

Spring 5-14-2021

Appropriate Medical Care: A Mixed Method Study of Perceptions of Athletics Directors in National Collegiate Athletic Association Division II Colleges and Universities

Laura Crowell
laura.crowell@go.mnstate.edu

Follow this and additional works at: <https://red.mnstate.edu/thesis>



Part of the [Higher Education Commons](#), and the [Sports Sciences Commons](#)

Recommended Citation

Crowell, Laura, "Appropriate Medical Care: A Mixed Method Study of Perceptions of Athletics Directors in National Collegiate Athletic Association Division II Colleges and Universities" (2021). *Dissertations, Theses, and Projects*. 535.

<https://red.mnstate.edu/thesis/535>

This Dissertation (799 registration) is brought to you for free and open access by the Graduate Studies at RED: a Repository of Digital Collections. It has been accepted for inclusion in Dissertations, Theses, and Projects by an authorized administrator of RED: a Repository of Digital Collections. For more information, please contact RED@mnstate.edu.

Running head: APPROPRIATE MEDICAL CARE

Appropriate Medical Care: A Mixed Method Study of Perceptions of Athletics Directors in
National Collegiate Athletic Association Division II Colleges and Universities

by

Laura L. Crowell
BS - Iowa State University
MS - Iowa State University

A Dissertation Submitted in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF EDUCATION

May 2021

Dissertation Committee:

Boyd L Bradbury, Ph.D., Committee Chair
Dawn Hammerschmidt, Ph. D., Committee Member
Muffin E. Morris, Ed.D. Committee Member
Fellow Learner, Patricia L. Myrvik, M.S. Committee Member

Minnesota State University Moorhead

Moorhead, MN

May, 2021

Appropriate Medical Care: A Mixed Method Study of Perceptions of Athletics Directors in
National Collegiate Athletic Association Division II Colleges and Universities

by

Laura L. Crowell

has been approved

APPROVED

Boyd L Bradbury, Ph.D., Committee Chair

Dawn Hammerschmidt, Ph. D., Committee Member

Muffin E. Morris, Ed.D. Committee Member

Fellow Learner, Patricia L. Myrvik, M.S. Committee Member

ACCEPTED AND SIGNED:

Boyd L. Bradbury, Ph.D., Committee Chair

Ok-Hee Lee, Ph.D.

Dean, College of Education and Human Services

DEDICATION

I dedicate this work to my husband: “There is my heart, and then there is you, and I’m not sure there is a difference” (a.r. asher). I love you.

I also dedicate this work to my family, those who went before me, those beside me, and those following. They are a loud, chaotic, hard-loving group who know that the price of success is dedication, hard work, and unrelenting support. I love you all.

ACKNOWLEDGEMENTS

I would like to thank my husband, Scott Crowell, who was a source of never-ending support and encouragement. I want to thank my children; Lindsey, Chelsea, Katelyn, and Danielle for always giving me reasons to persevere.

I thank my dissertation chair, Dr. Bradbury, for accepting me into the Ed.D. program and for all the guidance and support throughout this process. I am so grateful for the opportunity and for the investment of your time.

Thank you to my dissertation committee members: Dr. Hammerschmidt and Dr. Morris, I appreciate all of the time and effort you devoted to my education, hopefully I can pay it forward someday. Dr. Myrvik, thank you for your friendship and your presence on this journey; it has been a great gift.

Thank you to the graduate faculty who have been the best educational role models. I have learned so much in the last three years. Thank you to the cohort group for always encouraging and building people up.

A special thank you to the Athletics Directors who took the time to assist with this research, the time spent sharing your experiences has been invaluable.

Finally, thank you to my family, friends and colleagues: your emotional support helped me achieve my educational goals. I appreciate you all very much.

Table of Contents

DEDICATION	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS.....	vi
LIST OF FIGURES	xi
LIST OF TABLES	xii
ACRONYMS	xv
ABSTRACT.....	xvii
CHAPTER 1	1
Introduction.....	1
Brief Literature Review	4
Statement of the Problem.....	9
Purpose of the Study	9
Research Questions.....	10
Definitions for research questions	10
Significance of the Study	15
Research Ethics.....	16
Permission and IRB Approval	16
Informed Consent.....	16
Limitations and Delimitations.....	17
Conclusions.....	18
CHAPTER 2	19
Literature Review.....	19

Introduction..... 19

Synthesis of Literature 20

 Perception of Athletic Health Care and Evolution of Athletic Training 20

 Athletic Training as a Health Care Profession..... 21

 The Proliferation of Expectations of Athletic Training Practice. 23

 Workload in Athletic Training Practice 25

 A Snapshot of the Problem: the NSIC and the AMCIA. 31

 Legal Cases, Legislation, and and Recommendations in Sports Medicine 35

 Athletics Directors at NCAA DII Schools..... 41

 Analysis of Literature and Recommendation 42

Research Questions 44

Conclusions..... 44

CHAPTER 3 46

Methodology 46

 Introduction/Researcher position 46

 Research Questions 46

 Overview of Research Design Process 47

 Paradigm 49

 Conceptual Framework..... 50

 Framework Based on Worldview 51

 Setting 52

 Participants..... 53

 Sampling. 53

Instrumentation	54
Data Collection.	55
Data Analysis.....	56
Procedural Summary.....	58
Ethical Considerations	58
Conclusions.....	59
CHAPTER 4	60
Findings and Analysis	60
Introduction.....	60
Strand Development and AD Demographics.....	61
Quantitative Strand	61
Qualitative Strand	61
Research Question One Findings.....	64
Quantitative Findings related to RQ1	64
Qualitative Findings related to RQ1	65
Research Question Two Findings	70
Quantitative Findings related to RQ2	70
Qualitative Findings related to RQ2	87
Research Question Three Findings.....	89
Quantitative Findings related to RQ3	90
Qualitative Findings related to RQ3	98
Research Question Four Findings.....	101
Quantitative Findings related to RQ4	101

Qualitative Findings related to RQ4 106

Research Question Five Findings 112

Quantitative Findings related to RQ5 112

Qualitative Findings related to RQ5 114

CHAPTER 5 119

Discussion and Recommendations 119

 Overview 119

 Research Questions 120

 Interpretation of Findings 122

 Recommendations for Action 130

 Implications for Change 131

 Recommendations and Reflections 132

APPENDIX A Institutional Review Board Documents 136

 Protection Human Research Partipants Certificate of Completion 136

 Institutional Review Board letter of approval 137

APPENDIX B Informed Consent Agreements 139

 Qualtrics Survey Consent Agreement 139

 Interview Consent Agreement 140

APPENDIX C Qualtrics Online Survey 142

APPENDIX D Semi-Structured Interview Protocol 152

APPENDIX E Participant Demographics Quantitative Strand 154

APPENDIX F Participant Demographics Qualitative Strand 158

APPENDIX G NCCA DII Conference Acronyms 159

APPENDIX H Verbatim Transcript Example 161

APPENDIX I Quirkos Examples 165

APPENDIX H Athletic Director Scope of Practice Score Data/Statistics 168

References..... 173

LIST OF FIGURES

Figure 1.0 NSIC SA Participation Numbers in 2018.....	32
Figure 2.0 NSIC ATs by Institution, Position and FTE.....	33
Figure 3.0 General diagram of convergent design.....	49
Figure 4.0 Coverage Procedure of In-season Practices for High Risk Sports.....	76
Figure 4.1 Coverage Procedure of In-season Practices for Moderate-Risk Sports.....	77
Figure 4.2 Coverage Procedure of In-season Practices for Low Risk Sports.....	77
Figure 4.3 Coverage Procedure of Out-of-season Practices for High Risk Sports.....	78
Figure 4.4 Coverage Procedure Out-of-season Practices for Moderate Risk Sports.....	78
Figure 4.5 Coverage for Conditioning and Strengthening During Academic Year.....	79
Figure 4.6 Coverage for Conditioning and Strengthening During Summer.....	79
Figure 4.7 Scatterplot of Coverage Score and Number of SAs per AT.....	81
Figure 4.8 Scatterplot of Coverage Score and Number of SAs.....	82
Figure 4.9 Scatterplot of Coverage Score and Number of Sports.....	82
Figure 5.0 National Institute of Health Certification of Completion.....	136
Figure 5.1 Institutional Review Board Exempt State Minnesota State University Moorhead....	137
Figure 5.2 Institutional Review Board Exempt State Southwest Minnesota State University....	138
Figure 5.3 Boxplot of Male and Female ADs Scope of Coverage Score.....	170
Figure 5.4 IBM SPSS 27 Tests of normality.....	171
Figure 5.5 IBM SPSS 27 Distributions of Scope Scores for Mann Whitney U Test.....	172

LIST OF TABLES

Table 1.0 Recommended Number of ATs for NSIC Workload Using AMCIA in 2018.....	34
Table 2.0 Research Design Process Overview.....	47
Table 3.0 Procedural Summary.....	58
Table 4.0 Examples of Codes Used in Theme Development.....	63
Table 4.01 ADs Perception of Adequate Numbers of ATs for Appropriate Medical Care.....	64
Table 4.02 Ranking of Barriers by Athletics Directors.....	65
Table 4.03 Number of Varsity SAs.....	71
Table 4.04 Number of Varsity Sport Teams.....	71
Table 4.05 NCAA Allowable Number of Contests/Dates of Competition for Each Sport.....	71
Table 4.06 Adjusted Number of AT.....	73
Table 4.07 Number of SAs to One AT.....	73
Table 4.08 ADs Report Medical Event Coverage Decision-makers.....	74
Table 4.09 ADs Perception that AMCIA Used in Coverage Decision-making.....	74
Table 4.10 ADs Perception that Risk of Injury is Important Determinant of Coverage.....	75
Table 4.11 ADs Perception that Equity is Important Determinant of Coverage.....	75
Table 4.12 ADs Reported Event Coverage for Competitions.....	76
Table 4.13 AD Coverage Scores.....	80
Table 4.14 ADs Perception that Coaches are Qualified for Health Crisis Management.....	83
Table 4.15 ADs Perception that Coaches Have an Emergency Action Plan.....	83
Table 4.16 ADs Perception Athletic Training Facility is Open Adequate Hours.....	84
Table 4.17 ADs Perception of Athletic Training Facility Open Hours.....	84
Table 4.18 ADs Perception that Team Travel is required for Appropriate Event Coverage.....	85

Table 4.19 ADs Perceive ATs Should Have Input When Practice Schedules are Determined.....85

Table 4.20 ADs Perceive ATs Should Provide Medical Coverage for Youth/High School Summer Camps.....85

Table 4.21 ADs Perception of Full-time ATs Work Week.....86

Table 4.22 ADs Perceive Institution has signed the Arrington Settlement.....86

Table 4.23 ADs Perceive AT Staffing Arrangements Satisfy the Arrington Agreement.....86

Table 4.24 Number of SAs, Teams, ATs, and SAs per one AT for Each Interviewee.....87

Table 4.25 Team Physician On-Campus for More than Event Coverage.....90

Table 4.26 Relationship between Athletic Department and Team Physician.....91

Table 4.27 ADs Describe AT Reporting Line.....91

Table 4.28 ADs Perceive ATs are in Good Standing with Board, NATA, and BOC.....92

Table 4.29 ADs Perceive ATs as Well-Trained Professional Health Care Providers.....92

Table 4.30 ADs Believe ATs Responsible for COVID-19 Contact-Tracing.....92

Table 4.31 AD’s Believe ATs Responsible for administering COVID-19 Testing.....93

Table 4.32 ADs Have Knowledge of Medical Record-Keeping.....93

Table 4.33 ADs Believe ATs Should Keep Detailed Medical Records.....94

Table 4.34 ADs Have Knowledge of Current Minimum Degree Required of ATs.....94

Table 4.35 ADs Perceive Knowledge of ATs Continuing Education.....94

Table 4.36 ADs Have Knowledge of ATs Research Requirements.....95

Table 4.37 ADs Recognize ATs Practice Integrating SA Preferences and Values with Research.....95

Table 4.38 ATs Should Participate in NCAA Injury Surveillance Program.....96

Table 4.39 ADs Understand Physician Oversight of AT Practice.....96

Table 4.40 ADs Perceive Knowledge of Standing Orders for AT Practice.....96

Table 4.41 ADs Consider ATs to be Institutional Experts in Managing SA Health Insurance.....97

Table 4.42 ADs Have Confidence of Good Understanding of AT Scope of Practice.....97

Table 4.43 ADs Have Confidence of Good Understanding of AT Professional Training and Skills.....98

Table 4.44 ADs Have Confidence in Good Understanding of AT Professional Training and Skills.....101

Table 4.45 ADs Perceive Longevity to be Desirable.....102

Table 4.46 ADs Can Provide Knowledgeable Guidance in Injury Prevention Skills.....102

Table 4.47 ADs Can Provide Knowledgeable Guidance in Injury Assessment Skills.....102

Table 4.48 ADs Can Provide Knowledgeable Guidance in Injury Treatment/Care Skills.....103

Table 4.49 ADs Can Provide Knowledgeable Guidance in Injury Rehabilitation Skills.....103

Table 4.50 ADs Can Provide Knowledgeable Guidance in Time Management Skills.....103

Table 4.51 ADs Can Provide Knowledgeable Guidance in Communication Skills.....103

Table 4.52 ADs Can Provide Knowledgeable Guidance in Organization Skills.....104

Table 4.53 ADs Can Provide Knowledgeable Guidance in Networking/Referral Skills.....104

Table 4.54 ADs Can Provide Knowledgeable Guidance in Medical Research Skills.....104

Table 4.55 ADs Can Provide Knowledgeable Guidance in Financial Management Skills.....104

Table 4.56 ADs Can Provide Knowledgeable Guidance in Leadership Skills.....105

Table 4.57 ADs Next Hire if Budget Allowed.....105

Table 4.58 Ratios of SAs to One AT, Coach, and Administrator reported by ADs.....106

Table 4.59 ATs Have a Good Work-Life Balance.....112

Table 4.60 AD has advocated for ATs to Upper Level Administration.....113

Table 4.61 Conference ADs have Discussed Appropriate Medical Coverage.....113

Table 4.62 ATs at this Institution are Fully Protected by Institutional Insurance Policies.....114

Table 5.0 AD Age.....	154
Table 5.01 AD Gender.....	154
Table 5.02 ADs Highest Level of Education.....	154
Table 5.03 ADs Highest Level of Athletic Participation.....	154
Table 5.04 ADs Other Institutional Duties Required.....	155
Table 5.05 ADs Number of Years at Present Institution.....	155
Table 5.06 Category of Institution.....	155
Table 5.07 Institutional Enrollment.....	155
Table 5.08 NCAA DII Conferences Represented.....	156
Table 5.09 ADs Experienced/Received Care Provided by AT.....	156
Table 5.10 ADs Satisfaction Level with AT Care.....	157
Table 5.11 Semi-structured Interview Participant Demographics.....	158
Table 5.12 Semi-structured Interview Participant Conferences.....	158
Table 5.13 Survey Questions and Values Used to Determine Scope of Practice Score.....	168

ACRONYMS

AMCIA	Appropriate Medical Coverage for Intercollegiate Athletics
AD	Athletics Director
AT	Athletic Trainer
ATC	Certified Athletic Trainer
BOC	Board of Certification for the Athletic Trainer
CAATE	Commission on Accreditation of Athletic Training Education
CSMAS	Committee on Competitive Safeguards and Medical Aspects of Sports
DI	Division I
DII	Division II
DIII	Division III
DI-A	Division I-A
EAP	Emergency Action Plan
EBM	Evidence-based medicine
EBP	Evidence-based practice
FBS	Football Bowl Subdivision
FTE	Full-time equivalency
GA	Graduate Assistant
HCI	Health Care Index
HCU	Health Care Unit
IRB	Institutional Review Board
LAT	Licensed Athletic Trainer
MD	Medical Doctor

MTBI	Mild traumatic brain injury
MSUM	Minnesota State University Moorhead
NAIA	National Association of Intercollegiate Athletics
NATA	National Athletic Trainers' Association
NCAA	National Collegiate Athletic Association
NFL	National Football League
NSIC	Northern Sun Intercollegiate Conference
OT	Occupational Therapist
PT	Physical Therapist
PPE	Pre-participation physical examination
QUAL	Qualitative
QUAN	Quantitative
SMSU	Southwest Minnesota State University
SSI	Sport Science Institute
SA	Student-athlete

Abstract

The National Collegiate Athletic Association (NCAA) Division II (DII) Colleges and Universities face expanding athletic seasons, more teams, more athletes, increasingly complex medical protocols, and an increasingly litigious society. Athletic Trainers (ATs) are responsible for development and implementation of appropriate athletic health care for Student-Athletes (SAs). Athletics Directors (ADs) are the administrative decision-makers and the agents of change when dealing with these competing interests. Athletics Directors allocate the budget and control hiring processes. Athletic Trainer workload poses a moral and legal threat to SAs, ATs, and universities. The problem continues to persist in NCAA DII Universities despite ample research. The purpose of this convergent mixed-methods study was to increase understanding of NCAA DII ADs perceived barriers to providing appropriate medical care to NCAA DII SAs. The researcher addressed additional research questions about defining appropriate event coverage, athletic training practice, advocacy, and prioritization of hiring practices and budget allocation. The online survey and semi-structured interviews captured information about AD knowledge and perception of appropriate medical care. This study utilized the parallel-databases variant. The quantitative data were analyzed using descriptive and inferential statistics. The qualitative data were analyzed using procedures of theme development. The researcher identified similarities and differences within and between the two datasets to create a comparison discussion. The results provided a comparison of AD perceptions that may create direction for future efforts to improve appropriate medical care for NCAA DII SAs.

Appropriate Medical Care: A Mixed Method Study of Perceptions of Athletics Directors in
National Collegiate Athletic Association Division II Colleges and Universities

CHAPTER 1

Introduction

The National Collegiate Athletic Association (NCAA) Division II (DII) colleges and universities are precariously balanced over the minefields of expanding athletic seasons, more teams, more student-athletes (SAs), increasingly complex medical protocols, and an increasingly litigious society. A single shift in the balance of sports medicine programs threatens not only the health and well-being of DII intercollegiate SAs, but the health and well-being of Athletic Trainers (ATs), the financial stability of athletic departments and in some cases entire institutions.

The primary athletics health care providers for intercollegiate SAs are ATs under the direction or in collaboration with team physicians, and in accordance with state's statutes. Athletic Trainers have a scope of practice that include emergent care, primary care, injury and illness prevention, examination and clinical diagnosis, therapeutic intervention, rehabilitation of injuries and medical conditions, and wellness promotion and education (National Athletic Trainers' Association [NATA], n.d.-b). For more than three decades, ATs have been acutely aware of the impact that staff shortages have on the appropriate medical care of intercollegiate SAs. Staff inadequacies in a health care field are a hazard for a multitude of reasons.

