institutions throughout the

country, is realistically quite young. A national organization to promote unity of purpose and exchange of ideas and information concerning the care and prevention of athletic injuries did not become a reality until 1950 when the National Athletic Trainers Association (N.A.T.A.) was founded. It was not until 1956 that the American Medical Association (A.M.A.) expressed concern towards the problem of sports, competition, injuries, and the resulting medical aspects by forming the Committee on Sports Injuries. This body later became known as the Committee on the Medical Aspects of Sports. In 1957, the National Collegiate Athletic Association (N.C.A.A.) recognized the importance of sports safety by accepting the N.A.T.A. as an affiliate member of their organization. The "Bill of Rights for the Athlete" was drafted by the A.M.A. in 1959. It included the rights of "good coaching, good officiating, good equipment and facilities, and good health supervision." In keeping with the times, the American Association of Health, Physical Education, and Recreation (A.A.H.P.E.R.) recognized and also accepted the N.A.T.A. as an affiliated association. By 1966, a Joint Commission on Sports and Medical Aspects of Sports Committee was formed and included the following organizations:

1. American College Health Association
2. N.A.T.A.
3. N.C.A.A.
4. National Federation State High School Athletic Association (O'Shea 1980)

The concept of sports medicine and a philosophy of safety in sport has rapidly gained in importance and acceptance. A major boost towards the goal of wide-spread athletic training programs occurred in 1967 when the A.M.A. endorsed the role of a professionally prepared athletic trainer as a crucial part of the multidisciplinary approach to responsible health care for athletes. The A.M.A. further endorsed the cooperation of the Committee on the Medical Aspects of Sports with the N.A.T.A. In 1969, the A.M.A. again encouraged quality health care for athletes by urging all institutions offering sports programs to establish Athletic Medical Units. (Meyer 1979:1-3)

With the tremendous growth and influx of women's athletic programs, the National Association of Girls and Women in Sport (N.A.G.W.S.) endorsed a position paper in 1977 discussing the utilization of qualified athletic trainers by all institutions which sponsored athletic teams. The publication stated that although limited numbers of certified personnel were available and

difficulties may arise due to financial limitations involved in the hiring of certified individuals, it was, nonetheless, the obligation and responsibility of every sports program to do everything within its power to prevent injury whenever possible and lessen the severity of injury when it does occur through prompt and proper treatment and with total rehabilitation the goal. (Wilson and Albohm 1978:66)

Despite all the literature and organizations in support of quality athletic training programs, the status of existing programs in today's institutions is not readily known or evaluated on a regular basis.

Statement of the Problem

The general problem of this study was to determine the status of women's athletic training programs in selected colleges and universities. More specifically, through the use of a questionnaire, this study attempted to determine the range of care and supervision provided to female athletes by training personnel, the qualifications of personnel providing the care and supervision, and the facilities and equipment available for use by the athletes and training personnel.

Definition of Terms

Women's Athletic Training Program. In this study, women's athletic training program referred to the care, supervision, personnel, equipment, facilities, and policies employed in maintaining the health care of women collegiate athletes.

Training Personnel. Training personnel referred to any person actively involved in the health care of the female collegiate athlete.

Head Women's Athletic Trainer. In this study, head women's athletic trainer was defined as the person designated as most qualified and responsible for the health care of the female collegiate athletes.

Region Six. Region Six was a divisional breakdown of the Association of Intercollegiate Athletics for Women (A.I.A.W.) that included the member institutions in the states of Kansas, South Dakota, Missouri, Minnesota, Iowa, Nebraska, and North Dakota.

Division III. Division III was an A.I.A.W. declaration of sport status. An A.I.A.W. institution making a declaration of Division III in any sport may not award financial aid based on athletic ability in excess of ten percent of A.I.A.W. maximal permissible limits in that sport.

Delimitations

This study was delimited to 73 selected head women's athletic trainers in the Region Six Association of Inter-collegiate Athletics for Women, Division III institutions, for the 1980-81 school year. Division III classification was based on the sports of volleyball and basketball. It was further delimited to the use of data collected through a questionnaire designed by Meyer and the author (Appendix A).