Overworked ATs face fatigue and burnout: factors that compromise decision-making. Decision-making errors, or decision-fatigue, can translate into an array of negative SA outcomes ranging from benign to tragic in every aspect of SA health care. Staff inadequacies in athletic training also influence the ability of the AT to respond to athletic emergencies. The trajectory of

this path had been predicted, analyzed, and documented in the literature as we began the new millennium. Since that time, the competing interests remain on a collision course, and these interests have only collected momentum.

There are a record number of risk exposures (activities that could realistically expose an athlete to injury) in NCAA intercollegiate athletics. This is due to the increases in the number of participating SAs, increases in the number of athletic teams, expanding and lengthening competitive seasons and allowable out-of-season contact time. Concurrently, there are intensifying expectations for appropriate medical care in sports medicine. These scenarios are occurring in a society that is turning, with increasing frequency, to the court system to resolve issues of negligence, malpractice, and criminal liability.

Changing the narrative in intercollegiate athletics is imperative in order to trigger change in the quality and availability of athletic health care. Aparicio et al. (2015) concluded that a majority of NCAA Football Bowl Subdivision (FBS) Level Institutions (formerly known as Division I-A) did not have an adequate number of full-time ATs allotted to football. The FBS is the top-level of college football in the United States and the most lucrative. Gallucci and Petersen (2017) expanded this research to review the size and scope of athletic training at NCAA Division I (DI), DII, Division III (DIII) and the National Association of Intercollegiate Athletics (NAIA). They found that DI institutions employed more full-time staff than all other levels of competition. Despite the large numbers of SAs competing in DII, DIII and NAIA institutions, there is limited research on appropriate medical care or coverage at competition levels other than DI.

Existing research has examined individual components of appropriate care. Findings of this research when amalgamated create concern for the appropriateness of medical care for

intercollegiate SAs. Each of these components, summarized throughout Chapter One, will be discussed in greater detail in Chapter Two. The requirements of appropriate medical care for SAs are determined by professional standards of care and are supported by the literature. A systematic examination of peer-reviewed literature revealed that AT burnout has been frequently documented (Oglesby, Gallucci, and Wynveen, 2020). Mazerolle, Faghri, Marcinick, and Millazzo, (2010) researched AT workload and discovered that one NCAA DI AT was responsible for three teams and 90 SAs throughout the school year. There are legal cases that set precedent for individual and university liability, factors that should be a driving force behind the provision of appropriate athletic medical care (Mitten, 2002; Cotton & Wolohan, 2017). Decision-fatigue and medical error have been researched and reveal that excessive workload is a contributing factor in medical mistakes (Almadi, Sewitch, Barkun, Martel, & Joseph, 2015). The National Athletic Trainers' Association (NATA) has used decades of injury surveillance to compose a formula for determining appropriate care (National Athletic Trainers' Association [NATA], 2010a). Despite the research, ATs are still required to bridge the gap between supply and demand without adequate resources.

Appropriate medical care in athletics can be categorized in two ways: appropriate medical care of SAs and appropriate levels of medical coverage of intercollegiate athletic practices and events. Despite research, changes in practice lag behind the changing landscape of athletic health care. Administrators, the decision-makers, are the agents of change for this problem as they allocate the budget and control hiring processes. The majority of ADs rise through the coaching ranks and present with varying levels of athletic health care knowledge and awareness. Many institutions of higher education seem to be "playing the odds" that shortfalls in athletic training practice will never be exposed. However, the odds are changing and

inadequacies in athletic health care represent a significant threat to SA welfare, AT quality of life, and translate into increased legal liability for schools. This research proposed to study the problem from the vantage point of the AD to acquire a better understanding. Creswell and Plano Clark (2018) point out that quantitative understanding “arises from examining a large number of people and assessing responses to a few variables”, while the qualitative understanding “arises out of studying a few individuals and exploring their perspectives in great depth”. This mixed-methods research was conducted to investigate ways to change the narrative by discovering how NCAA DII ADs perceive appropriate medical care for SAs; how they understand scope of athletic training practice; what factors impact administrative decision-making and hiring; how ADs advocate for appropriate medical care; and perceptions of barriers to appropriate medical care.

Brief Literature Review Problem of Appropriate Medical Care

A strong relationship exists between proposed research and previous scholarship in the field. Appropriate medical care has been studied from different angles and through different lenses. Standards for appropriate medical care and medical coverage of intercollegiate athletics are documented in the literature. Case law illustrating legal liability arising from issues of medical care/coverage is prevalent. Data collected by the NCAA reveals the overall growth of intercollegiate sport: increased numbers of SAs, increased sports, and increased allowable contact time. A correlational relationship exists between the increases in sport and the increased risk of SA injury (NCAA, 2010a). The increased injury risk can also be documented as a factor that drives AT workload (NCAA, 2010a). Standards for appropriate medical care are increasingly sophisticated and drive both AT workload and AT liability. Additionally there is research to suggest that allowing unreasonable workload conditions to continue, increases the

risk of harm to SAs and increases liability and burnout for ATs in the intercollegiate athletic setting. The picture revealed in the literature is cause for concern.

To eliminate the confusion caused by word choice, the term appropriate medical care, as investigated in this research, comprises both coverage and care. In much of the literature, the term coverage is utilized in two different ways. Understanding of the reference must often be taken from the context; however, the differentiation is significant. Medical coverage often refers to the custom of being present at practices and games in order to respond to medical crises. The work of an AT is most visible during athletic events: being on-site for practices and games. The coverage component of medical care is often highly visible and very public. However, comprehensive medical care involves, among other things, the ongoing treatment and disposition of injuries. Ongoing medical care is a significant part of AT practice and is considerably less visible: often occurring in athletic training facilities or behind the scenes. Both event coverage and medical care are components of the appropriate medical care of intercollegiate athletics. In some regards, the term athletic health care is the most appropriate encompassing term for the work of ATs.

Athletic health care has been comprehensively studied resulting in the establishment of numerous standards and protocols. Medical standards of care are determined by medical experts as the proper treatment for individual injuries or illnesses and are impervious to financial factors. It is the goal of athletic health care that each SA, without consideration for sport, gender or level of competition, will have equitable access to appropriate medical care (National Athletic Trainers' Association [NATA], 2010b). Appropriate personnel should provide this care and the parameters of appropriateness are set by law and by professional associations. The NATA is responsible for “setting a standard for professionalism, education, certification, research and

practice settings” (National Athletic Trainers' Association [NATA], 2017a). The NATA and the Board of Certification (BOC) for the Athletic Trainer publish standards of practice/care that govern the scope of athletic training practice. A task force created by the NATA to establish Appropriate Medical Coverage for Intercollegiate Athletics (AMCIA) provided a formula that was first published in 2000. The AMCIA is based on medical criteria and was intended as a guideline method for systematically determining the appropriate level of coverage required by a sport. The application of the formula begins with the use of raw data (sport, roster size etc.) and uses the resulting information to assist the institution in determining the manner in which to manage athletic health care needs.

Employment setting, attrition, burn out, and decision fatigue are all factors that influence appropriate medical coverage of intercollegiate athletics. The employment turnover and attrition are prevalent due to “working conditions” faced daily (Mazerolle et.al, 2017). Athletic Trainers are leaving the college setting or the profession as a whole due to the stress of the job, low pay, excessive workload, consecutive days without time off and travel demands. Job stress leads to a host of health issues for ATs and can adversely affect the adequacy and quality of sports medicine care provided to NCAA SAs (Mitten, 2003).

The numbers of SAs and risk exposures has been extensively studied, and the NCAA tracks and compiles these numbers for the member institutions. A record-setting 499,217 SAs competed in NCAA championship sports in the 2018-2019 academic year, an increase of more than 4,225 since 2017-18 (National Collegiate Athletic Association [NCAA], 2019a). The increased number of exposures to injury is a direct result of expanding allowable contact hours between the SA and the sport. Increased exposure to injury increases the likelihood of injury occurring. This increases the medical care workload of the AT. Increased contact hours between

the SA and the sport increases the number of coverage hours required of the AT, also driving up workload. Gallucci & Petersen, (2017), identified that NCAA DII athletic training staffs reported treating an average of 350 SAs with three full-time ATs and one part-time AT. The staff to SA ratio is a strong factor in appropriate medical coverage of intercollegiate SAs.

The legal liability associated with the medical coverage of SAs is a growing concern. The area of legal liability has been broadly reported, studied, and published. An established standard of care issued by the governing body of a profession provides the yardstick by which behavior is measured. Any conduct that falls below the established standards of care creates a vulnerability of lawsuit which extends to the employer who is responsible for the acts of ordinary negligence while engaged in the furtherance of the employer's enterprise (Cotten & Wolohan, 2017). "The United States has become an increasingly litigious society: annually, millions of lawsuits are filed by citizens seeking legal remedy to problems they have encountered in the course of their personal or professional lives" (Cotten & Wolohan, 2017, p. 2). The majority of legal cases that arise in sport law are negligence cases involving personal injury. "Coaches, team physicians, athletic trainers, and school administrators need to understand these (legal) principles as applied by the courts in their states in order to undertake steps to minimize liabilities" (Quandt, Mitten, & Black, 2009, p. 89). The NCAA has further defined practice standards for a number of medical issues faced by SAs, the most notable being legislation addressing independent medical care. This legislation provides "unchallengeable, autonomous, authority to determine medical management and return-to-play decisions (National Collegiate Athletic Association Sports Science Institute [NCAA SSI], 2017, p. 3). The stage is set for ATs, and the care they provide, to face increased legal scrutiny going forward.

The final element critical to appropriate athletic medical coverage is financial. There is a great amount of misinformation about athletic department budget issues. One of the pervasive myths about collegiate sport is that college sports provide enormous profit margins for schools. Much of the grandiosity of successful athletic programs comes from outside sponsorships, and exists only in the extremely large NCAA DI FBS Universities. In reality, only a small number of college athletic teams create the revenue necessary to cover operational expenses. There are 129 member teams in the NCAA DI FBS. Only 29 FBS schools generated more revenue than they spent in 2018 and of the 306 NCAA DII member teams all had negative net generated income in 2018 (National Collegiate Athletic Association [NCAA], 2018). The FBS schools with net positive generated revenue jumped from 20 schools in 2013, but it has remained relatively consistent through the past decade (NCAA, 2018). Most NCAA DII colleges and universities subsidize their athletics programs with support from general funds, student fees, and government funding. The benefit of intercollegiate athletics to smaller universities is student enrollment. What remains for the majority of NCAA DII institutions is a dwindling budget and increased expectations. There is increased competition among departments for every dollar allocated and currently, athletic health care is not receiving priority consideration. The argument that adequate athletic health care is unaffordable is common. It remains to be seen if financial considerations will be an acceptable defense in a legal case involving athlete health care.

The situation is urgent. The health and well-being of SAs, ATs and institutions falls in the balance. The conversation needs to move from a direction that has not produced meaningful change to a direction that will provide necessary change. The purpose of this research was to create foundational knowledge about the actual practice of administrators in the oversight of the medical health care of SAs. Chapter 2 provides a more in-depth review of relevant literature.

Statement of the Problem

The problem: there are more SAs; more teams; more practices and competition than ever; to be cared for and covered by ATs in an increasingly complex practice and litigious society. Athletic Trainers' practice and workload continues to be an unaddressed factor in employment practices of NCAA DII institutions despite the negative ramifications for the health and wellbeing of SAs, ATs and institutions. The NCAA, NATA, and the BOC are among the governing bodies that have published standards of appropriate medical care and guidelines for the development of event coverage plans that have not been fully implemented at most NCAA DII Universities.

Purpose of the Study

The purpose of this mixed-method research was to address gaps that exist in the current research on appropriate medical care of intercollegiate SAs in the NCAA DII setting. Specifically, the study explored the barriers to providing appropriate medical care to SAs as perceived by ADs; how ADs define appropriate event coverage; what ADs understand about scope of AT practice; how ADs prioritize hiring decisions and budget allocation; and how ADs advocate for ATs. The study utilized a mixed-method design to collect and synthesize data to answer research questions. The time orientation of the research was concurrent. The paradigm emphasis was equal (QUAN = QUAL); this occurs when the two methods of research have equal weight. The study used quantitative data from an online survey as well as qualitative data from eight semi-structured interviews to explore NCAA DII ADs perceptions of appropriate medical care of SAs. The available literature addressed the problems with appropriate medical care from the provider's perspective, in this case the AT. The AT is not the decision-maker when it comes to questions of hiring and budget allocation for university athletic departments. The AD is the

next level decision-maker in the pursuit of appropriate medical care. The research questions were developed to understand how the AD perceives the knowledge that is before them, and to determine what, if any, steps they have taken to change the course of appropriate medical care at the NCAA DII level.

Research Questions

Guiding this research, was the working knowledge that prior research has not yielded significant changes in the delivery of appropriate medical care to SAs and the understanding that the power to make changes belongs to athletic administration.

- I. What are the perceived barriers to providing appropriate medical care to NCAA DII SAs, identified by ADs?
- II. How do ADs define appropriate event coverage of SAs?
- III. Do ADs understand athletic training scope of practice?
- IV. How do ADs prioritize hiring decisions and budget allocations?
- V. How do ADs describe their advocacy for ATs?

Definitions for research questions

Appropriate Event Coverage: This refers to the presence of an AT for all intercollegiate athletic practices, conditioning, weight lifting, and competitions.

Appropriate Medical Care: Encompasses many health care services for SAs (NATA, 2010b).

- Emergency Medical Care – This care is activated by the occurrence of a serious illness or injury, and the goal is to provide emergency medical care of the athlete/s.
- Determination of athletes' readiness to participate, in conjunction with the team physician (i.e., pre-participation evaluation and post-injury/illness return)

- Risk management and injury prevention (i.e., appropriate physical conditioning, evaluation of weather conditions and venue risks)
- Recognition, evaluation and immediate treatment of athletic injuries/illnesses (i.e., recognizing signs and symptoms of common athletic injuries/illnesses and synthesizing information to provide immediate treatment or referral)
- Rehabilitation and reconditioning of athletic injuries (i.e. returning athletes safely following illness or injury)
- Psychosocial intervention and referral (i.e. recognizing, mental and social issues that need referral).
- Nutritional aspects of injuries/illnesses (i.e. recognizing and educating athletes on managing illness/injury with dietary habits.)
- Health care administration (i.e. documenting all interactions between AT, athlete, coach, and parents)
- Evidence-based practice (EBP) - The conscientious, explicit, and judicious use of current best evidence in making decisions about the care of an individual patient. The practice of evidence- based medicine involves the integration of individual clinical expertise, patient values and circumstances, and the best available external clinical evidence from systematic research to make decisions about the care of individual patients.
- Professional development to maintain and improve knowledge and skills (i.e. continuing education in order to stay current on best practices).

Appropriate Medical Care: the combined service of appropriate medical care and appropriate event coverage.

Athletic Director: the individual who is directly responsible for the operation of an NCAA DII Athletic Department.

Athletic Trainer: Health care professionals who render service or treatment, under the direction of or in collaboration with a physician, in accordance with their education and training and the state's statutes, rules, and regulations. The AT must hold certification from the BOC.

Athletic Training Practice: refers to the athletic health care practice of an AT. This is the professional activities of an individual AT to provide appropriate medical coverage. The scope of this practice is further defined under the definition of appropriate medical care

As a part of the health care team, services provided by athletic trainers include primary care, injury and illness prevention, wellness promotion and education, emergent care, examination and clinical diagnosis, therapeutic intervention, and rehabilitation of injuries and medical conditions (NATA, 2010b).

Barrier: The reasons cited by ADs for not hiring AT staff. There are three components of this definition of barrier: 1) lack of power, 2) budget concerns, and 3) non-budget concerns. The term barrier will refer to these three components when referenced by the AD for hiring decisions (Mazerolle, Raso, Pagnotta, Stearns, & Casa, 2015).

BOC Standards of Professional Practice: comprised of two sections

- *BOC practice standards:* established essential duties and obligations imposed by virtue of holding the ATC® credential. Compliance with the Practice Standards is mandatory (Board of Certification for the Athletic Trainer [BOC], 2017, p. 3).
- *BOC Code of Professional Responsibility:* mandates that BOC credential holders and applicants act in a professionally responsible manner in all athletic training services and

activities. The BOC requires all Athletic Trainers and applicants to comply with the Code (BOC, 2017, p. 4).

Certification: A voluntary process by which a practitioner's entry-level knowledge and skills are demonstrated and measured against a defined standard. The BOC is the only National Commission for Certifying Agencies (NCCA) accredited certification program in the U.S. for the Athletic Trainer (National Athletic Trainers' Association [NATA], n.d.-a)

Health Care – refers to provider's actions; the specific things that people do as well as the system by which people get the care they need.

National Athletic Association Division II (NCAA DII): Division II is a collection of more than 300 NCAA colleges and universities that provide thousands of SAs the opportunity to compete. SAs are recognized for their academic success, athletics contributions and campus/community involvement. Division II institutions generally don't have the financial resources to devote to their athletics programs or choose not to place such a heavy financial emphasis on them. (National Collegiate Athletic Association [NCAA], n.d.-a)

NATA Code of Ethics: the principles of ethical behavior that should be followed in the practice of athletic training.

- Members shall practice with compassion, respecting the rights, well-being, and dignity of others.
- Members shall comply with the laws and regulations governing the practice of athletic training, NATA membership standards, and NATA Code of Ethics.
- Members shall maintain and promote high standards in their provision of services.

- Members shall not engage in conduct that could be construed as a conflict of interest, reflects negatively on the athletic training profession, or jeopardizes a patient's health and well-being. (National Athletic Trainers' Association [NATA], 2005b, p. 1-3)

NATA Membership Standards: Abide by the NATA bylaws, policies and procedures, code of ethics, membership standards and other rules and regulations, and demonstrate compliance when asked.

- Refrain from engaging in improper or unauthorized use of the trademarks AT, ATC, the NATA logo or its companion marks.
- Discontinue immediately and correct at his/her own expense any misuse of these marks.
- That if such activities do not cease immediately upon notification, NATA shall be entitled to obtain injunctive relief, damages, costs and attorney's fees.
- Submit complete and accurate membership data and other information requested.
- Must report to NATA if convicted of a felony related to minors, health care, athletics or education. Such individuals shall be ineligible for membership application until one year after the exhaustion of appeals, completion of sentence, or completion of parole, whichever is later. This includes but is not limited to felonies of a sexual nature; threatened or actual use of a weapon or violence; and the prohibited sale, distribution of or possession with intent to distribute controlled or illegal substances. Also included in this prohibition are convictions where an athletic trainer has used his or her position improperly to influence, or try to influence, the score or outcome of an athletic event, or in connection with gambling activity (NATA, 2005a, para. 1)

Student-Athlete: a student who is a participant in an organized competitive sport sponsored by the educational institution in which he or she is enrolled. SAs are full-time students and athletes

at the same time. For purposes of this study, all the SAs are enrolled in NCAA Division II Institutions.

Significance of the Study

Currently, little research examines how existing information is understood, synthesized and acted upon in the pursuit of equitable and appropriate medical care of intercollegiate athletics at the NCAA DII level. The understanding of appropriate medical care has been examined through different lenses. Research has been conducted on injury rates and risk factors for SAs participating in each intercollegiate sport; on the workload associated with different injuries, different sports, and different seasons; on the best practices (evidence based practice) for injury management and disposition; on the perceptions of ATs work and life balance; on the best risk management strategies; on the legal duties that exist for ATs, coaches, and administrators; on the liability associated with different methods of risk management; and on the financial practices of athletic departments. There is little evidence to suggest that this information is changing the athletic training staff to SA ratio sufficiently to account for the demands of the profession, the care of SAs, and the legal protection of all involved.

This research seeks to extend the literature by improving understanding of the problem of adequate, equitable sports medicine for intercollegiate SAs. Athletics Directors are administrators responsible for the management of athletic departments. Athletics Directors are in charge of decision-making, position development, hiring, and advocating for financial support. The AD's role in the athletic health care process has not been well documented in the literature. Finding data, which explains the current deficiencies in appropriate medical care, will set the table for future studies. For example, if finances appear to be the largest barrier to appropriate

medical care, future studies can examine what factors influence the allocation of resources in NCAA DII University athletic departments.

This research could enhance and focus the current picture of athletic health care and provide impetus to make changes in the delivery of services. An improved athletic health care model, that embraces equitable and appropriate medical care could significantly influence the health and well-being of SAs, and reduce the liability of ATs, coaches, administrators and institutions. The contributions to the practice of Athletic Training would include improving the retention of professionals, improving professionalism by allowing ATs the time and energy to continuously improve practices, and improve the quality of life for ATs in the field.

Research Ethics

Permission and IRB Approval. In order to conduct this study, the researcher sought and received Minnesota State University Moorhead (MSUM) Institutional Review Board (IRB) approval to ensure the ethical conduct of research involving human subjects (Mills & Gay, 2019). Likewise, authorization to conduct this study was sought and received from Southwest Minnesota State University (SMSU), where the research project took place (See Appendix A).

Informed Consent. Protection of human subjects participating in research was assured. Participants were aware that this study was conducted as part of the researcher's Doctoral Degree Program and that this research might athletic training practice. Informed consent meant that the participants were fully informed of the purpose and procedures of the study for which consent was sought and that participants understand and agreed, in writing, to participate in the study (Rothstein & Johnson, 2013). Confidentiality of research subjects was protected by not utilizing identifying information. The choice to participate or withdraw at any time was outlined verbally and in writing. (See Appendix B)

Limitations and Delimitations. This study focused on NCAA DII ADs and therefore may have limited implications for athletics programs in other NCAA divisions, other athletics organizations at the collegiate level, high school athletics or professional/elite athletics. This is the strongest delimitation of the study. This study examined the understanding and perceptions of NCAA DII ADs with regard to the appropriate health care for intercollegiate SAs.

This study assumes that ADs are the decision-makers, which may not be accurate for all institutions and therefore may have been a limiting factor. There were several limitations regarding the test methods in this study. There are opportunities for limiting factors in the composition of the survey: the survey may not have captured all the factors that impact the administration of athletic health care. The data was self-reported and relied on the ADs ability to provide accurate, unbiased information. One problem associated with this type of survey is receiving incomplete information or not receiving enough participation.

In addition, the process of using semi-structured interviews has some possible limitations. The honesty of the participants cannot be guaranteed. The status of the interviewer as an AT may have influenced the interviewee's responses. Personal beliefs of the interviewer may have led respondents to preferred answers and alter the integrity of the interview. Open-ended questions can be difficult to analyze and introduce the possibility of researcher bias in the interpretation. Semi-structured interviews with ADs were time-consuming and difficult to schedule.

Another limitation of the study involved the working definition of appropriate medical care. For purposes of this study, appropriate medical care is defined according to the Appropriate Medical Coverage for Intercollegiate Athletics (AMCIA) and is listed under defined variables. It is possible that ADs will not have the same definition of appropriate medical care (NATA, 2010a).

Conclusions

Athletic Trainers, team physicians, physical therapists, coaches, and schools all face potential liability by providing medical coverage at athletic events (Quandt et.al, 2009). The expectations for athletic health care have increased exponentially. The level of expertise required to meet the growing demand for athletic health care has increased, the number of SAs, sports and contact hours have increased. The number of ATs employed by many NCAA Division II (DII) colleges and universities lags the recommendations of the data-driven AMCIA. Athletic Trainers find themselves between the proverbially rock and hard-place when attempting to meet the demands of providing adequate athletic health care.

Past arguments have been ineffective in changing the reality of practice in the NCAA DII collegiate athletic setting. Increased study and research is necessary to document the perceptions and practices of those who are actually change agents for NCAA DII Universities. It will be imperative to impress those in positions that hold decision-making authority because it is of paramount importance that they begin to connect the dots between their legal liability and lack of effective support of ATs in their workforce.

CHAPTER 2

Literature Review

Introduction

Professionals in collegiate athletic training have been navigating a difficult path for many years. Collegiate athletics has exploded over the last two decades. There are more teams, more allowable contact hours and more events than ever before. Juxtaposed with this expansion, is the trend toward increased legal consequences for inadequate medical care or coverage. There have been a number of attempts to alleviate the stress of these competing interests, but these efforts lag in comparison to the ever-changing landscape of athletic health care. In some cases, the proliferation of practice standards has actually increased the burden of risk management. Several issues that affect Athletic Trainers (ATs) are on a collision course. The standards of practice continue to grow in number and in complexity, the legal liability connected to the practice of athletic training is on the rise, and the workload requirements for ATs in the collegiate setting continues to exceed reasonable expectations.

Athletic Trainers are caught in an untenable position. The rapid growth of athletic training as a profession has contributed to a lack of clarity about the responsibilities of athletic health care. This review will examine the growth of athletic health care, relevant literature pertaining to the proliferation of acceptable standards of practice, the problem of athletic training workload, current legal trends, and the role of the Athletics Director (AD). It is imperative to demonstrate the gap between theory and practice in athletic training in order to safeguard the health and well-being of student-athletes (SAs), ATs, and National Collegiate Athletic Association (NCAA) Division II (DII) institutions.

Synthesis of Literature

Perception of Athletic Health Care and Evolution of Athletic Training. The need to educate others about the scope of athletic training practice is due in part to two co-occurring truths: 1) athletic health care is an ancient practice and 2) athletic training is a relatively new profession. The distance between those truths provides a daunting continuum of awareness level about the profession. Athletics Directors (ADs), the people hired to lead athletic departments tend to be male, over the age of 55 and they tend to come from the coach/player ranks (Wong, 2014). There is a lack of research that examines the perceptions of this demographic group: the university AD perception of the worth of the AT position is relatively unexplored. A 2019 study on the perceptions and knowledge of legislators for the athletic training profession revealed that legislators who demonstrated increased knowledge of athletic training also placed a higher value on the AT and vice versa (Pike Lacy, Eason, Stearns, Tosakoon, & Casa, 2019). There is the possibility that athletic administrators make decisions about athletic health care based on personal experiences and like the legislators, this may influence the value they assign to appropriate athletic health care.

To further complicate understanding of athletic health care, definitions are often dependent on a multitude of variables. According to Saunders (2001), health care is both an art and a science. Health care professionals are taught to apply scientific knowledge to people in a rational way. In a realm where it is widely understood that each individual is unique and that there is no quantifiable way to separate mind from body or nature from nurture, the use of the word “art” refers to the focus on patient centered care. The application of science to a patient is the embodiment of the term “practice.” Because of the complex, interwoven nature of applying health care principles to people, professionals typically refer to their work as a practice. Athletic

training practice, even in the management of similar injuries, may look very different based on the patient.

The practice of athletic health care is in fact ancient. The first recorded wrestling match, first illegal hold and first athletic injury is cited in the Book of Genesis: “So Jacob was left alone, and a man wrestled with him until daybreak. When the man saw that he could not overpower him, he touched the socket of Jacob’s hip so that his hip was wrenched as he wrestled with the man” Gen 32:24-25 (New International Version). According to Snook (1984), the first recorded use of exercise as a treatment belongs to the Hindus in the Atharvaveda and the Chinese in the book of Kung Fu around 1000 B.C. (p. 252). In the history of western medicine, it is reported that Herodicus, the father of sports medicine, is credited with teaching Hippocrates, the father of modern medicine. Athletic Trainers become a part of recorded sports medicine history around 776 B.C. when the Olympiad to honor Zeus at Mount Olympus was developing (Snook, 1984, p. 252). Thousands of years of tradition are behind the modern practice of Athletic Training.

Athletic Training as a Health Care Profession. The first attempt to organize professional athletic trainers did not occur until 1950 when the National Athletic Trainers’ Association (NATA) was founded. NATA members did not certify or provide any credential until 1972. Since that time, the trajectory has been one of steep growth. Currently there are 35,550 Board of Certification (BOC) credentialed AT members of the NATA (NATA, 2017b).

The NATA has helped to unify ATs across the country by “setting a standard for professionalism, education, certification, research and practice settings” (NATA, 2017a). In exchange for being allowed membership in the NATA, practitioners agree to abide by the NATA

bylaws, policies and procedures, code of ethics, membership standards and other rules and regulations, and demonstrate compliance when asked.

Appropriate athletic health care involves more than basic emergency care during sports participation. It encompasses the provision of many other health care services for the SA. While emergency medical care and event coverage are critical, appropriate medical coverage also includes activities of ongoing daily health care of the SA, such as:

- Determination of athletes' readiness to participate, in conjunction with the team physician (i.e., pre-participation evaluation and post-injury/illness return)
- Risk management and injury prevention
- Recognition, evaluation and immediate treatment of athletic injuries/illnesses
- Rehabilitation and reconditioning of athletic injuries
- Psychosocial intervention and referral
- Nutritional aspects of injuries/illnesses
- Health care administration
- Professional development to maintain and improve knowledge and skills (NATA, 2010b)

It is the goal of athletic health care that each SA, without consideration for sport, gender or level of competition will have equitable access to appropriate medical care. (NATA, 2010b).

Appropriate personnel should provide this care and the parameters on appropriateness are set by law and by professional associations.

Athletic trainers are certified by the BOC and the certification credential is referred to as ATC. Further credentialing of ATs happens at the state level, and this varies from state to state. In most states, ATs are licensed and the post-nominal letters for licensed ATs are LAT; however,

the NATA prefers that ATs utilize AT as the acceptable abbreviation. All ATs must complete continuing education units for the BOC in order to maintain certification. State laws require evidence of BOC certification in order to maintain state licensure. The result is that ATs must remain life-long learners and follow the law to remain in good standing with the profession.

The Proliferation of Expectations of Athletic Training Practice. An established standard of care issued by the governing body of a profession provides the yardstick by which behavior is measured. The NATA and the BOC publish standards of practice/care that govern athletic training. There are seven BOC standards of professional practice, seven multi-faceted BOC codes of professional responsibility and 27 NATA position statements. There is also an amalgamation of terms that are used across health care professions that bleed into much of the research applied to athletic training practice. An AT might read a standard of care, a code of responsibility, a position statement, a medical protocol, or participate in the process of evidence based practice: all in an attempt to synthesize knowledge into a solid, responsible, ethical and legally sound practice.

Changing standards are “the norm” in health care professions. Sometimes a tragedy, like the death of Minnesota Viking Offensive Tackle Korey Stringer creates such scrutiny that public awareness changes. Stringer’s death was the first National Football League (NFL) heatstroke fatality in league history and sparked changes in exertional heat stroke protocols (Grundstein, Knox, Vanos, Cooper, & Casa, 2017; McCallum & Munson, 2002). As medicine evolves, we discover that what was once an acceptable practice has become unacceptable. The recent explosion of information about mild traumatic brain injuries (MTBIs) or concussion has completely rewritten the protocols for management of these injuries. Often the speed at which these changes occur is daunting. The BOC reports that the half-life of medical knowledge in the

United States (U.S.) is five years, and the amount of information in the medical field doubles every 18 months. (Board of Certification for the Athletic Trainer [BOC], 2020)

Collectively position statements of the NATA and BOC provide recommendations and guidelines for the appropriate management of: concussion, sudden cardiac arrest, heat illness, sickle cell trait, spine injury, anterior cruciate ligament injury, asthma/exercise induced asthma, back pain, chronic injuries and conditions, cultural competence, diabetes, heat acclimatization, lightning safety, mental health, nutrition, opioid abuse, osteoarthritis, pediatric considerations, skin disease, stress injuries, and athletic training documentation. Each of these position statements offers a multi-paged description of the best ways to manage these situations and conditions for the AT. These are by no means the all-encompassing expectations; standards for best practices exist for every injury and illness that occurs in sport. All position statements published by the NATA and BOC are science-based and peer reviewed documents written by authors who are experts in the field (NATA, 2010b). The expertise behind the position statements comes from a variety of health care professions: ATs, physical therapists (PTs), medical doctors (MDs) with various specialties, occupational therapists (OTs), attorneys, and emergency medical providers to name some contributors. These position statements are intended to provide parameters for practice, and they become the foundation for a legal standard of care.

The AT desiring to practice in a manner that is medically and ethically sound, will also follow the guidelines set forth by the NCAA. These guidelines are developed by the NCAA Committee on Competitive Safeguards and Medical Aspects of Sports (CSMAS) in conjunction with the NCAA Sport Science Institute (SSI). Publications from these entities provide further details on the approved methods for handling medical issues that arise in collegiate sport. The NCAA clearly places the burden for compliance on individual members: “The health and safety

principle of the NCAA's constitution provides that it is the responsibility of each member institution to protect the health of, and provide a safe environment for, each of its participating SAs" (National Athletic Trainers' Association [NATA], 2014, p. 2). The NCAA suggests that while their sports medicine handbook is not intended to establish a legal standard of care, it does state the following: "an institution has a legal duty to use reasonable care in conducting its intercollegiate athletics program, and guidelines may constitute some evidence of the legal standard of care" (NATA, 2014, p. 2). The NCAA provides guidance of sports medicine for its member institutions on a wide range of administrative, medical, and equipment issues. The topics run the gamut from lightning safety to the use of local anesthetics.

One of the expectations closely related to standards of practice is the competency of ATs in utilizing evidence-based practice (EBP). Evidence-based practice is a method of professional practice that synthesizes the best research evidence, patient values, and clinicians' expertise. The focus on EBP raises the bar for the delivery of athletic health care to ensure that care decisions are based on the most current science and can be justified and defended if necessary. "This focus on EBP marks a shift in thinking among health care professionals from an emphasis on decisions based on tradition and opinion to actions based on data-driven, clinically relevant research" (Hankemeier et al., 2013, p. 394). There is widespread acceptance that EBP is very important to the profession of athletic training. Incorporating EBP into actual practice requires time. When one considers the number of decisions that must be made on any given day in a typical NCAA DII athletic training facility, it is difficult to imagine that even a percentage of these decisions could be effectively researched as part of an EBP routine.

Workload in Athletic Training Practice. Because ATs are responsible for injury and illness prevention, wellness promotion and education, emergent care, examination and clinical

diagnosis, therapeutic intervention and rehabilitation of injuries and medical conditions, it is necessary to examine how these expectations translate into AT workload. As the number of injuries and lawsuits rise, there is the concurrent issue of acceptable or appropriate medical care. The question surfaces whether universities have increased the number of health care providers in a manner that is congruent with the increasing numbers of participants and injury exposures. This issue of workload has been ongoing in the field of athletic training for many years.

Appropriate medical coverage has two key components: the provision of providing appropriate care as well as medical coverage of all practices and competitions (NATA, 2010a). Few lapses in game coverage are allowed to occur because of heightened visibility. This on-site coverage is not only highly visible, it is necessary so that personnel are able to respond quickly in case of medical emergency. A model for medical coverage of all practice and conditioning sessions varies from institution to institution. There are published standards for creating a coverage model for a unique university setting; there is less public awareness of practice and conditioning coverage than game coverage. The bulk of AT work occurs in the least visible realm of medical coverage, which is the daily care, treatment, and rehabilitation of injured or ill SAs. This work by its nature is protected and private.

With increasing numbers of SAs, sports and allowable contact hours, there has been an increase in the AT workload. DeFreese and Mihalik (2016) report that as many as 30% of ATs experience burnout. Barrett, Eason, Lazar & Mazerolle (2016) found that organization factors such as hours worked, travel requirements, and minimal control of the weekly work schedule are linked to burnout. Burnout is a psychological cognitive-affective syndrome driven by work-based perceptions of emotional exhaustion (mental fatigue and emotional distance from work), depersonalization (distance from patients), and reduced accomplishment (lack of job

efficacy) (DeFreese & Mahalik, 2016). Barrett et al., (2016) report that the number of hours worked in a season was a strong predictor of burnout in ATs. Fatigue is more than a feeling of being tired; rather it occurs when an AT's mental state inhibits the ability to perform effectively or safely. In 2020, Oglesby et al. (2020) did a systematic review of literature about AT burnout. They identified work-family conflict and work-life conflict as causes of burnout. Female ATs experienced greater burnout than males and tend "to leave the profession at approximately 28 [years of age]" (Oglesby et al., 2020, p. 426).

Role strain has been identified as a cause of AT burnout (Oglesby et al. 2020). Role strain is determined to be the strain associated with an individual's ability to complete the requirements of the job. The components of role strain include role ambiguity (no specific job boundaries), role conflict (multiple roles that are not harmonious), role incongruity (job expectations that do not align with ATs values/beliefs), role overload (job requirements that exceed time and energy of AT), and role incompetence (AT is not prepared for the role). Role incongruity has been researched and external pressure regarding medical decisions, especially return-to-play (RTP) decisions, frequently causes conflict. Pike-Lacy, Mazerolle-Singe, & Bowman (2020) concluded in their study of ATs working at the NCAA DI FBS level, that external pressure due to medical decision-making was an anticipated by-product of RTP decisions. Athletic trainers face pressure from coaches and other athletic administrators to return SAs quickly and sometimes, before they are ready (Pike Lacy, Mazerolle Singe, & Bowman, 2020).

Athletic Trainers are responsible for medical record keeping, which can be a significant time commitment each day. In a clinical setting, the number of patients requiring medical record maintenance is controlled. In the collegiate athletic training setting, the number of SAs seen in a day is often uncontrolled, making a comparison of administrative work difficult. However, there

is limited research on the amount of time an AT spends at this task; research on PTs indicates that the average PT spends 42 minutes a day on daily notes and 25 minutes per initial evaluation when using an electronic software. (Goldsmith, T. 2017) and MDs spent an average of 16 minutes per patient encounter (Overhage, J. M., & McCallie, D., 2014). Administrative work is not confined to medical records and can be the source of role strain. ATs are responsible for processing athletic medical insurance claims in 62% of institutions: they spend 6.17 hours (head AT) and 10.32 hours (assistant AT) per week completing a task for which they received no formal training (Killinger, T. P., & Schellhase, K. C., 2018).