Limitations

This study was limited by the interpretation of the head women's athletic trainers in reply to the questionnaire and also by the percentage of questionnaires returned.

Justification of the Study

In this day and age of intense sports competition for both men and women, the role of the athletic training program has rapidly gained in importance. In discussing injuries and college athletes, Calvert and Clarke stated:

...injuries can be anticipated whenever people are active; the existence of policies for minimizing injuries by providing good coaching, conditioning, and equipment for handling the injury properly when it occurs is a reasonable expectation of all colleges. (1979:463)

Fairbanks further stated, "A sportsmedicine program can help minimize time lost due to injury and maximize safety." (1979:71)

It was the scope of this study to determine the status of collegiate athletic training programs for women. With the advent of Title IX and the rapid increase in competition levels in women's sports, the resulting rise in intensity can be expected to produce more injuries. This increase in injuries indicates that women's as well as men's needs must be conscientiously considered when implementing an athletic training program to maintain the health care of athletes. (Calvert and Clarke 1979:448) This has not always been the case. According to The First Aider (1977), when female athletes got hurt, often there was no trainer or competent person to give proper first aid and follow-up treatment. As a result, some female athletes undoubtedly suffered needlessly and their recoveries were delayed or even incomplete.

It appears that we have much work ahead of us in educating the public and community involved in athletics in order to bring about an awareness that prevention and care of athletic injuries are rights of an athlete and not chance occurrences. (Bell 1978:200) It was the investigator's hope that this study will help identify problem areas in health

care for the emerging female athlete in order that recommendations may be made for future needs and improvements. The data and suggestions obtained in this study should be of genuine interest and concern to athletes, parents, coaches, administrators, and communities. It matters little to the female athlete involved in competition which sport has the highest frequency of injury. What is important is that each athlete, whether she be a gymnast or a basketball player, is pursuing the benefits of her sport and assuming that expedient, appropriate, and effective injury control measures are being applied. (Clarke and Buckley 1980:191)

Population

With the assistance of Ruth Lauver, A.I.A.W. Region Six President, 73 institutions were identified as being A.I.A.W. Division III in regard to the sport of volleyball or basketball. Questionnaires were sent to 73 women's athletic administrators with the request that the questionnaire be routed to the person on their staff best acquainted with the resources of their women's athletic training program. Questionnaires were coded for follow-up purposes only. Assurances were made regarding confidentiality and anonymity. The questionnaire was returned by 52 women's

athletic administrators, for a return of 71 percent.

Data Collection

Data were collected through the use of a questionnaire (Appendix A) to determine the status of women's athletic training programs in selected colleges and universities. The questionnaire was developed by Meyer and the researcher. Permission to use portions of Dr. Meyer's dissertation, "Development of a Scorecard to Evaluate Intercollegiate Athletic Training Facilities and Services," was granted via telephone conversation in December of 1980 and later verified in writing (Appendix B).

A pilot study to identify problem areas in answering the questionnaire and also to validate the questionnaire was conducted on the 1980 Autumn Quarter class of P.E. 512 (Research in Physical Education) at Montana State University. The questionnaire and introductory letter were also given to five members of the athletic training staff and the women's athletic director at Montana State University to elicit their responses. Upon completion of the pilot study, page one of the questionnaire was revised for increased clarity.

The revised questionnaire was mailed April 17, 1981 to selected women's athletic administrators in A.I.A.W. Region

6 with the request that the questionnaire be forwarded to the person on staff best acquainted with the resources of their women's athletic training program. Also included in the initial mailing was an introductory letter including instructions for completing and returning the questionnaire (Appendix C) and a stamped, self-addressed envelope for returning the questionnaire.

A follow-up letter (Appendix D) was sent May 5, 1981 along with another questionnaire to those who failed to respond to the first mailing.

A total of 34 responses were received from the initial mailing. Eighteen additional responses were received from the follow-up, for a total of 52 responses, or an overall return of 71 percent.