Athletic trainer fatigue and burnout have been well documented in the literature. Fatigue in collegiate ATs has not been successfully managed. A review of research for other health care professions, yielded predictable results across the board. Fatigue is a factor in medical errors. Almadi, et al., (2015), reviewed the casework of endoscopists looking for cancerous tumors by reviewing the film, the time of day, length of procedure and compared these findings to the evaluations submitted by the endoscopists. Decision-making fatigue among these endoscopists became demonstrable after a three-hour period. The time from the initial procedure, time of procedure and time to index was significantly longer, and there was a slight decrease in the detection of tumors or lesions, after just three hours on the job.

Aiken, Clarke, Sloane, Sochalski, and Silber (2002), found that increased patient-to-nurse ratio compounded the risk of failure to rescue or preventable death (seven percent more likely for each subsequent patient within the nurse's care) inside 30 days of admission. There were also significant retention issues within staff. For example, nurses who had responsibilities for more patients (up to eight) were much more likely to leave the hospital. In a study of professional ATs, Brumels and Beach (2008) learned that role stress for ATs in collegiate settings is likely a

function of ambiguous job descriptions, performance evaluations and excessive expectations or overload. The reported conflict between role responsibilities and personal values or skills was significant.

In another study of nurses and workload, Rogers, Hwang, Scott, Aiken, and Dinges (2004), found as the length of working shifts increased, so did the number of reported medical errors. The likelihood of error increased significantly when the shift length exceeded 12.5 hours when the number of errors became three times greater. Rushton, Batcheller, Schroeder, and Donohue, (2015) discovered that exposure to situations in which conflict arises about treatment led nurses to act contrary to their values; resulting in moral distress. When ATs are charged with applying a certain standard of care, the sheer numbers of patients can compromise the ability to apply an acceptable standard of care. This creates moral distress and decision regret. Scott, Arslanian-Engoren, and Engoren (2014) furthered this line of information when they researched the impact of decision fatigue and the follow-up emotion of decision regret amongst nurses. Emotional distress is causally linked to burnout and attrition, and along this pathway lay the potential for poor decisions and increased liability. The number of SAs per AT and the number of teams per AT, two components of workload, should be a significant consideration with regard to appropriate medical care and legal liability.

The NATA issued *Recommendations and Guidelines for Appropriate Medical Coverage of Intercollegiate Athletics (AMCIA)* (NATA, 2010b). This document was originally developed in 1999, published in 2000, and has been revised several times to capture the best formula for developing a medical coverage model. The driving force behind the development of the AMCIA was the expansion of traditional and non-traditional seasons, as well as, year-round individual skill development and strength and conditioning sessions. Because of these expansions, there

was an increase in risk exposures and a corresponding increase in SA injuries, serious injuries, and deaths at the collegiate level. The AMCIA recommendation was based on the following:

- Relevant published literature
- Guidelines and position statements from sports medicine organizations and associations
- Detailed institutional and conference studies (i.e., injury rates, treatments per injury rate)
- National surveys of current medical coverage
- Two-year AMCIA Injury surveillance data
- NCAA Injury Surveillance System
- NCAA Emergency Care and Coverage Survey
- NCAA Sports Medicine Handbook
- Legal cases and settlements related to athletic injuries
- National Center for Catastrophic Sport Injury Surveillance (NATA, 2010b)

The AMCIA is a system for determining health care loads for each sport. The constant variable in this system is reflective of the idea that one full time equivalent (FTE) AT may only be responsible for 12 health care units (HCU). This number represents a starting point for determining full time load and is reflective of a reasonable workweek.

The AMCIA gives each sport a Health Care Index (HCI), this index is based on the number and type of injuries experienced by these SAs derived from more than 30 years of data. The formula takes into account the number of days that the SA can be exposed to the sport, whether those exposures occur in the championship season, non-championship season, skill development or in conditioning/weight training sessions. The number of SAs per team is factored into the formula. The HCI, the number of active days and the number of SAs combine to give the number of total exposures to injury. Total SA exposures and adjusted HCI are calculated to

factor in the actual load because base HCI is based on number of injuries per 1000 exposures. Many of our sports have more exposures based on SA activities, so the adjusted HCI is reflective of the actual workload created by the number of exposures. The HCI needs further adjustment because few programs are operating at 100% coverage. There are portions of the year when the sport may be inactive. The percentage of the year adjustment provides a check on the HCI; however, it is crucial to understand this number and its relationship to coverage.

The AMCIA formula allows institutions to determine their own medical coverage plan that could be relied upon to show that they have “met the current care standards if liability arises” (NATA, 2010b). The AMCIA has been underutilized and has had minimal success improving the workload of ATs across the country (NATA, 2010b).

A Snapshot of the Problem: the Norther Sun Intercollegiate Conference and the AMCIA. The Northern Sun Intercollegiate Conference (NSIC) is a collegiate athletic conference that is one of the largest NCAA DII conferences in the country. There are 16 member schools in the NSIC and the conference supports 18 championship sports. In addition, some institutions support sports, which are not NSIC championship sports. One example of this is the wheelchair basketball team at Southwest Minnesota State University (SMSU). This team plays a non-NCAA schedule; however, the AT staff at SMSU is charged with the medical care of these SAs. These non-championship sports are included in the AMCIA for the NSIC. A review of each NSIC member institution athletic websites was conducted for number and type of sports offered as well as for the number of SAs participating in each sport (i.e. number on the official rosters). In addition, numbers of AT staff and FTE status was reviewed from existing NSIC information and corroborated with the Head AT from each institution.

Figure 1.0 shows the number of SAs participating in the NSIC during the 2018-19 academic year. This data is presented by institution, sport and number of SAs. Data were collected from institutional athletic department websites and published team rosters. In 2018 there were 6,274 SAs competing for 16 universities in the NSIC.

Figure 1.0 NSIC SA Participation Numbers in 2018

School	Augustana	Bemidji	Concordia	UMary	Crookston	UMD	Mankato	MSUM	Minot	Northern	USF	St Cloud	UIU	Wayne	Winona	SMSU	Total/Sport
Sport																	
Baseball	42	46	39	44	48	34	36		33	47	43	37	32	33	33	35	582
Basketball Men's	16	15	14	17	15	15	15	16	16	15	17	13	14	13	17	15	243
Basketball Women's	17	15	16	17	16	14	15	13	14	19	16	18	14	14	15	14	247
Cheer	7		18					9	15		23		15	17		8	112
Cross Country Men's	21		22	14		18	10	18	6	10	19			11	12	10	171
Cross Country Women's	26	10	14	19		19	18	10	6	14	14	8	8	13	13	9	201
Dance		9						20									29
Equestrian Hunt seat						18											18
Equestrian Western						15											15
Football	104	103	110	102	85	101	92	105	78	100	104	92	101	100	124	108	1609
Golf Men's	11	14	10		9		9		6		6	8	9		12		94
Golf Women's	8	10	9		6		14	6	7		6	8	7		9	6	96
Gymnastics Women's															25		25
Ice Hockey Men's		27		20		26	28		28			27					156
Ice Hockey Women's		24				25	24		17			28					118
Lacrosse Women's			23														23
Nordic Ski Women's												2					2
Soccer Men's				26									34				60
Soccer Women's	32	29	27	24	23	29	36	25	32	26	22	27	24	26	30	24	404
Softball	17	18	15	16	20	17	19	19	20	20	18	18	14	19	20	19	272
Swim/Dive Men's												27					27
Swim/Dive Women's	22			28			35	34		18	21	45					181
Tennis Women's	7	7		6	7	8	9	9			8	10	7		8	7	86
Track/Field Men's	43		40	49		46	61	35	16	31	41			31		31	381
Track/Field Women's	42	36	28	42		54	65	28	11	30		33	23	25	39	24	438
Volleyball	13	15	13	16		14	17	14	18	18	13	19	17	16	18	16	242
Wheelchair Basketball																18	18
Wrestling	32			36			27	20	25	28		45				35	216
Total Athletes/School	460	378	398	476	276	423	527	385	348	376	371	465	319	318	375	379	6274

Figure 1.0 NSIC participation numbers by institution and sport 2018. Data retrieved from institutional websites.

Figure 2.0 presents the actual number of employed ATs in the NSIC in 2018. Data expressed as full-time equivalency (FTE), is shown by institution and employment status. As shown in Figure 2.0 there are 59.75 FTE ATs in the NSIC, six FTE of part-time ATs in the NSIC and 5.4 FTE of Graduate Assistant (GA) ATs in the NSIC.

Figure 2.0 NSIC Athletic Training Staff

Staff by FTE	School	Augustana	Bemidji	Concordia	U Mary	Crookston	UMD	Mankato	MSUM	Minot	Northern	USF	St Cloud	UIU	Wayne	Winona	SMSU	
AT		4	4	4	4	4	5	2	4	2.25	4	5	3	4	3	5	2.5	59.75
AT PT			0.5		0.5			2.25						2.25			0.5	6
GA				0.4			0.8	0.8	0.4	0.6	0.2		1		0.4		0.8	5.4
Total FTE		4	4.5	4.4	4.5	4	5.8	5.05	4.4	2.85	4.2	5	4	6.25	3.4	5	3.8	71.15

Figure 2.0 NSIC ATs by Institution, Position and FTE

Each component of the AMCIA formula has an explanation and a purpose. The assigned base HCI value for each sport is derived from injury rates, the volume of care associated with those injuries, and the risk of catastrophic injury associated with the sport. The formula adjusts to account for the number of SAs and the number of days each SA is active. Table 1.0 shows the NSIC data loaded into the AMCIA formula worksheet. In this example, the number of days was determined using a calendar and counting the days allowed by the NCAA in the 2018-19 academic year. As most teams are not active for 100% of the year, the formula is again adjusted for the percent of the year that teams are active. The percentage of the year was calculated using only days during fall and spring semesters that school was in session. Additional variables that carry weight are team travel and administrative duties. Twenty travel days equals one HCU. Travel days in the example are calculated for the AT staff of 16 conference teams.

Administrative duties are calculated such that eight percent (3.2 hours/week) of total work time = one unit. In this case, each AT currently working in the NSIC (71.15) is allowed one hour of documenting per day for each day in a six-day workweek. The estimated health care load for one athletic trainer is 12 HCU. The results of the AMCIA formula would indicate that the minimum workload of NSIC ATS is the equivalent 93.26 FTE ATs. Even considering that the formula is a tool to develop a reasonable coverage model, and may have limitations, it is difficult to reconcile such a large discrepancy (NATA, 2010a). Unless ATs have rules which prohibit the

use of the AT facility or the services of the AT during off-season hours, this number is largely underestimated.

Table 1.0

Recommended Number of ATs for NSIC Workload Using AMCIA in 2018

Sport	Base HCI	(N) SAs	Allowable Days	% Year	Travel Days	Final Adjusted HCU
Baseball	1.7	582	140	58	18.56	81.27
Basketball –M	2.4	243	96	58	13.60	33.15
Basketball –W	4	247	96	58	13.60	55.69
Cross Country - W	1.4	171	93	28		6.23
Cross Country – M	1.7	201	93	28		8.9
Football	3.1	1609	108	58	12	313.04
Golf – M	0.5	94	151	58		4.12
Golf – W	1.2	96	151	58		10.09
Gymnastics – W	4	25	144	58		8.38
Ice Hockey – M	1.8	156	132	58	1.6	21.58
Ice Hockey – W	1	118	132	58	1.6	9.12
Indoor Track/Field –M	2.8	424	86	30		30.63
Indoor Track/Field – W	2.8	480	86	30		35.91
Lacrosse – W	2.5	23	132	58		4.44
Outdoor Track/Field - M	1.1	424	70	30		9.8
Outdoor Track/Field – W	1.1	480	70	30		1.09
Soccer – M	2.8	60	123	58		11.98
Soccer – W	3.6	436	123	58	7.2	112.33
Softball	2.3	289	140	58	18.56	54.9
Swim & Dive – M	0.7	27	144	58		1.58
Swim & Dive – W	1.1	203	144	58		18.65
Tennis – W	2	93	172	58		18.55
Volleyball – W	3.5	255	114	58	8	59.41
Wrestling – M	2.9	248	144	58	.5	60.09
Cheer/Dance	1.0	141	140	58		2.3
Equestrian	2	33	80	58		11.45
Wheelchair Basketball	1	18	140	58		1.46
Total Health Care Units						986.14
Administrative Units						133.04
Total Units						1092.865
(N) ATs Needed						93.26

There have been numerous attempts by the NATA and the BOC to establish parameters on workload expectations. The AMCIA has not had the full support of many of the employers who hire ATs and the reasons for this may be many, but there is no literature to suggest the reasons for the dearth of employed ATs at the NCAA DII setting. One thing is clear, the NATA and the BOC have no governance authority over NCAA DII Universities. There have been no reductions in workload since 2018, in fact, allowable summer hours have increased. Declining enrollments have swelled roster sizes as institutions look to athletic departments to improve enrollment. Declining university budgets have increased reliance on funds raised during summer camps and clinics for youth. In addition, the workforce relied upon by many NCAA DII institutions are changing. When the Commission on Accreditation of Athletic Training Education (CAATE) established the professional degree in athletic training at the master's level, this affected NCAA DII institutions who relied on GA ATs for workload. Schools in the NSIC were utilizing 27 GA ATs in the 2018-2019 academic year (Commission on Accreditation of Athletic Training Education [CAATE], n.d.)

The NCAA, which does have governance over NCAA DII member schools, has stopped short of requiring members to hire adequate numbers of AT staff. On August 14, 2003, Matt Mitten, chair NCAA CSMAS released a statement of support for the AMCIA and ATs. Eighteen years later, there has been no mandate of compliance.

Legal Cases, Legislation, and Recommendations in Sports Medicine. An established standard of care issued by the governing body of a profession provides the yardstick by which behavior is measured. Any conduct that falls below the established standards of care makes an AT vulnerable to the threat of lawsuit. This vulnerability of lawsuit extends to the employer who

is responsible for the acts of ordinary negligence while engaged in the furtherance of the employer's enterprise (Cotten & Wolohan, 2017, p. 54).

According to Schoepfer Bochicchio (2017), "the United States has become an increasingly litigious society: annually, millions of lawsuits are filed by citizens seeking legal remedy to problems they have encountered in the course of their personal or professional lives" (p.2). The majority of legal cases that arise in sport law are negligence cases involving personal injury (Cotten & Wolohan, 2017).

The NCAA CSMAS recommended that NCAA institutions examine their athletic health care and sports medicine policies for adequateness. In particular, the recommendation was to specifically examine whether the increased time demands placed on ATCs reduced their ability to effectively provide high quality care to all SAs (NATA, 2010b). The CSMAS encouraged NCAA institutions to reference the NATA AMCIA in their assessment of the adequateness of their sports medicine coverage (NATA, 2010b).

Athletic trainers, team MDs, PTs, coaches, and schools all face potential liability by providing medical coverage at athletic events (Quandt et al., 2009). This liability begins when an athlete is cleared to participate. This liability extends throughout the statute of limitations or the period an injured party has to file a lawsuit. In the state of Minnesota, 541.076 Health Care Provider Actions states

An action by a patient or former patient against a health care provider alleging malpractice, error, mistake, or failure to cure, whether based on a contract or tort, must be commenced within four years from the date the cause of action accrued.

Occasionally, minor students enroll and participate in intercollegiate sport. When a minor is involved, the statute of limitations does not begin running until the minor has reached the age of majority.

The potential for liability exists in every facet of athletic healthcare and often it exist on both sides of the problem. The NCAA requires that all SAs have a pre-participation physical exam (PPE). It is most common for the AT to communicate to the coaching staff that an SA has been medically cleared to participate. There is liability for clearing a SA who is unfit for participation, there is also liability for refusing to clear a SA for participation. In *Knapp v. Northwestern University* (1996), the SA was not cleared for intercollegiate basketball because of cardiac irregularities. The SA filed a lawsuit citing the Rehabilitation Act of 1973 and claiming discrimination as a disabled SA. This case proceeded to the Seventh Court of Appeals before determining that the university was in the best position to evaluate whether a SA with a health condition should participate in its athletic program. In *Class v. Towson University* (2015), a SA that had collapsed from exertional heatstroke during football practice, and subsequently required a liver transplant, was disqualified from participation by the Towson University team physician. Class sued the university citing a violation of Title II of the Americans with Disabilities Act (ADA) alleging his inability to regulate his body temperature constituted a disability. The case was decided in favor of the university in the U.S. Court of Appeals, fourth circuit. In *Hammond v. University of Southern Mississippi* (2018), a SA born with only one kidney sued the University of Southern Mississippi claiming school officials pulled him off the football team after learning of his medical condition, and accused the University of violating federal anti-discrimination laws. The 20-year-old says he never had any kidney-related problems during football games or practices in high school or college. His federal suit claims school officials repeatedly raised

"liability" concerns after he mentioned his condition to the school's head AT in June. The SA's offer to sign a waiver of liability did not persuade school officials to let the defensive back rejoin the team. In November, 2018 the U.S. District Court denied Defendant University of Mississippi's Motion to Dismiss. The direction of the court decisions is concerning; while the institution prevailed in the first two decision, the plaintiff (SA Hammond) prevailed in his ADA claim and the case was not dismissed, but remanded for further action.

In a similar way, that applicability of practice standards moves across health practices, so too does the applicability of case law. Precedent concerning informed consent has been reviewed by the courts. It is difficult to judge how far one should go in determining whether an athlete actually understands that to which he/she has consented. In the 1987 California case of *Krueger v. San Francisco 49ers*, the 49ers were found guilty of fraudulent concealment, because the team physicians failed to inform Krueger about the full extent of his injuries, the potential consequences of the anesthetic steroid injections, and the long-term implications of playing professional football with a badly damaged knee. If a health care practitioner wishes to avoid the liability of negligence or fraud, he/she must show that approving athletic participation is not medically unreasonable and the athlete actually understands the risks. (Chen & Esposito, 2004).

In *Searles v Trustees of St. Joseph College (1997)*, by the Supreme Judicial Court of Maine, the court set precedent on accepted standards of care and addressed standards for communication between ATs and coaches. The court held that colleges, private schools, and public schools have a legal duty to exercise reasonable care toward their SAs. "That duty encompasses the duty of college coaches and athletic trainers to exercise reasonable care for the health and safety of SAs" (Quandt et al., 2009, p. 84). An AT "has the duty to conform to the standard of care required of an ordinary careful trainer (sic)." The appellate court held that

whether the basketball coach breached his duty under the alleged facts was “a question of fact for the jury to consider” (Quandt et al., 2009, p. 84).

In each of these cases: *Livingston v DeSoto Independent School District et al.* (2005) and in *Kleinknecht v. Gettysburg College* (1993), the courts reviewed and set precedent on emergency care and referral of SAs. In *Kleinknecht*, a collegiate lacrosse player died after collapsing during an off-season practice in 1988. Gettysburg College was required to defend the lack of medical staff, the lack of an emergency action plan, and the lack of communication in this lawsuit, which litigated until 1993. In *Livingston*, high school runner Kourtnei Livingston died from heat stroke in 2002. She was in the presence of a coach and an AT and the lawsuit examined the responsibility of the AT in providing emergency care. *Livingston* also addressed appropriate referral, due to the delay in seeking appropriate medical care. The court case was decided in 2005. In both cases, after lengthy arguments the defendants prevailed, but not without establishing precedent for future case law.

The class settlement agreement, *Arrington v. NCAA* became effective November 18, 2019 (In Re: National Collegiate Athletic Association Student-Athlete Concussion Injury Litigation, No. 13 C9119, 2014WL 7237208 (N.D. Ill. Dec. 17, 2014)). Under the terms of this settlement, the NCAA and/or its member institutions agreed to implement a number of guidelines which include three requirements that directly impact ATs: 1) Every SA at every NCAA member institution will undergo pre-season baseline testing for each sport in which they participate prior to participating in practice or competition. 2) NCAA member institutions shall ensure that medical personnel with training in the diagnosis, treatment and management of concussion are present at all contact sport games for Divisions I, II, and III, and 3) NCAA member institutions shall ensure that medical personnel with training in the diagnosis, treatment

and management of concussion are available at all contact sport practices for Divisions I, II, and III. Contact sports are defined as football, lacrosse, wrestling, ice hockey, field hockey, soccer, and basketball. The settlement does not define the terms “present” or “available”. The document does encourage member institutions to work with legal counsel to identify a reasonable and defensible interpretation of these provisions. The settlement also does not distinguish between “home” and “away” events. This new legal development has implications not only for event coverage, but also for travel obligations.

The expectations for equity and coverage are also set by NCAA legislation. NCAA By-law 2.10 The Principle of Competitive Equity states:

The structure and programs of the Association and the activities of its members shall promote opportunity for equity in competition to ensure that individual student-athletes and institutions will not be prevented unfairly from achieving the benefits inherent in participation in intercollegiate athletics.

NCAA By-law 2.2.2 Cultural Diversity and Gender Equity states: “It is the responsibility of each member institution to establish and maintain an environment that values cultural diversity and gender equity among its student-athletes and intercollegiate athletics department staff”. (Adopted: 1/10/95)

Finally, the NCAA mandates that it is the responsibility of the member institution to protect SAs: “NCAA By-law 2.2.3 Health and Safety. It is the responsibility of each member institution to protect the health of, and provide a safe environment for, each of its participating student-athletes”. (Adopted: 1/10/95)

While hardly an exhaustive list, a review of case law and pertinent legislation reveals precedent or argument supporting decisions regarding a wide range of athletic training duties that

include medical referral, health education, communication, appropriate supervision, return-to-play, invasion of privacy, and release of protected health information. Each of these decisions provides a framework by which an SA could initiate a legal action against an AT, coach or institution

Athletics Directors at NCAA DII Schools. A review of the NCAA Demographic Database reveals that 78% of ADs are male and 22% are female. Little research enlightens the researcher about educational level, athletic participation level, prior experience with appropriate medical care, or years of experience. The literature does report that ADs tend to be male, over the age of 55 and they tend to come from the coach/player ranks (Wong, 2014). While demographics may be poorly identified, there is no question, that ADs have a complex and difficult job providing oversight to NCAA DII athletic departments. Greg Santore, an executive for a search firm that leads AD searches for DI, DII and DIII schools, writes “an effective AD is part accountant, ethics guru, character evaluator, event promoter, program advocate, fundraiser, networker, and more - almost on a daily basis” (2018, p.1). In his discussion, Santore addresses compliance oversight, awareness of governmental regulations (Title IX), networking with alumni and donors, and creative money managers as components of the AD profile. There is no mention of appropriate athletic health care.

The Division II Model Athletics Department Document which is a tool outlining the features of an ideal athletic department identifies the components of Athletics Operations. This is taken from page six (National Collegiate Athletic Association [NCAA], n.d.-c).

A model Division II athletics program shall feature an adequate number of certified athletic trainers who are able to provide for the safety and well-being of the SAs across

sports based on the National Athletics Trainers Association (NATA) guidelines and the Appropriate Medical Coverage of Intercollegiate Athletics (AMCIA) document.

There is no other mention of ATs except to say that they are capable of being assigned to administrative duties.

The NCAA provides a manual entitled *So You Want to Be an Athletics Director*. The manual is authored by Barbara Schroeder and Kathleen Brasfield, both former DII ADs. The manual is a specific product of NCAA DII which covers topics of institutional control and oversight, marketing and fundraising, fiscal management, facilities management, community relations, professionalism, communication skills, life in the balance, leadership style, vision, and SA well-being. Within the entire document the word AT is mentioned once in regard to work-life balance. Appropriate medical care is not mentioned in the document, and the only wording relative to appropriate care is Emergency Action Plan (EAP); however, in this instance the EAP is only used to discuss travel policy. There is little research to suggest that ADs have any background or training to manage, evaluate, and improve the delivery of appropriate medical care on NCAA DII campuses.

Analysis of Literature and Recommendation. The expectations for athletic health care have exploded. The level of expertise required to meet the growing demand for athletic health care has increased, the number of SAs, sports teams, and contact hours has increased. However, the number of ATs employed by many NCAA DII colleges and universities lags the recommendations of multiple professional organizations like the NCAA, NATA, and the BOC.

Currently, the expectations for practice arise from the NATA, BOC and many related health care professions. Expectations for athletic health care are adopted from emergency medicine, orthopedic medicine, general medicine, physical therapy, and occupational therapy to

name a few. An ongoing cycle begins with medical research and ends with changes in the standards for best practice. At times, standards of practice, even evolving standards, are used in courtrooms to make legal arguments. The outcomes of these arguments, whether they are litigated or settled, shape the ongoing practices of professionals in athletic medicine. It is an understandable progression, yet there is a scarcity of study that explores AD knowledge of institutional duty, AD knowledge of the scope of AT practice, and AD knowledge of legal liability associated with medical care and coverage inadequacies.

In each area of practice, there is agreement. The research did not yield any disagreement regarding the standards of care an AT should be providing to a patient. There was also no literature to counteract the current legal trends. The message is very clear that there are high expectations for proficiency and professionalism when practicing any form of health care. Rogers et al., (2004) indicated “safer patient care is more likely to result from changes in the environment in which health care is provided than from blaming health care professionals, who may be providing the best care possible under poor circumstances” (p. 210). It is also clear that the legal ramifications for deficiencies in practice are on an upward trajectory. It appears that the only playable piece in this chess match is the need for additional ATs in the work setting. There is a consensus that we are approaching a critical breakdown in this impasse. Athletic training literature is full of research on these critical issues affecting appropriate medical coverage.

More than a decade ago, the NCAA began a campaign for a “Life in Balance” (National Collegiate Athletic Association [NCAA], n.d.-b). As the true source of power behind NCAA DII decision-making, the NCAA is instrumental in its influence to connect the dots between appropriate athletic health care and lack of effective support of ATs in their workforce. In the hierarchy of power, research has been abundant at the SA and AT level of appropriate medical

care. In a review of decision-makers, ADs, institutional administration/presidents, and the NCAA remain relatively untouched in the study of this problem. This research would examine how NCAA DII ADs perceive athletic training and the barriers to appropriate medical care.

Research Questions

- I. What are the perceived barriers to providing appropriate medical care to NCAA DII SAs, identified by ADs?
- II. How do ADs define appropriate event coverage of SAs?
- III. Do ADs understand athletic training scope of practice?
- IV. How do ADs prioritize hiring decisions and budget allocations?
- V. How do ADs describe their advocacy for ATs?

Conclusions

The call to provide appropriate medical care is clear. This care requires that “member institutions should neither practice nor condone illegal discrimination on the basis of race, creed, national origin, sex, age, disability, social status, financial status, sexual orientation or religious affiliation within their sports medicine programs” (NATA, 2010b). Availability and accessibility to medical resources should be based on established medical criteria (e.g., injury rates, rehabilitation) rather than the sport itself. The lack of equitable, appropriate, medical health care for SAs is driven by the lack of available ATs to provide coverage during overlapping activities.

Athletic trainers are leaving the college setting or the profession as whole due to these ongoing conflicts. This problem has been evaluated, argued, and re-evaluated for decades without significant changes. There is an underlying assumption that institutional finances are a justification for administrative decision-making. If ongoing research can demonstrate that finances are the sole factor in the ongoing problem, perhaps the NCAA will re-evaluate the

criteria for inclusion in the association and make equitable, appropriate coverage a requirement. If ongoing research does not support that finances are the sole factor in the ongoing problem, perhaps institutions will re-evaluate the decision-making process determining appropriate medical care. The next chapter will address the methodology for this research that aimed to study the perceptions of ADs in NCAA DII colleges and universities.

CHAPTER 3

Methodology

Introduction/Researcher Position

The National Athletic Trainers' Association (NATA) has utilized this statement: "each student-athlete (SA), without consideration for sport, gender or level of competition, shall have equitable access to appropriate medical care, which should be directed by a college- or university-appointed team physician working in conjunction with a certified athletic trainer" (NATA, 2010a). In addition, National Collegiate Athletic Association (NCAA) requires as an obligation of association membership, that institutions be committed to a principle of SA well-being. In order to understand the logistics of this mandate, there are many things to consider. There are more than 499,000 NCAA SAs competing in 24 sports every year. In the 16 team, NSIC there is a full-time equivalency (FTE) of 71 Athletic Trainers (ATs), a number that includes part-time and graduate assistant (GA) ATs. In the same conference, there are 6,274 SAs. The ratio of SAs to ATs is 88:1. This may not sound alarming until all the factors are well understood. As both the Head AT and the Athletics Health Care Administrator (HCA) at SMSU, this researcher is passionate about providing appropriate medical care to SAs. Let us investigate the magnitude of this task, not for a declaration of impossibility, but as groundwork for change. There is a lens of advocacy involved in this research. The purpose of this research was to provide foundational knowledge for the specific health care profession of athletic training, which examined the barriers as perceived by Athletics Directors (ADs), to providing appropriate medical care to NCAA Division II (DII) SAs.

Research Questions

These questions guided this research.

- I. What are the perceived barriers to providing appropriate medical care to NCAA DII SAs, identified by ADs?
- II. How do ADs define appropriate event coverage of SAs?
- III. Do ADs understand athletic training scope of practice?
- IV. How do ADs prioritize hiring decisions and budget allocations?
- V. How do ADs describe their advocacy for ATs?

Overview of Research Design Process

Table 2.0 provides a visual representation of the research design process. The remainder of the chapter expands on each design elements.

Table 2.0

Research Design Process Overview

Design Element	Approach
Paradigm	<p>Pragmatism</p> <ul style="list-style-type: none"> • Ontological: Reality is what “works” • Epistemological: Reality is known through using both inductive and deductive research tools. • Axiological: Values are not fixed, predetermined or eternal, but rather the consequence of all types of values • Methodological: Research involves both quantitative and qualitative approaches to learning and study.
Concept Development	<p>There is an abundance of strong evidence to support appropriate medical coverage for NCAA DII SAs. The lack of appropriate medical care is poorly understood from the administrative levels above the AT. This research was conceptualized as a means to better understand the AD response to providing the financial, structural, and personnel support necessary for the provision of appropriate medical care. The</p>

research addressed the perceptions of ADs, as decision makers, who provide the necessary resources for appropriate medical care.

Framework	Pragmatic, systematic and analytical.
	<ul style="list-style-type: none"> • Quantitative research used a systematic approach that involved a survey for descriptive studies using IBM Statistics 27 (IBM SPSS). • Qualitative research conducted through semi-structured interviews and thematic analysis (TA).
Methodology	<p>Mixed method research (MMR) — Convergent Design</p> <p>Time orientation: concurrent</p> <p>Paradigm emphasis: QUAN = QUAL</p> <p>Rationale: Two parallel strands of data examining the same phenomenon were collected and analyzed independently and brought together during interpretation. The intent was to obtain different by complementary data on the same topic to bring together the strengths and weaknesses of quantitative and qualitative data. (Creswell & Plano Clark, 2017)</p>
Participants	NCAA DII Athletics Directors
Data Collection Methods	<p>Survey (Qualtrics and email)</p> <p>Semi-structured Interviews allowed for pre-written questions and still allowed people to speak freely about their personal experiences.</p>
Data Analysis	<p>Systematic analysis of the questionnaire/survey utilizing IBM Statistics SPSS 27 for descriptive and inferential statistics. Analysis of qualitative data: gathering, organizing, studying, coding and organizing themes, representing and finally interpreting data using TA.</p>

Note: Source: Adapted from Bowen, Rose & Pilkington (2017)

Figure 3.0 provides a general diagram of this core research design.

Figure 3.0. The convergent design

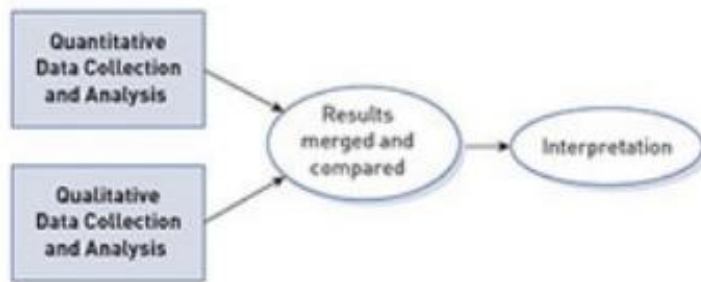


Figure 3.0 General diagram of convergent design

Source: Designing and Conducting Mixed Methods Research by J. Creswell and V. Plano Clark (2017)

Paradigm

This research utilized the paradigm of pragmatism to conduct and interpret the study. “Pragmatists believe that reality is constantly renegotiated, debated, interpreted and therefore the best research method to use, is the one that solves the problem” (Patel, 2015, para. 4). Athletic Trainers have realistic interests. They like work activities that include practical, hands-on problems and solutions. The ontological assumption of the pragmatist, that reality is useful and practical, is the wheelhouse for many in athletic training. The epistemological beliefs of the pragmatist are that reality can be known through the use of many research tools. “Pragmatists use whatever combinations should help achieve the epistemological justificatory status” or warranted assertability (Hibberts & Johnson, 2012, p.124)The goal is to provide good evidence that supports improved understanding in order to guide future practice (Hibberts & Johnson, 2012).

Patel (2015), stipulates that the best theoretical perspective, or approach is research through design (para. 5). According to Hibberts and Johnson (2012), the pragmatist mixes research components in ways that will work the best for the research problem, question or circumstances (p. 124). The pragmatic approach fits the researcher’s goals of finding a solution

to a real world problem (Creswell & Poth, 2018). The defined real world problem is the adequate medical care of intercollegiate SAs, for this research, members of NCAA DII were selected for study. There is the presence of an advocacy lens in this study. This researcher would like to advocate for improved athletic health care by expanding the understanding of the problem.

Conceptual Development

A conceptual framework is a structure that can best explain the natural progression of the phenomenon to be studied and accentuates the reasons why the research is worthy of study (Adom, Hussein, & Agyem, 2018). Conceptually, this research was born through the researcher's interactions with the problem of appropriate medical care. Study of issues impacting appropriate medical care has been ongoing for decades. Resulting information has been presented to decision-makers for understanding and action. It is accurate to assert that there has been all-encompassing research on defining and implementing appropriate medical care for SAs and research data are widely available. On a continuum of implementation, NCAA DII universities hover in the partially implemented range. Some institutions are closer to full implementation and some institutions are closer to no implementation of appropriate care. The decision-makers with power to make change are ADs, university administrators, conference administrators and finally the NCAA. The process of decision-making involves problem identification, information and gathering knowledge, consideration of the consequences and deciding. Where are ADs in this decision-making process and why? The next logical step for this researcher is to examine the athletics directors and their perceptions of appropriate medical care for NCAA DII SAs.

Framework Based on Worldview

Framework provides the structure, not only showing how a researcher defines the study “philosophically, epistemologically, methodology and analytically but also guiding the researcher’s choice of research design and data analysis plan (Adom et al., 2018). The underlying pragmatic philosophy advocates for the use of the most appropriate method for addressing the research question.

Optimally, all studies draw upon one or more frameworks from social, behavioral, or biological sciences to inform all study phases. Mixed methods research (MMR) provides opportunities to integrate a variety of theoretical perspectives (Cresswell, Klassen, Plano Clark, & Smith, 2011, p. 8). This study was conceived as a sequential explanatory mixed method design typology. However it became apparent that this study was neither sequential nor explanatory, and it was determined that a better fit for this research was to conduct a convergent design mixed method study. The worldview that provides the best foundation for this design is pragmatic paradigm. This study undertook a concurrent approach where the quantitative phase and the qualitative phase were implemented during the same phase of the research process

Through the systematic use of the questionnaire/survey, descriptive statistics were obtained. The characteristics of the population of ADs were collected: age, gender, department size, athletic department personnel, and knowledge of standards of practice). The data were analyzed using frequencies and means to describe the average NCAA DII AD. Some survey results were analyzed with inferential statistics “to explain important human behaviors or to predict likely outcomes” (Fraenkel et al., 2015, p. 333). Simple linear regression assessed the relationship between two continuous variables to predict the value of the dependent variable based on the value of the independent variable. (Laerd Statistics, 2015b)

The qualitative research in this MMR was conducted through eight semi-structured interview and thematic analysis (TA). The semi-structured interview was chosen because these NCAA DII ADs each came from a unique set of circumstances. The ADs were different ages, came from different school sizes, different communities, and had differing levels of resources. The protocol or the semi-structured interview was developed and is located in Appendix D. There pre-written questions which were used as a guide; however, the AD was free to digress from the main topic and to talk freely about their experience. The researcher did get to all the main points, these did not happen at the same point in each interview. The ADs did share and they did provide rich qualitative data in the semi-structured interviews.

Setting

The NCAA is a member-led organization with 310 active members and four institutions in the membership process. The NCAA DII member schools provide “thousands of SAs the opportunity to compete at a high level of scholarship athletics while excelling in the classroom and fully engaging in the broader campus experience” (National Collegiate Athletic Association [NCAA], 2019b). NCAA DII is composed of 23 conferences plus Independent schools. The mission of the NCAA three-fold

- I. To govern athletic competition in a fair, safe, equitable and sportsmanlike manner.
 - II. Integrate intercollegiate athletics into higher education so that the educational experience of the S is paramount.
 - III. Position college sport as a pathway to opportunity.
- (NCAA, 2019b)

NCAA DII, the middle of the three-division structure, adopted a “Make it Yours” philosophy which fosters balance and inclusion in the life of a SA (NCAA, n.d.-a). Each athletic department is governed by and an administrator, usually titled “Athletics Director”.