Results of the Data

The data collected were transferred to computer code sheets and cards were key punched by the Montana State University Testing Service. With the assistance of Dr. Al Suvak, the cards were then tabulated and totaled. Percentage of those responding yes, percentage of those responding no, and percentage of those omitting a question, were computed for each item on the questionnaire.

The results were grouped into 13 categories: (1) personnel, game coverage, (2) personnel, practice coverage, (3) training room availability and accessibility, (4) general training room characteristics, (5) athletic training services available, (6) physician services available, (7) taping area, (8) hydrotherapy area, (9) physical and thermal therapy area, (10) electrotherapy area, (11) training room office, (12) general training room supplies, and (13) general training room equipment.

The data obtained from the questionnaire is presented and analyzed in Chapter 3.

CHAPTER 2

SURVEY OF RELATED LITERATURE

Although athletic training programs have been in existence for a number of years, many people not directly involved with athletics, are unaware of the purpose, the function, and the need for such programs. It was, therefore, the intent of this review of literature to inform the reader as to the historical background of the athletic training profession, the nature and incidence of injuries to female collegiate athletes, and the standards and status of women's collegiate athletic training programs currently in operation.

Athletic Training: A Historical Perspective

Concern with prevention and care of injuries resulting from physical activity has existed since the beginning of time. The origin of sport and medicine can be traced back to the Panhellenic Games of ancient Greece, the most famous of which were the Olympic Games. Athletic trainers of that time were called paidotribes, aleittes, and gymnastes. Their role was to help athletes attain their ultimate potential by advising them in regard to performance factors such as nutrition, rest, and physical training. The use of

massage was also a major part of their job. Herodicus of Megura is believed to be the greatest of the Greek trainers. He was also known as a doctor and the advisor of Hippocrates, the "father of modern medicine." (O'Shea 1980:3-4)

The gladiatorial schools of ancient Rome also utilized professional trainers. Claudius Galen was working as a trainer and physician as early as 160 A.D. After the time of Galen and concomitant with the fall of Rome, interest in athletics died.

A resurgence in athletic training was not seen until the 1900's when intercollegiate athletics, and football in particular, began to flourish and a need arose for trainers to care for the inevitable injuries. The profession of athletic training, as we know it today, came into being during this time. As more and more trainers took to practicing their skills, they began to meet and exchange ideas, treatments, and future goals they saw for their profession. In 1938, a national organization for athletic trainers was formed, but by 1944 it had dissolved due to war-time conditions of low finances and dwindling membership. Athletic trainers were not disorganized for long. In 1950 the structure of the National Athletic Trainers Association (N.A.T.A.) was completed and is still in

existence today. The N.A.T.A. chose an official emblem, adopted a code of ethics, and began an official publication entitled Athletic Training, The Journal of the NATA.

(O'Shea 1980)

As concern regarding athletic training grew through the years, so did the membership of the N.A.T.A. Competency and professionalism were continually stressed as was evidenced by the development of approved educational curriculums in 1969 and the implementation of a national certification test in 1970. Soon the N.A.T.A. began to be recognized and respected by other associations promoting and maintaining safety in sport.

In 1974, the N.A.T.A. committee on professional education officially defined athletic training as "The art and science of prevention and management of injuries at all levels of athletic activity" and an athletic trainer as "one who is a practioner of athletic training." (O'Shea 1980:80) Today athletic training is a vital and growing profession and the nationally certified athletic trainer is recognized as an essential and fundamental part of the athletic health care team.

Injuries to Women: Nature and Incidence

Before any practical application of athletic training programs for women can be put into action, it is necessary that the nature and incidence of injuries that occur to women in sport be understood. In 1973 the American Medical Association Committee on the Medical Aspects of Sport delivered its judgement that women should be able to participate in any type of sport. In concurrence with that announcement, they encouraged researchers to examine the potential for injuries and also the character of such injuries.

(Haycock 1980:411-412) It is only within the past decade that attempts have been made to investigate this problem.