Participants

The participants or subjects for this study constitute the “sample of individuals who were surveyed and interviewed (Fraenkel et al., 2015). The participants in this study were ADs in NCAA DII colleges and universities. These subjects were asked to participate in an email questionnaire/survey utilizing the Qualtrics platform. A smaller sample of participants, a subset of the survey group, were asked to participate in semi-structured interviews as the phase two portion of the study.

Sampling.

The NCAA maintains a data bank of all NCAA DII member institutions. Athletics director contact information was obtained from the member schools website. The researcher created a comprehensive list of AD contact information (email address and phone number). This data bank allowed for consensus sampling of the population of ADs for the quantitative phase of the research. The qualitative research conducted through semi-structured interviews had to take into consideration the likelihood of getting busy professionals to participate. This concern was compounded when the Covid-19 pandemic turned intercollegiate athletics upside down. According to Coleman (2012), there is no definitive answer to the question of how many interviews is the “right” number of interviews. Initially, the researcher aimed to have focus groups of four to six individuals representing each conference in the NCAA DII. Because enjoining participation proved difficult, a variety of sampling techniques was necessary. According to Coleman (2012), when faced with a similar scenario, she utilized a “mixture of purposive, convenience and snowball” (p. 260).

Difficult scheduling prompted the researcher to make the change from focus groups to semi-structured interviews. Participants were asked on the survey if they would agree to

participate in a focus group. The researcher asked those ADs who agreed to participate in focus groups if they would consent to a semi-structured interview utilizing the ZOOM platform. Six ADs agreed to be interviewed. Two additional ADs were contacted via email (which went to the entire NCAA DII group) and consented to be interviewed. Snowball sampling was attempted and failed. Eight interviews were conducted with ADs. These ADs were from public and private schools, large and small schools, and representative of seven NCAA DII conferences.

Instrumentation

According to Hibberts & Johnson (2012), mixed method researchers have many data collection methods at their disposal; two were used in this research: questionnaires and semi-structured interviews. Fraenkel et al. (2015) also stipulate, “The most common types of instruments used in survey research are the questionnaire and the interview schedule” (p. 398). The questions in a questionnaire/survey and the way that they were asked were mostly closed-ended and meet four standards: 1) Can this question be asked exactly the way that it is written?; 2) will this question mean the same thing to everyone?; 3) is this a question that people can answer?; and 4) is this a question that people will be willing to answer given the data collection procedure (Fraenkel et al. 2015, p. 398). This survey was constructed of closed ended questions and a few simple open-ended questions. These closed-ended questions were asked as yes/no or multiple-choice response. The open-ended questions captured descriptive information about the institution: number of teams, number of SAs, number of ATs, number of teams, and institutional enrollment. This survey presented questions to determine what ADs know about the scope of AT practice, AT workload, finances, and risk and liability related to AT practice.

Data analysis of the quantitative phase was utilized, along with relevant quantitative data from the literature to create the quantitative strand of this convergent design. The semi-structured

interviews questions were open-ended, general, and focused on the topics relevant to appropriate medical coverage. There was consideration for the length of the interview and the number of questions asked. The interview questions were practiced to assess the time component, assess for interviewer bias, and to refine the questions. The semi-structured interview was conducted online utilizing the ZOOM platform. This was due to the geographical distances between the interviewer and some interviewees, as well as for the physical distancing necessary to address COVID-19. The semi-structured interview data was analyzed using TA to create the qualitative strand which was used in this convergent design to address appropriate medical care in NCAA DII intercollegiate athletics.

Data Collection.

This inter-method mixing to investigate the barriers to appropriate medical coverage for intercollegiate athletics utilizes the questionnaire/survey and the semi-structured interview. The questionnaire/survey was emailed to NCAA ADs with the use of a Qualtrics. This online option was essentially the same as the pencil and paper questionnaire, but with the advantages of storing responses directly into a database. This survey contained the informed consent statement which was accepted prior to the survey becoming available to the participant. The survey instrument was sent six times between November 2 and December 14, 2020 in an effort to obtain as many responses as possible.

Creswell and Poth (2018), described the procedure for collecting data that include: 1) adequate recording procedures; 2) well-designed, practiced and refined interview protocols; 3) an appropriate venue or platform for conducting the interview; 4) participant consent; 5) the interview conducted with good technique, following procedure; and 6) the ability to accurately transcribe the dialogue. There was the added benefit of the ZOOM recording both the audio and

video; this captured the non-verbal cues of the participants. There was some observational data gleaned from these recordings.

Data Analysis.

Data Analysis is the process of simplifying data to make it comprehensible (Fraenkel et al., 2015). The survey data was analyzed in the preliminary stages for any outliers or missing information. Once the answers were recorded, the responses were summarized in order to draw conclusions from the results (Fraenkel, Wallen, and Hyun, 2015). The sample size was reported as well as the overall percentage of returned surveys. The percentage of the total sample responding to each item was reported. Descriptive statistics were provided summarizing the data collected on each one of the items contained in the survey. The survey was designed to collect demographic data on the ADs (e.g. gender, age, education level, etc.), demographic information about the institution (e.g. size, number of sports, number of SAs, etc.). These data were analyzed: frequencies and averages were presented in tables and bar graphs (Gallucci & Petersen, 2017).

A simple linear regression assesses the relationship between two continuous variables to predict the value of the dependent variable based on the value of the independent variable (Laerd Statistics, 2015b). This statistical test was performed using the AD's Coverage Scores (coverage of events) as the independent variable. The predictor variables were the number of SAs, the number of sports teams, and the number of SAs per one AT. These data were organized and presented with boxplots to illustrate the relationship between the variables and reported with the main findings.

The analysis for the qualitative strand of the study was conducted. The data were managed and organized utilizing a filing system for the recordings and the text files. Storage was maintained in a password encrypted software program. After completion of the interviews, the

data were managed and organized. This involved transcribing the interviews and reviewing the footage of the interview from the recorded ZOOM meeting. The investigator utilized Trint software to assist with transcription of the interviews. The recorded interviews were reviewed to observe non-verbal responses from both speaker and other participants. The transcription was checked and rechecked for accuracy and analysis.

The researcher uploaded the transcribed text into Quirkos.com a computer-aided qualitative data analysis software (CAQDAS). Quirkos provides a graphical interface in which codes are represented by “bubbles” and the researcher added notes manually to each bubble. Thematic Analysis (TA) is an umbrella term for a set of approaches for analyzing qualitative data that share a focus on identifying themes (patterns of meaning) in qualitative data. The flexibility of TA allows it to be used in both inductive and deductive methodologies (Alhojailan, 2012). The investigator used both deductive and inductive coding. TA allowed the freedom to utilize both methodologies.

The process of coding was followed by the generation of themes. This was done by identifying patterns among the codes to create themes that helped the researcher explain the data for the research questions.

Procedural Summary

Table 3.0 *Procedural Summary* provides an overview of the procedures followed.

Table 3.0

Procedural Summary

Phase One	Literature review
Phase Two	Quantitative data <ul style="list-style-type: none"> • Questionnaire/survey via Qualtrics • Analysis IBM Statistics SPSS 27 Qualitative data <ul style="list-style-type: none"> • Development of Interview process • Semi-structured interviews via ZOOM • Thematic analysis of data collected.
Phase Three	Thematic Analysis is the culmination of data immersion, reading and memoing, developing and describing codes, classifying codes into themes, developing and assessing interpretations, and finally representing and visualizing data (Creswell & Poth, 2018, p. 186)

Ethical Considerations

According to Fraenkel, Wallen and Hyun (2015), ethical concerns are as much of a concern for mixed method research as for any other types of research. Protecting participant identity is very important. Participants could reveal information that might be unpopular with people in positions of power. It was very important to protect the anonymity of the participants,

and this was done by ensuring that no one had access to the data. The names, or any identifying information, of the subjects were removed from the data collection forms. Instead, participants were assigned a number. Any linkage between the data collected and the participant was guarded on a password protected, secure computer.

There was no threat of physical or psychological harm from either the quantitative survey or the qualitative interview process. Participants were provided informed consent, and were apprised of their right to withdraw from the interview process. Prior to the interview process, they could have chosen not to respond to the email survey. All participants were treated with respect with regard to their time, their survey and interview responses, and their person.

The final ethical consideration was the disclosure of the findings of the study. In particular, participants had the opportunity to check on the accuracy of their reported answers. It was also necessary to accurately reflect the entire picture of athletic health care.

Conclusions

The call to provide equality is clear, in our profession appropriate medical care requires that “member institutions should neither practice nor condone illegal discrimination on the basis of race, creed, national origin, sex, age, disability, social status, financial status, sexual orientation or religious affiliation within their sports medicine programs” (NATA, 2010b). Availability and accessibility to medical resources should be based on established medical criteria (e.g., injury rates, rehabilitation) rather than the sport itself. Athletic health care is a mandate that higher education can no longer side step. It is important to the well-being of SAs, athletic trainers, coaches, administrators and entire institutions.

CHAPTER 4

FINDINGS AND ANALYSIS

Introduction

This study examined the perceptions of Athletics Directors (ADs) at National Collegiate Athletic Association (NCAA) Division II (DII) universities regarding appropriate medical care using a convergent mixed-method design. This design “brings together the results of the quantitative and the qualitative data analysis so that they can be compared or combined” to obtain a more complete understanding of the problem (Creswell & Plano-Clark, 2018, p. 65). Specifically, this study analyzed the results of an online survey of ADs and qualitative data from eight semi-structured interviews to address the following research questions:

- I. What are the perceived barriers to providing appropriate medical care to NCAA DII student-athletes (SAs) identified by ADs?
- II. How do ADs define appropriate event coverage of SAs?
- III. Do ADs understand athletic training scope of practice?
- IV. How do ADs prioritize hiring decisions and budget allocations?
- V. How do ADs describe their advocacy for Athletic Trainers (ATs)?

Chapter Four presents the critical findings organized to address the five research questions (RQs) independently. The researcher analyzed the quantitative data using descriptive and inferential statistics; and the qualitative data using procedures of theme development. The researcher synthesized and compared similar content areas in both datasets for converging and diverging results. The findings are presented in two sections. The researcher presents participant demographics and strand development in the first section. The second section addresses each RQ with survey data analysis followed by interview data analysis. The researcher provides an in-

depth discussion of the results as well as recommendations for future action and study in Chapter Five.

Strand Development and AD Demographics

Quantitative Strand

The participants or subjects for the survey were ADs in NCAA DII colleges and universities. The researcher conducted consensus sampling of NCAA DII ADs for the quantitative phase of the research. The Qualtrics Survey (see Appendix C) was emailed six times between November 2, 2020, and December 14, 2020. Seventy-three ADs (24%) completed the survey.

Surveyed ADs were more likely to be male and over the age of 55. In addition, all responding ADs participated in intercollegiate sports, with the majority at the collegiate level. The data represented both public and private institutions, and institutional enrollment varied from less than 1,000 students to nearly 35,000. The researcher collected more demographic data from the surveyed ADs, and the results are located in Appendix E.

Qualitative Strand

The researcher located participants for the qualitative research using the quantitative survey. The last question of the survey asked the participants if they were willing to participate in focus groups; six of these agreed to make the change to semi-structured interviews. The researcher scheduled two additional interviews by emailing the quantitative survey group and conducted eight semi-structured interviews between February 15, 2021, and February 26, 2021.

The ADs were representative of NCAA DII, more likely to be male and come from the ranks of SAs and coaches. The interview participants come from seven NCAA DII conferences. Institutional enrollment size ranged from 1,628 students to 21,589 students. To

preserve anonymity, the researcher associated the interview participants with only two variables: gender and age range. Demographic data from the interviewed ADs are located in Appendix F.

The researcher conducted the eight semi-structured interviews with NCAA ADs which lasted approximately one hour each. The interviews were conducted and recorded using a cloud-based software platform for teleconferencing (ZOOM and Microsoft Teams) and the Recorder application on an Apple iPad as a backup. Immediately following the sessions, the researcher reviewed the videos and took additional notes before utilizing Trint.com to transcribe the recordings into text. The software transcribed the text verbatim, and an example is located in Appendix H. The researcher reviewed the text while listening to the interview, and then again while watching the interview. The researcher methodically checked and rechecked transcripts for accuracy before uploading the transcribed text into Quirkos.com, a computer-aided qualitative data analysis software (CAQDAS). Quirkos provides a graphical interface in which bubbles represent codes, and the researcher added notes manually. Appendix I holds the redacted transcript example from Quirkos. Quotations used in Chapter Four have been edited to remove repeated words and phrases; however, the researcher took extra care to retain the original intent.

The researcher used both deductive and inductive coding methods to analyze the results of the interviews. The researcher used a set of a priori codes, established by the literature, to begin the process. The researcher added to these codes as she examined the data inductively. In some cases, *In Vivo* inductive coding was used. The “30,000-foot view of the 800-pound gorilla” was a direct quote, which became a code and was then used to name a theme. Table 4.0 provides some examples of the codes used in the development of themes. The researcher concluded that four themes developed from the semi-structured interviews:

1. The **lived experience** of AD’s provided the framework for decisions regarding appropriate medical care of SAs, rather than written standards. Athletics Directors placed a high regard on their prior experiences with athletic health care.
2. Athletics Directors viewed appropriate medical care from a distance: the **30,000-foot view**, often reporting that contact with ATs happened from a distance. This distance also included managing the competing demands of a complex athletic department.
3. Athletic Director **expectations** of appropriate medical care might or might not be realistic based on institutional limitations. These expectations, often arising out of prior experience drive AD decision-making.
4. Athletics Directors remain open to, and **seek solutions** for the problem of providing appropriate medical care. Athletics Directors are aware of the changing landscape of appropriate medical care and expressed concern about delivering appropriate medical care.

Table 4.0
Examples of Codes used in Theme Development

Lived experiences	The 30,000-foot view	Expectations	Seeking Solutions
I was a coach	Budget	DI model	Problems/Insurance
As an athlete I....	Everyone needs \$	Money comparison	Developing problems
Relationships	Facilities	Limited facilities	Demand on facilities
Conflict	Risk v reward	Coverage	Billing for service
Event Coverage	Liability	Care	Growth
SA Experience	Accountability	Workload	Recruitment/Retention
Health care options	Evaluation	Turnover	Order of importance
Mental health/Covid	Equity	Travel	Risk management

The researcher will discuss each of the research questions in detail. The researcher presents the quantitative data followed by the qualitative data that answers the research question. The two independently collected datasets are then synthesized and discussed.

Research Question One: FINDINGS

RQ 1 What are the perceived barriers to providing appropriate medical care to NCAA DII SAs, as identified by ADs.

This research question has a small quantitative strand and a large qualitative strand. The online survey contained two areas pertaining to barriers. Descriptive statistics were run on each survey question using IBM SPSS Statistics 27. In the semi-structured interviews, The researcher questions ADs about the athletic health care provided on their campus, to reflect on its adequacy, and to reflect on the difficulties or barriers they face.

Quantitative Findings related to RQ1

The survey asked ADs if they employed an adequate number of ATs to provide appropriate medical care to SAs regardless of sport or gender. As shown in Table 4.01, the majority of survey respondents indicated that they employed an adequate number of ATs to provide appropriate medical care to SAs regardless of sport or gender.

Table 4.01

ADs Perception of Adequate Numbers of ATs for Appropriate Medical Care

		N	%	Valid %
Valid	Yes	43	58.9	62.3
	No	26	35.6	37.7
Missing		4	5.5	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

ADs who felt that they did not have enough staff to provide appropriate medical care were asked to rank the barriers that they faced: 1) Financial/Budgetary limitations; 2) Hiring

decisions are approved at a higher administrative level; 3) Outside barrier (contract with local health care provider); 4) Coaching and Administrative positions are more necessary; and 5) Other. Of the 35.6% who felt they did not have adequate staff, 11 ADs failed to rank the barriers. Fifteen ADs placed the barriers in rank order as shown in Table 4.02. ADs had the opportunity to write in their “other” barriers; however, none of the 15 ADs provided this information.

Table 4.02

Ranking of Barriers by Athletics Directors

Rank	Financial or budgetary	Hiring Decisions made at higher level	Outside Barrier Contract with local provider	Coaching or Administrative Position Needed More	Other
1	15	0	0	0	0
2	0	6	6	3	0
3	0	6	5	2	2
4	0	3	3	9	0
5	0	0	1	1	13

Qualitative Findings related to RQ1

The researcher discussed the challenges or barriers faced by ADs in delivering appropriate care. The researcher asked each AD about the current sports medicine program in use, the satisfaction level with that program, how they defined appropriate medical care, what changes that they would like to make, and what they perceived as barriers to change.

Theme One: Lived Experience. Most of the interviewed ADs reflected on both their experiences in the coach-AT relationship and personal experiences receiving care at the hands of an AT as either an SA or a professional member of the athletic department in their answers. The researcher noted that all of the ADs had either traditional athletic training programs or a combination of internal staff and external staff. Athletics Directors were satisfied with their existing program, but did feel that there was room for improvement. As one AD said “I tell

people right now we have a staff of five-six people and we could very easily staff of 12 and if we have a staff of 12 we could have a staff of 20 because I believe that it is that important". In order to develop a basis for comparison, the researcher asked each AD to define appropriate medical care.

Participant 5 (P5) provided a response common to six ADs; that he had a good understanding of appropriate medical care because of his experiences receiving care. He had received care as both an SA and as an AD. He utilized both experiences as he defined appropriate medical care to be meeting SA injury needs.

I spent a bunch of time when I was a SA and, you know, at my former institution, I blew up my Achilles tendon in [year]. I lived in the athletic training room for four-six months every day at lunchtime, and those folks, they cared for me as if I was a SA, and they got me back on my feet as quickly as possible. As long as we're able to support whatever need our student athlete has from an injury standpoint, I think that's appropriate.

The participants discussed the changing landscape of Athletic Training education as a barrier to appropriate medical care. Participants two (P2), three (P3), five (P5) and six (P6), discussed the transition of athletic training education from apprenticeship to its most current model as an entry level Master's program. The researcher noted that the change was not viewed favorably by ADs who had lived experience with student-athletic trainers (ATs). Participant 6 (P6) provided a response about changing educational models that was echoed by three other ADs.

I've been here twenty-two years, but certainly over the last thirty, it has just mushroomed up in responsibility and expectations. So I don't know with the pipeline thing closing down this bachelor's degree programs, is certainly going to create a bit of a bottleneck. I

think that this goes hand-in-glove with the finances. The availability of people wanting to do it [athletic training], so money and availability really are the biggest difficulties we face (P6).