Kosek (1973) conducted a two-year study at the University of Washington on injuries sustained by women participating on competitive club teams. The sports of field hockey, basketball, and track and field were chosen for study. Injury rates were computed as number of injuries per 10 participants per 100 exposures to adjust for the variables of season length and number of team participants. An injury was defined as the inability of an athlete to participate fully in a practice or game. Results showed that track and field athletes sustained the greatest number of injuries, followed by basketball and field hockey participants. The five most prevalent

injuries reported were sprains, muscle strains, tendonitis, contusions, and patellar problems. Due to the findings of this study, the University of Washington has placed greater emphasis on preseason conditioning programs for all athletes.

In 1974, Graham and Bruce studied 28 colleges in Virginia with the purpose of determining the injuries that occurred during the 1974-75 intercollegiate sports season. The sports of archery, basketball, fencing, golf, lacrosse, swimming, tennis, field hockey and volleyball were surveyed and reported. At the time of the survey, only two Virginia colleges employed certified athletic trainers and, as a result, student trainers completed 53 percent of the forms and coaches completed 26 percent of the survey materials. Graham and Bruce suggested that the lack of certified trainers schooled in injury recognition may have lessened the validity of the injury reporting. Their results, based on the percentage of injuries per player, showed basketball had the highest injury rate. Field hockey and volleyball ranked second and third, respectively. The four most commonly reported injuries were sprains, strains, contusions, and simple fractures. Although basketball tallied the greatest percentage of injuries per player, it was found that volleyball players exhibited the highest percentage of

disabling injuries. A disabling injury was defined by Graham and Bruce as one resulting in nonparticipation for seven or more consecutive days. It was also noted that 44.1 percent of all injuries in all sports were reinjuries.

Gillette (1975) surveyed 781 colleges and universities during the 1973-74 school year to find out the number and types of injuries that were sustained by the participating female varsity athletes. Data were collected on 19 sports. Based on the total number of injuries reported per sport, basketball had the most injuries, followed by volleyball, field hockey, and gymnastics. Sprained ankles and knee injuries were cited as the two most common impairments. Gillette suggested that injuries could be reduced by improving training techniques to include weight training preseason, in season, and postseason, and also the utilization of women's athletic trainers.

In 1976, Haycock collaborated with Gillette to present the combined results of three independent surveys. The three studies included Gillette's survey of 781 institutions, a second survey by Gillette of 300 certified athletic trainers eliciting specific injuries per sport, and a third survey by Haycock of the same 300 certified athletic trainers asking opinions on sports injuries as related to the sex of the athlete. Responses indicated

that the greatest variety of injuries occurred in basketball, volleyball, and gymnastics, but the most serious injuries, such as major fractures, head injuries, and dislocations, occurred in basketball, field hockey, softball, and gymnastics. Those surveyed stressed the need for qualified women coaches and trainers at all levels. Haycock and Gillette concluded that female athletes experience the same type of injuries at a similar rate to male athletes competing in sports activities. Only patellar problems seem to be seen more frequently in the female population. (1976:165)

Eisenberg and Allen (1978) followed 110 varsity female athletes participating in eight sports over a single season. Data indicated that softball recorded the highest number of injuries per week followed by gymnastics, volleyball, track and field, and basketball. Sprains and strains were the most common impairments reported and the most frequent sites of injury were the knee/leg and the ankle/foot.

The findings of the National Athletic Injury/Illness Reporting System (NAIRS) for the first three years of operation, were reported by Clarke and Buckley in 1980. The NAIRS program was founded in 1974 by Dr. Kenneth S. Clarke and established a long awaited tool for collecting, storing, retrieving, and interpreting data on athletic

injuries and accidents on a continual basis. The NAIRS differed from previous systems designed to collect information in several ways. It required no specially trained investigators, no game film analysis, and it utilized the already present certified athletic trainer as the recorder of injuries or as the supervisor of a competent student trainer for that function. Those institutions employing NAIRS submitted weekly reports of individual injury cases. These, in turn, were stored in a computer bank and computer profiles of individual cases were sent on a monthly basis to the cooperating schools. The profiles served as a medical record as well as a double check of the data submitted. Yearly summaries of injury frequency and patterns were also made available through the NAIRS.

As defined in NAIRS reporting, a significant injury is one causing an athlete to miss one week of participation. Based on the NAIRS data collected from 1975-1978, in the sport of gymnastics, 28.4 out of every 100 athletes suffered a significant injury. Basketball reported 20.3 injuries per 100 participants, track and field 12 per 100, volleyball 10.9 per 100, and softball 8.7 per 100 athletes. Field hockey, swimming, and tennis recorded 5.5, 2.3, and 5.7 significant injuries per 100 athletes, respectively.

Data were also analyzed per "athletic exposure" which provided an equalizer for comparing sports of varying seasonal length. When utilizing significant injuries per 1000 athletic exposures, gymnastics once again recorded the highest frequency (2.7) followed by basketball (2.5), track and field (2.2), volleyball (2.1), softball (1.8), and field hockey (1.0). Tennis and swimming reported less than one significant injury per 1000 athletic exposures. When comparing injury frequency among men's and women's sports, one interesting finding was the similarity between women's gymnastics, a noncontact sport, with men's contact sports, such as football and ice hockey. In general, women tended to have a higher number of injuries to the lower extremities. Clarke and Buckley summarized by saying that injuries to women were sport-related, not sex-related.

(1980:190)

Whiteside (1978:69) also used data from the NAIRS from 1975-77 to conduct an epidemiological examination of injuries related to the sports of basketball, field hockey, gymnastics, and softball. The purpose of her study was to gain knowledge of mechanism of injuries and illnesses in order to form a basis for preventive steps. Whiteside listed the ankle/foot, hip/leg, knee, and forearm/hand as the four areas of greatest injury incidence. The study

also reported that the highest frequency of injuries to female basketball players occurred during the fourth quarter of a game and the last half of practice. In field hockey, the first quarter of a game and the last half of practice resulted in the greatest injury levels. The highest incidence of gymnastic injuries were displayed during the second event of a meet and the midportion of practice. Softball injuries were greatest during the last half of games and the first and third quarters of practice time. Whiteside concluded by stating:

...the number of injuries was generally higher in practice as opposed to a game situation. However, the relative frequency reflected that the number of injuries that occurred in practice were in proportion to the amount of time the athlete was at risk. Overall, the incidence of injury was higher in a game situation for both men and women according to 1,000 athletic exposures.

Current Athletic Training Programs: Status

Although the need for athletic training programs has been firmly established, the status of existing programs is unclear in regard to the literature available. On the high school level, a study published by Yeager (1974) concerning the evaluation of health care for the high school athlete in 18 states, summarized the situation as "barbaric." In a study of 216 Michigan High Schools, Redfearn (1975) reported the majority provided "no care at all" with regard

to athletic injuries. Marshall's studies indicated that less than ten percent of the nation's 22,000 high schools provided adequate medical care for student athletes.

(Kegerreis 1979:78) Studies by Deglow (1969), Bowers (1976), Martin (1977), and Wren and Ambrose (1980)

substantiate the inferiority of athletic health care at the high school level.

The situation at the collegiate level was difficult to document.

The void, however, has been in data that would discern patterns of injury for guiding preventive courses of action, and reveal the immediate availability of health supervisory personnel to athletes for minimizing the trauma of injury. (Calvert and Clarke 1979:445)

The National Association for Girls and Women in Sport (NAGWS) Athletic Training Council surveyed all A.I.A.W. institutions during the 1979-80 school year in regard to their athletic training services available to women. To date, the results of that survey have not been published and were unavailable.

In 1979, Calvert and Clarke reported the results of a United States Department of Health, Education and Welfare (HEW) survey of injuries and deaths in secondary schools and colleges as pertaining to athletics. The study was mandated by Section 826 of Public Law 93-380 and was signed

into law by President Ford in August of 1974. The intent of the study was twofold. It was hoped to determine the extent of sports' injuries in order to examine how they might be prevented or reduced, and Congress was also interested in the qualifications of the people caring for athletes and the relationship, if any, the quality of personnel had on injury rates. The resulting survey was the first to collect data on relative incidence of injuries and deaths in sports programs conducted by educational institutions on both a state-by-state and national basis.