Theme 2: 30,000-Foot View. The vantage point of the AD is one that must balance the competing needs of a complex department: the researcher believed that this might explain barriers or be a barrier. Athletics Directors provide departmental oversight and account for the competing needs of the athletic department. Participant two (P2) made a comment echoed across the board, with regard to coaching needs that competed with appropriate medical care needs.

I still have I have three programs with no assistant coach: men's basketball, softball and volleyball. Men's basketball is struggling right now, and quite frankly, we don't have the quality of players. Whose fault is that? You know, we don't have it staffed properly. (P2)

Participant One addressed barriers to staffing appropriately for athletic health care, he also summarized the views of five other ADs:

I think the number [Referencing the AMCIA] is so far away from anything that I believe to be attainable budget wise, that it makes it harder to understand how to navigate it.

Right? When it says that I would need to more than double my current athletic training staff in the midst of budget cuts? I mean, I had to furlough 20 people last spring. (P1)

A remote vantage point allowed the AD distance from the frontline of appropriate medical care that they addressed openly. On one hand, ADs discussed the need to not micromanage athletic health care and indicated that they did not always need to know the intricacies; however, several also discussed not wanting to know the details. Several echoed this response by P6: “But, you know, I think we're providing good, solid care for our SAs. At least I haven't heard any different”. Participant 5 summarized an idea about athletic health care that “no

news is good news”. Participation 1 (P1) felt that “staying removed” from appropriate medical care conversations was based on a lack of medical expertise and a respect for the power dynamic between AD and AT.

Theme Three: Expectations. The researcher noted that in half the interviews, the ADs described appropriate medical care as specialty care and the ability of the department to get SAs medical needs appropriately outsourced. Participant 3 stated “But now it is such a deeper dive you need OB/GYN, you need Internalist [sic], you need cardiologists and you need lot of other people”. He provided this information:

We tell parents in our recruiting process, we don’t care where your child goes to school, the bottom line is that from a medical perspective we feel that our kids are getting the same type of care that they would get if they were going to Duke or UCLA or University of Florida Miami. There is not a better situation and that is what we are striving for. (P3)

One AD had a different perspective, she addressed expectations of coaches and relational problems in the athletic department.

I think the biggest barrier is just aligning expectation of coach and what an AT does and should be doing and the difference of opinion, sometimes I think that's the biggest barrier. That's what gives me the most headaches. (P8)

Theme 4: Seeking Solutions. Athletics Directors expressed frustration at the complexity of providing appropriate medical care within their environment. Athletics Directors agreed on the need to add ATs. Facilities were a problem mentioned by the majority of ADs. One AD discussed the limited facilities concerning appropriate medical care and the financial implications.

You know, you go into some DI athletic training rooms and there's like I mean, I don't know, 10, 12, 15 tubs, and we have one at the complex and one here. So we're just limited in our ability because of space. We can only have so many in the training room at once. We're limited in our resources for sure. We get creative you know, we try to be resourceful. But the resource is the money, we just don't have the same. It's just not the same. (P7)

Another AD, attempting to prioritize appropriate medical care, spoke of his frustration at aligning recommendations [of the Appropriate Medical Coverage of Intercollegiate Athletics (AMCIA)] with his current staffing situation.

I could go fight hard for a couple of years and maybe get another .5 FTE, maybe even another 1.0 FTE. I will say the document [AMCIA] I think does a disservice to athletic trainers, because when I see that I'm like at 45% of what that document says, I do ask myself, is it worth all the political capital that it will take across campus to go from 45-50% capacity? You know, it's almost like, is this even fruitful? Is this worth it or would I get more “bang for my buck” if we could get another position elsewhere? (P1)

To summarize the results of RQ I: What are the perceived barriers to providing appropriate medical care to NCAA DII SAs, identified by ADs? The researcher found that both datasets supported the finding that ADs perceive finances as the greatest barrier to appropriate medical care. The researcher found that some of the results of the two datasets were complicated and different. Sixty-two percent of surveyed ADs felt that they employed enough ATs to provide appropriate medical care. However, seven of the eight AD's discussed staffing limitations at length. The researcher also noted that surveyed ADs listed institutional barriers outside of athletics as the second ranked barrier to appropriate medical care. Interviewed ADs discussed

the changing landscape of AT education. Both datasets addressed balancing the needs of the entire department in challenging budgetary climates as a barrier to appropriate medical care. Information from these findings are further synthesized in Chapter Five.

Research Question Two Findings

RQ 2. How do ADs define appropriate event coverage of SAs?

This research question has input from both quantitative and qualitative strands; however, the quantitative strand was larger. The online survey contained a number of questions pertaining to appropriate event coverage. During the interviews, ADs were asked to define the terms appropriate care and appropriate coverage. Descriptive statistics were calculated for each survey question using IBM SPSS Statistics 27. The researcher use IBM SPSS Statistics 27 to calculate linear regression to determine if three variables were predictors for event coverage.

Quantitative Findings related to RQ2

The survey asked ADs a wide range of questions pertaining to appropriate event coverage and about factors affecting appropriate event coverage. The majority of the RQ 2 conclusions are based on the quantitative data.

Medical event coverage must take into consideration the number of SAs (Table 4.03) and the number of sports teams to be covered (Table 4.04). There researcher elected to retain the four large institutions with more than 600 SAs. The researcher based this decision on the fact that these measurements were not in error, they represent the diversity in DII universities, and the data from these ADs is included across all questions.

Table 4.03

Number of Varsity SAs

N	Valid Missing	68 5
Mean		366.59
Median		344
Mode		250.00 ^a
Std. Deviation		130.47
Minimum		135.00
Maximum		800.00

a. Multiple modes exist. The smallest value is shown

Table 4.04

Number of Varsity Sport Teams

N	Valid Missing	68 5
Mean		16.21
Median		16.0
Mode		17
Standard Deviation		3.95
Minimum		10
Maximum		25

In addition to the number of sports and the number of SAs that require appropriate event coverage, the maximum number of athletic competitions is determined by the NCAA and is listed by sport in Table 4.05.

Table 4.05

NCAA Allowable Number of Contests/Dates of Competition for Each Sport

Sport	Contests	Dates of Competition
Baseball	50	
Basketball	26	
Beach Volleyball		
	Championship Segment	16
	Other Segment	4
Bowling, Women's		32

Cross Country		7
Equestrian		15
Fencing		11
Field Hockey		
	Championship Segment	18
	Other Segment	5
Football		11
Golf		21
Gymnastics		13
Ice Hockey, Men		32
Ice Hockey, Women		34
Lacrosse, Men's		17
Lacrosse, Women's		
	Championship Segment	17
	Other Segment	5
Rifle		13
Rowing, Women's		20
Rugby, Women's		16
Skiing		32(Alpine)
		32 (Nordic)
Soccer		
	Championship Segment	18
	Other Segment	5
Softball		56
Swimming and Diving		16
Tennis		
	Overall **	25
	Individual Singles and/or Doubles	7
Track and Field (Indoor and Outdoor)***		18
Triathlon, Women's		6
Volleyball, Men's		
	Championship Segment	28
	Other Segment	4
Volleyball, Women's		
	Championship Segment	26
	Other Segment	4
Water Polo, Men's		21
Water Polo, Women's		21
Wrestling		16

Contests are singular. Dates of competition apply to sports that might have multiple competitions on the same day.

The researcher wanted to know the number of athletic training staff available for event coverage. Sixty-nine ADs reported the number of athletic training staff. In each case, full-time employees (FTE) were counted as 1.0 FTE, part-time employees were counted as .50 FTE, and graduate assistants/interns were counted as .25 FTE. The researcher recognizes that individual contractual agreements may be different, but this process was consistent for all reported staff. The researcher used the adjusted data (Table 4.06) in combination with the data in Table 4.03 to determine SA to AT ratio (Table 4.07) for each school that provided the data.

Table 4.06

Adjusted Number of AT

N	Valid	69
	Missing	4
Mean		4.16
Median		4.0
Mode		4.0
Standard Deviation		1.52
Minimum		2
Maximum		9.5

Table 4.07

Number of SAs to One AT

N	Valid	68
	Missing	5
Mean		91.22
Median		88.73
Mode		100.00
Standard Deviation		25.47
Minimum		42.5
Maximum		175.00

The researcher collected data determining which decision-maker determined medical event coverage (Table 4.08). Seven out of the eight ADs reported “other” for decision-maker. Three ADs reported a collaborative effort between AT and AD; two ADs reported Athletic

Administrator below the AD; one indicated the president of the school, and one indicated that the president’s cabinet as the decision-makers for event coverage.

Table 4.08

ADs Report Medical Event Coverage Decision-makers

	Decision-maker	N	%	Valid %
Valid	AD	13	17.8	19.1
	Head AT	47	64.4	69.1
	Other	8	11.0	11.8
Missing		5	6.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The survey asked ADs about the use of the AMCIA to determine coverage of athletic events; the results are reported in Table 4.09.

Table 4.09

ADs Perception that AMCIA Used in Coverage Decision-making

		N	%	Valid %
Valid	Yes	33	45.2	48.5
	No	10	13.7	14.7
	Do not know	25	34.2	36.8
Missing		5	6.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The survey asked ADs to indicate whether risk (Tables 4.10) and equity (4.11) are important determinants of appropriate medical coverage.

Table 4.10

ADs Perception that Risk of Injury is Important Determinant of Coverage

		N	%	Valid %
Valid	Yes	58	79.5	95.1
	No	3	4.1	4.9
Missing		12	16.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.11

ADs Perception that Equity is Important Determinant of Coverage

		N	%	Valid %
Valid	Yes	54	74.0	95.1
	No	6	8.2	4.9
Missing		13	17.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher decided to evaluate the ADs perspective on appropriate event coverage, by determining how he/she handled medical coverage in his or her own department. Coverage level of events was broken down into four categories. ***On-site coverage*** is defined as an AT is physically present; ***remote coverage*** is defined as an AT can respond to the venue within 3-5 minutes; ***On-call coverage*** means that an AT response time is equal to or greater than EMS (ambulance call); ***No coverage*** means that the AT is completely unavailable. ADs were asked to report what level of coverage they used for a range of activities based on risk level, and season of play. The researcher notes a clerical error that eliminated the coverage question for out-of-season low-risk sports. The sport categories of high, medium, and low-risk were not identified for the AD; those identifications were considered common knowledge.

The survey revealed that every AD (n=68) who answered the question responded with “on-site” coverage for competitions (Table 4.12).

Table 4.12

ADs Reported Event Coverage for Competitions

		N	%	Valid %
Valid	On-site Coverage by AT	68	93.2	100.00
Missing		5	6.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The ADs responses to how they provide event coverage for in-season practices conducted for high-risk sports are displayed in Figure 4.0.

Figure 4.0 Coverage Procedure of In-season Practices for High-Risk Sports

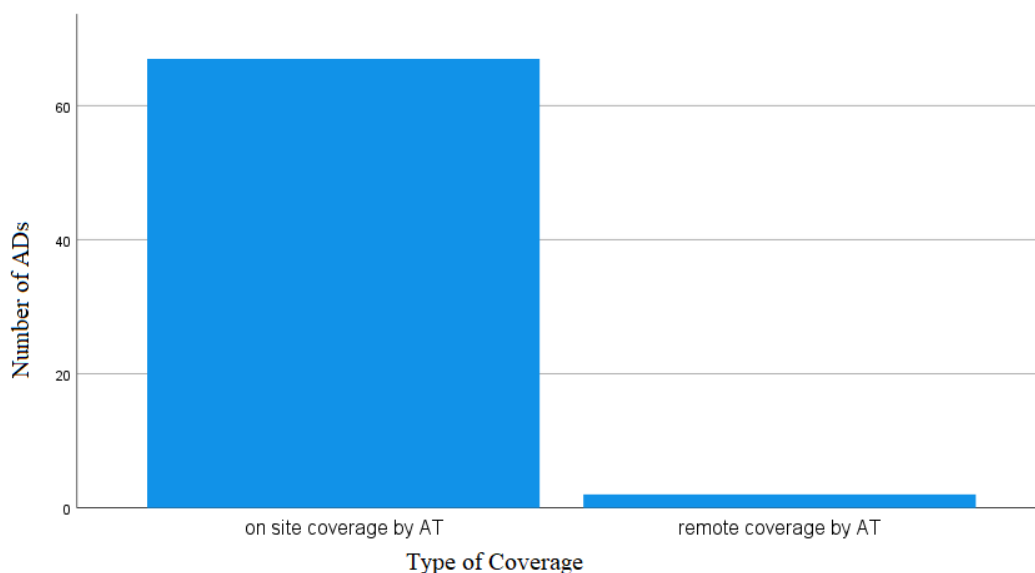


Figure 4.0 Coverage reported by ADs for in-season practices for high-risk sports

The ADs responses to how they provide event coverage for in-season practices of moderate risk sports are displayed in Figure 4.1.

Figure 4.1 Coverage Procedure of In-season Practices for Moderate-Risk Sports

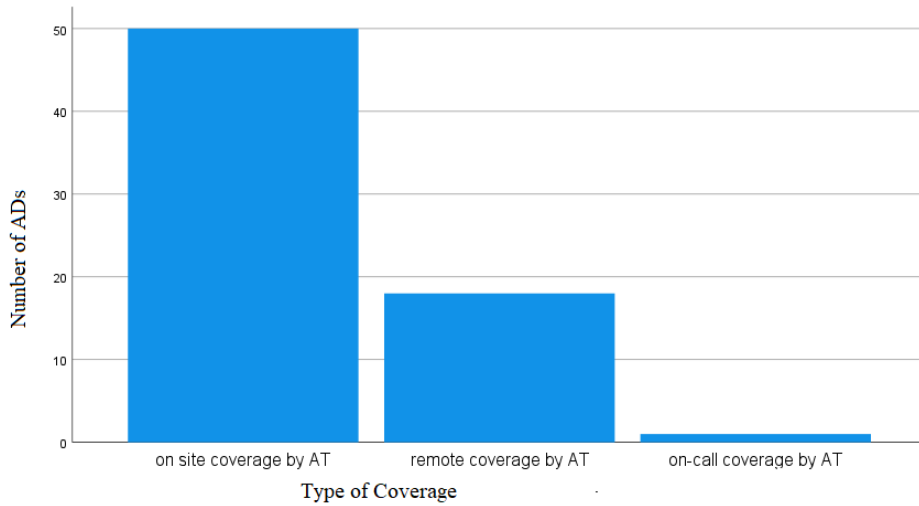


Figure 4.1 Coverage level reported by ADs for in-season practices for moderate-risk sports.

The ADs responses to how they provide event coverage for in-season practices conducted for low-risk sports are displayed in Figure 4.2.

Figure 4.2 Coverage Procedure of In-season Practices for Low Risk Sports

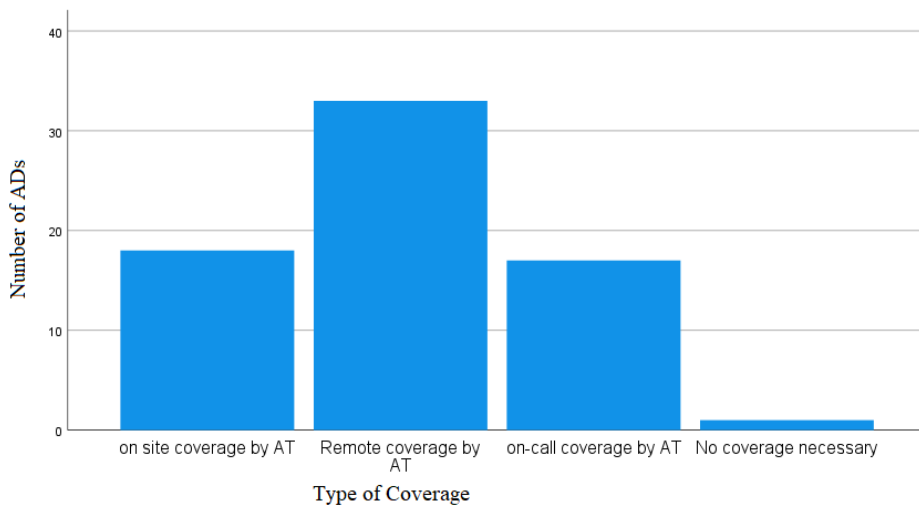


Figure 4.2 Coverage level reported by ADs for in-season practices for low-risk sports.

The AD responses to how they provide event coverage for out-of-season practices conducted for high risk sports during fall and spring semesters are displayed in Figure 4.3.

Figure 4.3 Coverage Procedure of Out-of-season Practices for High Risk Sports

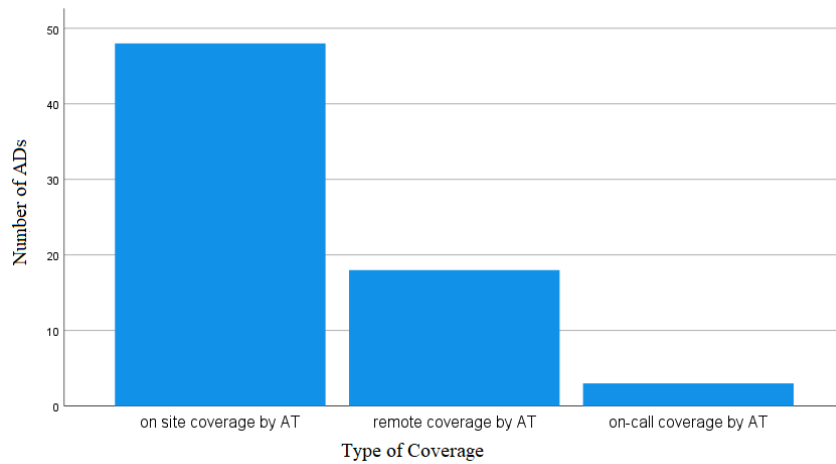


Figure 4.3 Coverage level reported by ADs for out-of-season practices for high-risk sports.

The AD responses to how they provide event coverage for out-of-season practices conducted for moderate risk sports are displayed in Figure 4.4.