Results showed that at the time of the survey (1974-76), 450,000 people were participating in varsity athletics at two- and four-year colleges and universities. Of those 450,000 participants, 27 percent constituted women at two-year schools and 29 percent were women at four-year institutions. In regard to the status of personnel, the HEW study stated that the coach or assistant coach was the most frequently used emergency health care resource person and that this condition occurred most often in the smaller institutions. Larger schools and those offering football had much higher percentages of athletic trainers. Eighty-five percent of all injuries to women occurred when a health care person was available. It was also noted that availability of health care personnel was equal at

practices and competitions. Clarke and Calvert stated that as a whole, institutions were not prepared for a study of athletic injuries, as few had orderly or systematic records of accidents and injuries. They also pointed out that, "despite the expectation of injuries in any sport, many colleges seem ill-prepared for minimum readiness; that is, the presence of a person delegated and qualified to render emergency first-aid care." (Calvert and Clarke 1979:463)

Concerning injury prevention, Calvert and Clarke stated that institutions must dedicate themselves to planned health care and quality supervision of all sports programs. They further recommended that coaches and assistant coaches not be depended upon as the major source of emergency first-aid care and that qualified athletic trainers were available and should be employed. An emergency care plan should be designed for all sports and the costs of quality health care personnel and injury recording should be considered a normal and necessary part of the operating budget at all institutions.

The study also yielded several recommendations regarding the role of government in sports safety. These included:

1. Sports medicine should be recognized and supported by private and government funding as a genuine field for qualified researchers.
2. Those states that intended to better sports health care and supervision, with the assistance of institutions of higher education, should have funding available on a matching or competitive basis.
3. Each institution should design and implement a health care system that would include emergency first aid plus transportation to a better health care facility, should the need arise.
4. Colleges and universities should be advised to keep quality health care records of accidents and injuries that could be readily available for periodic evaluation and study. (Calvert and Clarke 1979:465-66)

Current Standards

Marge Albohm, A.T.C., developed standards for minimal sports medicine coverage for women's competitions in the Big Ten Conference. They included the presence of a certified athletic trainer (A.T.C.) with a physician in attendance or on call for the sports of basketball,

gymnastics, volleyball, field hockey, track, softball, and swimming and diving. For the sports of tennis and golf, a qualified student trainer in attendance with an A.T.C. on call was required. The minimal services to be provided by the host team included: (1) emergency transportation on call, (2) availability of ice, (3) accessibility to area for taping, (4) accessibility to treatment modalities and, (5) availability of water. (Indiana University 1981)

Standards for on-court equipment for practices and games, equipment to be located in the training room, first-aid kit items, and additional procedures, were developed and endorsed for all institutions by the NAGWS Special Committee on Athletic Training.

To this researcher's knowledge, the N.A.T.A. has no formal standards for minimal equipment, services, or personnel to aid in the health care of athletes. This presents a problem when attempting to determine the status of existing programs. The lack of a standard tool for evaluation that was comprehensive, as well as reliable, was also a problem. In 1979, Meyer developed a tool specifically designed for athletic training program evaluation. In her dissertation entitled, "Development of a Scorecard to Evaluate Intercollegiate Athletic Training Facilities and Services," Meyer reiterated the need for formal guidelines

for use in evaluating existing programs and also to serve as an aid in the development of new programs. In designing her scorecard, Meyer sent athletic training item checklists to the program directors of 50 N.A.T.A. approved athletic training educational programs. Those trainers who completed the item checklists made up the national panel of athletic training experts. Each item listed was assigned a point value. Those items assigned a 20 point value were rated as absolutely essential; items given a 15 point rating were highly desirable; those assigned a ten point value were desirable; and those items worth five points were considered nonessential to the establishment of a quality athletic training program. The national panel of athletic training experts checked those items that were included in the athletic training facilities and/or services at their institutions. The data obtained from the panel of experts were analyzed to develop the final scorecard. (Meyer 1979) Through the development of her scorecard, Dr. Meyer may well prove to be a leader in the field of establishing norms and formal guidelines for intercollegiate athletic training programs.

CHAPTER 3

ANALYSIS OF DATA

Data presented in this chapter were collected from 52 colleges and universities within the A.I.A.W. Division III, Region Six classification. Questionnaires were sent to 73 institutions and the resulting data were collected, tabulated, totaled, and percentages computed. Fifty-two respondents returned the questionnaire, for a 71 percent response.

The data obtained from the questionnaire were presented in 13 areas: (1) personnel, game coverage, (2) personnel, practice coverage, (3) training room availability and accessibility, (4) general training room characteristics, (5) athletic training services available, (6) physician services available, (7) taping area, (8) hydrotherapy area, (9) physical and thermal therapy area, (10) electrotherapy area, (11) training room office, (12) general training room supplies, and (13) general training room equipment.

The first page of the questionnaire surveyed personnel employed during the game and practice situations. Data obtained regarding this area are presented in Tables 1-18.

Table 1 indicates the percentage of institutions having a certified athletic trainer (A.T.C.) in attendance at competitive events. Thirteen, or 25 percent, of those responding had a certified trainer present at basketball games. Volleyball, softball, and track and field had comparable A.T.C. attendance with 15, 13, and 12 percent, respectively. Of the five institutions responding to gymnastics, only one had a certified athletic trainer in attendance during meets.

Table 1. Certified Trainer Present at Competitions

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	13	25	25	48	14	27
Volleyball	8	15	32	62	12	24
Gymnastics	1	2	4	8	47	91
Track & Field	6	12	25	48	21	41
Softball	7	13	22	42	23	45

Total Number of Responses = 52

Table 2 shows the percentage of institutions having a certified athletic trainer present during practice sessions. As was the case in competitive situations, basketball had the greatest percentage of A.T.C. attendance at practices with 17 percent. Percentage of softball practices attended by an athletic trainer was six percent, at volleyball and track and field, practices four percent, and at gymnastics, practices two percent.

Table 2. Certified Trainer Present at Practices

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	9	17	27	52	16	31
Volleyball	2	4	34	65	16	31
Gymnastics	1	2	4	8	47	91
Track & Field	2	4	26	50	24	47
Softball	3	6	23	44	26	51

Total Number of Responses = 52

Table 3 illustrates the percentage of institutions having a certified athletic trainer on call during competitions. Of those responding, volleyball had the greatest percentage of certified trainers on call, with 27 percent. Basketball and track and field followed closely, both with 25 percent. Trainers on call during softball competitions totaled 17 percent and gymnastics reported eight percent.

Table 3. Certified Trainer On Call During Competitions

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	13	25	22	42	17	33
Volleyball	14	27	23	44	15	29
Gymnastics	4	8	4	8	44	85
Track & Field	13	25	18	35	21	41
Softball	9	17	18	35	25	49

Total Number of Responses = 52

The percentage of institutions having a certified athletic trainer on call during practice sessions is shown in Table 4. Thirty-seven percent of the institutions responding to volleyball had an A.T.C. on call during practices. Basketball and track and field each tallied 31 percent, followed by softball with 21 percent and gymnastics with 10 percent.

The percentage of schools having a certified trainer on call during practice sessions was greater, in relation to each of the five sports, than the percentage of institutions having an A.T.C. on call during competitive events.

Table 4. Certified Trainer On Call During Practices

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	16	31	21	40	15	29
Volleyball	19	37	20	38	13	26
Gymnastics	5	10	3	6	44	85
Track & Field	16	31	14	27	22	43
Softball	11	21	17	33	24	47

Total Number of Responses = 52

Table 5 denotes the percentage of institutions having a student trainer present during competitive events. Forty institutions, or 77 percent of those responding, had a student trainer in attendance at basketball games. Seventy-five percent of those schools offering volleyball had a student trainer in attendance, followed by track and field with 52 percent, and softball with 40 percent.

Table 5. Student Trainer Present at Competitions

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	40	77	7	13	5	10
Volleyball	39	75	9	17	4	8
Gymnastics	6	12	2	4	44	85
Track & Field	27	52	10	19	15	29
Softball	21	40	11	21	20	39

Total Number of Responses = 52

Table 6 indicates the percentage of institutions having a student trainer present at practice sessions. The results very closely parallel those seen in Table 5. Sixty-nine percent of those responding had a student trainer in attendance at volleyball practices, and 67 percent had a student trainer present during basketball practice sessions.

Table 6. Student Trainer Present at Practices

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	35	67	12	23	5	10
Volleyball	36	69	12	23	4	8
Gymnastics	7	13	1	2	44	85
Track & Field	26	50	11	21	15	29
Softball	18	35	14	27	20	39

Total Number of Responses = 52

The percentage of institutions having a student trainer on call during competitions is presented in Table 7. Track and field respondents totaled 15 percent, basketball and volleyball 12 percent, softball ten percent, and gymnastics six percent.

Table 7. Student Trainer On Call During Competitions

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	6	12	20	38	26	51
Volleyball	6	12	19	37	27	52
Gymnastics	3	6	3	6	46	89
Track & Field	8	15	16	31	28	54
Softball	5	10	14	27	33	64

Total Number of Responses = 52

Table 8 shows the percentage of institutions having a student trainer on call during practice sessions. Schools responding to basketball, track and field, softball, and volleyball all exhibited similar totals.

Table 8. Student Trainer On Call During Practices

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	9	17	18	35	25	49
Volleyball	8	15	17	33	27	52
Gymnastics	3	6	3	6	46	89
Track & Field	9	17	14	27	29	56
Softball	9	17	13	25	30	58

Total Number of Responses = 52

The percentage of institutions having a physician present at competitive events is indicated in Table 9. Percentages were very low. Respondents to basketball stated only five institutions, or ten percent, had a physician present during competitions. Volleyball, track and field, and softball tallied two percent and no institution responded yes in regard to the sport of gymnastics.

Table 9. Physician Present at Competitions

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	5	10	31	60	16	31
Volleyball	1	2	35	67	16	31
Gymnastics	0	0	5	10	47	91
Track & Field	1	2	28	54	23	45
Softball	1	2	26	50	25	49

Total Number of Responses = 52

Table 10 shows the percentage of institutions having a physician present during practice sessions. As can be seen, this use of personnel is nearly nonexistent.

Table 11 illustrates the proportion of schools having a physician on call during competitive events. Thirty-eight, or 73 percent, of those responding had a physician on call during basketball and volleyball competitions. A physician was on call during 54 percent of those competitive events held in the sports of softball and track and field.

Table 10. Physician Present at Practices

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	1	2	33	63	18	35
Volleyball	1	2	34	65	17	33
Gymnastics	0	0	5	10	47	91
Track & Field	1	2	27	52	24	47
Softball	1	2	27	52	24	47

Total Number of Responses = 52

Table 11. Physician On Call During Competitions

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	38	73	7	13	7	14
Volleyball	38	73	9	17	5	10
Gymnastics	5	10	2	4	45	87
Track & Field	28	54	8	15	16	31
Softball	28	54	6	12	18	35

Total Number of Responses = 52

Table 12 indicates the percentage of institutions having a physician on call during practice sessions. The results are nearly identical to those exhibited in Table 11.

Table 13 shows the proportion of schools having a nurse on call during competitive events. Once again, basketball and volleyball led the way, with 48 percent responding yes.

The percentage of institutions having a nurse on call during practice sessions is shown in Table 14. The results closely correspond to those found in Table 13.

Table 12. Physician On Call During Practices

Response	Yes		No		Omit	
	N	%	N	%	N	%
Basketball	38	73	7	13	7	14
Volleyball	36	69	9	17	7	14
Gymnastics	5	10	2	4	45	87
Track & Field	27	52	7	13	18	35
Softball	28	54	6	12	18	35

Total Number of Responses = 52