Figure 4.4 Coverage Procedure Out-of-season Practices for Moderate Risk Sports

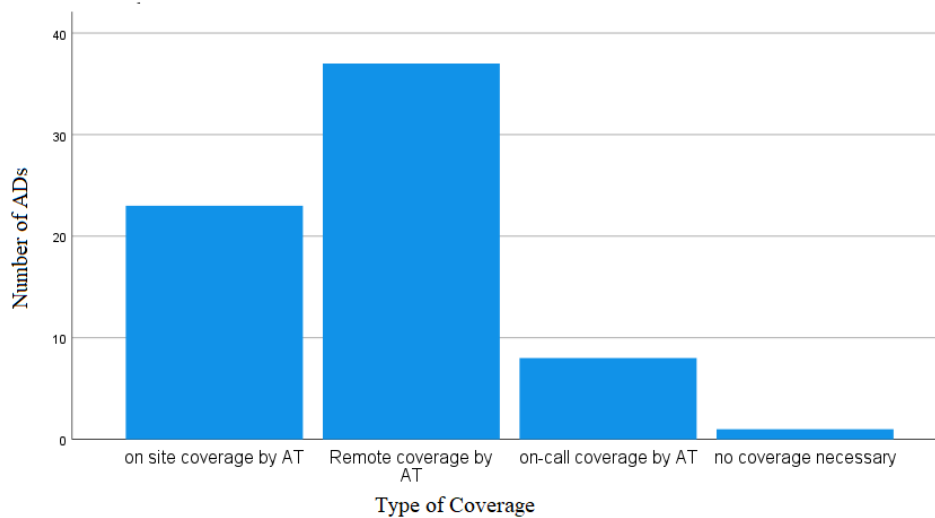


Figure 4.4 Coverage level reported by ADs for out-of-season practices for moderate-risk sports.

The AD responses to how they provide event coverage for conditioning and strength training practices conducted during the fall and spring semester are displayed in Figure 4.5).

Figure 4.5 Coverage for Conditioning and Strengthening During Academic Year

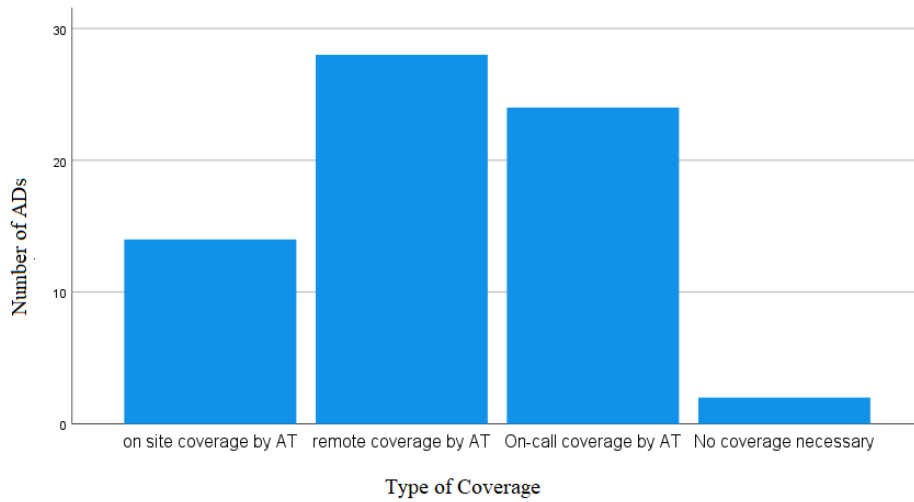


Figure 4.5 Coverage level reported by ADs for conditioning and strengthening during the academic year.

The AD responses to how they provide event coverage of conditioning and strength training practices conducted during summer are displayed in Figure 4.6.

Figure 4.6 Coverage for Conditioning and Strengthening During Summer

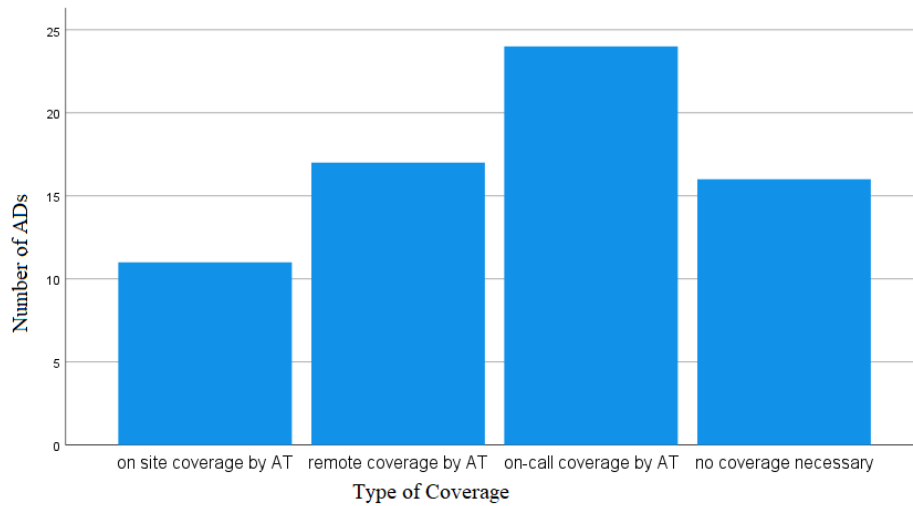


Figure 4.6 Coverage level reported by ADs for conditioning and strengthening during the summer.

The researcher transformed the data provided for coverage in order to provide each respondent with a coverage score. Each time a respondent answered a coverage question they received 1 point for an “on-site coverage” answer, 2 points for a remote coverage answer, 3

points for an on-call answer and 4 points for a no-coverage answer. The minimum score 8.0 represented answers of “on-site” coverage for each activity and risk level that was listed. The maximum score of 32.00 would represent answers of “no coverage necessary” for each activity and risk level that was listed. Coverage scores ranged from 8.0 to 18.0 with six of the 73 respondents not answering or not answering each question (Table 4.13).

Table 4.13
AD Coverage Scores

N	Valid	67
	Missing	6
Mean		13.27
Median		14.0
Mode		14.0
Std. Deviation		2.63
Minimum		8.0
Maximum		18.0

The researcher wanted to determine if three independent variables: 1) the number of SAs to one AT; 2) the number of SAs; and 3) the number of varsity sports might explain the differences in the dependent variable: coverage score. The researcher ran linear regression statistics to determine the effects of each variable on the coverage score.

In order to assess linearity, the researcher generated a scatterplot of coverage score against each of the three independent variables using IBM SPSS Statistics 27. Although there appears to be linearity in the relationship between the Number of SAs to One AT and the Coverage Score (Figure 4.7), there is no slope to the line. There was linearity in the relationship between Number of Varsity SAs and the Coverage Score; as well as in the relationship between Number of Sports and the Coverage Score.

Figure 4.7 depicts the scatterplot for the number of SAs to one athletic trainer and coverage score. The variable accounted for 1.9% of the variation in coverage scores within the

model. The adjusted R^2 value of 0.3% is the percentage of variation explained by the model in the population. This variable did not significantly predict the coverage score, $F(1, 61) = 1.2, p = .278$. The statistical significance is greater than .05; therefore, the number of SAs to one AT is not a significant predictor of coverage score.

Figure 4.7 Scatterplot of Coverage Score and Number of SAs per AT

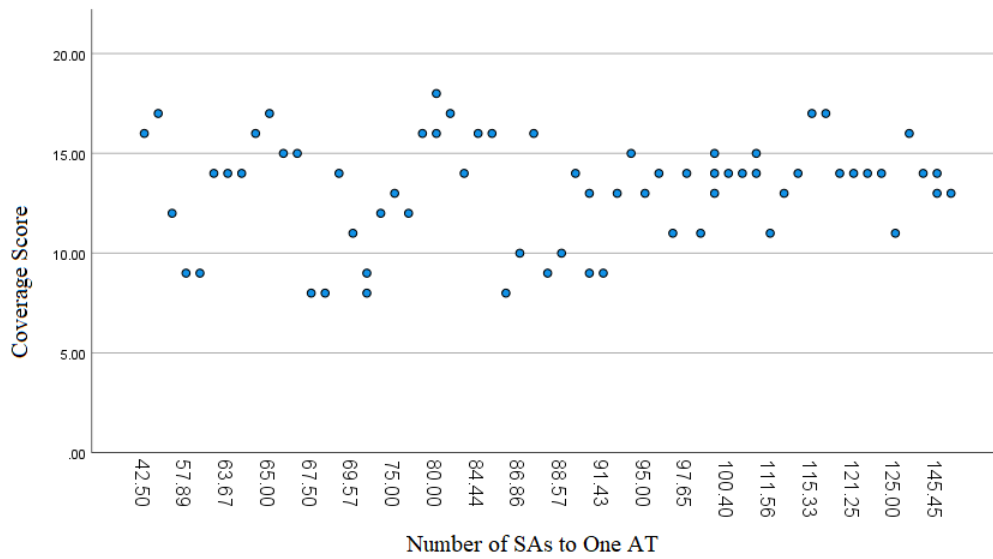


Figure 4.7 Scatterplot of independent variable coverage score with dependent variable number of SAs to one AT.

Figure 4.8 depicts the scatterplot for the number of SAs and coverage score. The variable (number of SAs) accounted for 0.6 % of the variation in coverage scores in the model. The adjusted R^2 value of 1.0% is the variation explained by the model in the population. The number of SAs did not significantly predict the coverage score, $F(1,61) = .395, p = .532$. The statistical significance is greater than .05; therefore, the number of SAs is not a significant predictor of coverage scores.

Figure 4.8 Scatterplot of Coverage Score and Number of SAs

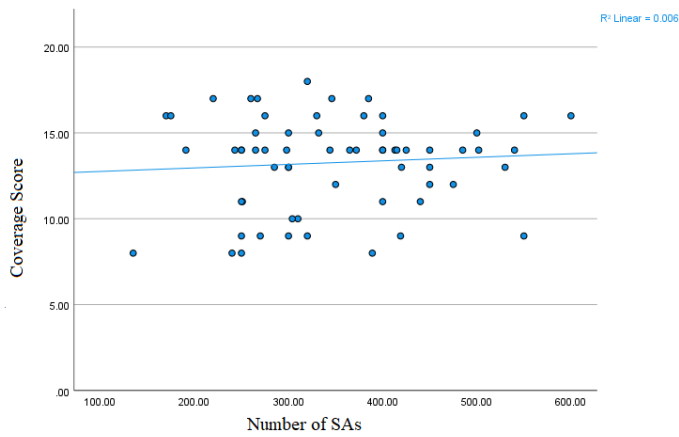


Figure 4.8 Scatterplot of independent variable coverage score with dependent variable number of SAs.

Figure 4.9 depicts the scatterplot for the number of sports and coverage score. The variable (number of Sports) accounted for 1.5% of the variation in coverage scores in the model. The adjusted R^2 value of 0.1% is the variation explained by the model in the population. The number of sports did not significantly predict the coverage score, $F(1,61) = .952$, $p = .333$. The statistical significance is greater than .05; therefore, the number of sports is not a significant predictor of coverage scores.

Figure 4.9 Scatterplot of Coverage Score and Number of Sports

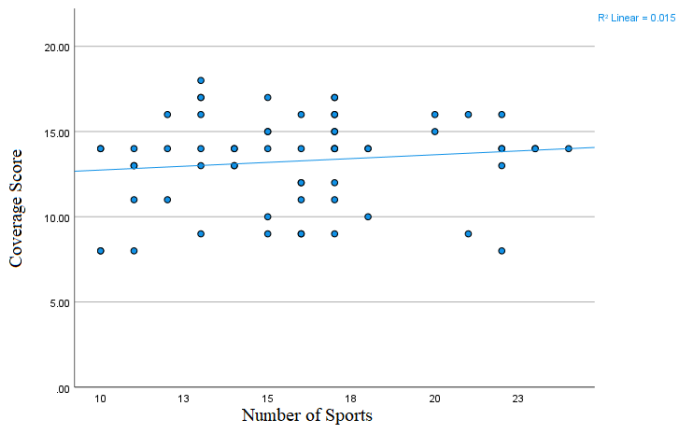


Figure 4.9 Scatterplot of independent variable coverage score with dependent variable number of sports.

The researcher determined that there were outliers: three schools with more than 700 SAs. These are genuinely unusual values with no good reason to reject them as invalid. The researcher ran the linear regression with and without the outliers, with no appreciable difference in the results. There were no significant findings in these linear regression statistical tests; the level of coverage reported by each AD could not be predicted by the number of SAs, the number of teams, or the number of SAs per one AT reported by each AD.

The survey asked ADs about their perception that coaches are qualified to handle a health crisis. Athletic Director responses are reported in Table 4.14.

Table 4.14

ADs Perception that Coaches are Qualified for Health Crisis Management

		N	%	Valid %
Valid	Yes	55	75.3	91.7
	No	5	6.8	8.3
Missing		13	17.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The survey asked ADs if coaches had an Emergency Action Plan (EAP). Athletic director responses are reported in Table 4.15.

Table 4.15

ADs Perception that Coaches Have an Emergency Action Plan

		N	%	Valid %
Valid	Yes	56	76.7	93.3
	No	4	5.5	6.7
Missing		13	17.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Athletics directors perceive that their athletic training facility is open an adequate number of hours for athlete care (Table 4.16). As shown in Table 4.17, ADs reported the number of hours their athletic training facility is open each day.

Table 4.16

ADs Perception Athletic Training Facility is Open Adequate Hours

		N	%	Valid %
Valid	Yes	66	90.4	97.1
	No	2	2.7	2.9
Missing		5	6.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.17

ADs Perception of Athletic Training Facility Open Hours

		N	%	Valid %
Valid	3-4 hours/day	10	13.7	14.9
	5-6 hours/day	16	21.9	23.9
	7 or more hours/day	41	56.2	61.2
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher wanted to know whether ADs felt travel to be a component of appropriate medical event coverage. Data presented in Table 4.18 will also be referenced in RQ 3, and reveals that majority of ADs believe that team travel should be a part of appropriate event coverage and medical care.

Table 4.18

ADs Perception that Team Travel is required for Appropriate Event Coverage

		N	%	Valid %
Valid	Yes	45	61.6	67.2
	No	22	30.1	32.8
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher wanted to know the ADs perception concerning the determination of practice schedules and the ATs ability to affect the practice schedule. Table 4.19 reveals that 59% of ADs believe that ATs should have a voice in determining practice schedules.

Table 4.19

ADs Perceive ATs Should Have Input When Practice Schedules are Determined

		N	%	Valid %
Valid	Yes	36	49.3	59.0
	No	25	34.2	41.0
Missing		12	16.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.20 reveals that ADs are divided on the provision of medical care to summer sport camp participants as a part of appropriate medical event coverage.

Table 4.20

ADs Perceive ATs Should Provide Medical Coverage for Youth/High School Summer Camps

		N	%	Valid %
Valid	Yes	34	46.6	50.7
	No	33	45.2	49.3
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher wanted to know ADs perceptions of the ATs workload. Table 4.21 depicts the ADs perceptions of the ATs number of hours worked per week.

Table 4.21

ADs Perception of Full-time ATs Work Week

		N	%	Valid %
Valid	40 hours/week	6	8.2	9.0
	41-50 hours/week	28	38.4	41.8
	51-60 hours/week	26	35.6	38.8
	More than 60 hours/week	7	9.6	10.4
Missing		6	8.2	
Total		73	100	100.0

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The survey asked that ADs indicate whether their institution signed the Arrington Settlement (Table 4.22). The ADs perception of comfort level that their staffing arrangements satisfy the agreement is shown in Table 4.23.

Table 4.22

ADs Perceive Institution has signed the Arrington Settlement

		N	%	Valid %
Valid	Yes	47	64.4	87.0
	No	7	9.6	13.0
Missing		19	26	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.23

ADs Perceive AT Staffing Arrangements Satisfy the Arrington Agreement

		N	%	Valid %
Valid	Yes	42	57.5	93.3
	No	3	4.1	6.7
Missing		28	38.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

This concludes the statistical findings related to RQ2. In order to have a better understanding of AD perceptions of appropriate event coverage, the researcher utilized the interview data presented in the next section.

Qualitative Findings related to RQ2

The researcher asked each AD about appropriate event coverage as well as how they would define appropriate medical care. Prior to each interview, the researcher acquired some data specific to the interviewee. This data included the number of SAs in the department, number of sports teams, and the number of ATs. The researcher mined this information from each university’s athletic website and corroborated during the interview process. The number of SAs per AT was calculated from the data provided. Table 4.24 shows the number of SAs, teams, ATs, and SAs per one AT for each interviewee.

Table 4.24

Number of SAs, Teams, ATs, and SAs per one AT for Each Interviewee

Participant	Number			
	SAs	Sport Teams	ATs	SAs per one AT
P1	200	10	3	67
P2	230	13	2.5	92
P3	220	13	4	55
P4	450	16	6.5	69
P5	315	16	4	79
P6	320	13	3	107
P7	413	17	5	83
P8	600	20	7	86

In comparison to other topics, ADs clearly felt the most comfortable defining appropriate event coverage. The researcher noted that answers to questions of event coverage were provided with the most confidence and the least amount of hesitation.

Theme One: Lived Experience. The most visible location of an AT is on-site at a practice or event. This familiarity was evident in the way ADs answered the question of appropriate event coverage based on their experiences either as an SA, coach, or from their visual observations of ATs at work as well as their care/service expectations. Participant Four provided an answer that was echoed by all eight interviewees.

We don't have practices without a trainer there, we have a certified athletic trainer at every practice or competition. We typically have not required athletic trainers to be there at weight, strength conditioning. We don't send a team on the road without a trainer. We don't have practices without a trainer there. (P4)

One AD spoke about the relationship between risk and equity as he addressed event coverage. His response reveals his experience resolving the conflict between the components of risk and equity involved in event coverage.

We first have to understand where are the places where there's the greatest risk and we need to prioritize that. I don't think I was always there, I don't think risk assessment was always how I defined this. I think for a while I was more concerned about equity. We have moved to really risk assessment being a high priority for us in terms of defining what we're going to cover. We also at times we really do prioritize the game experience because in our conference, ATs from the other institutions don't travel. (P1)

Another AD spoke freely of the changes that had occurred in athletic training coverage and how event coverage today differed from what he had always known.

We don't let a team practice or compete without an athletic trainer being present and years ago it wasn't that way. Somebody says I am the athletic trainer and I got (sic)

outside sports so I'll venture between the baseball, the softball and the tennis courts just checking around but now that (type of coverage) might be too late. (P3)

Theme Two: the 30,000-foot view. The researcher noted that ADs with more institutional resources revealed more of Theme Two in their responses to event coverage. In one case P8 said, “[Name of AT] handles that whole thing. I don't usually get involved with any of that”. As the questions continued, the researcher asked about summer camp and clinic coverage and whether AT staff was expected to provide event coverage and she responded: “Oh, hell no. I would lose them all if I had them cover camps. But what they do help is by making sure there's first aiders at all of our camps”.

To summarize the results of RQ 2. How do ADs define appropriate event coverage of SAs? Both datasets addressed even coverage. Athletics Directors perceive that practice and event coverage is the most important component of appropriate medical care provided by ATs. This perception is evident in the emphasis placed on this coverage. Every single AD spoke about having an AT present at every practice and every game. Information from these findings is further synthesized in Chapter Five.

Research Question 3: Findings

Research Question 3 Do ADs understand athletic training scope of practice?

The position of the AT in NCAA DII institutions presents challenges. In the majority of cases, the AT is an employee of the university, evaluated by the AD (Table 4.39), but answerable to the university, the physician and the state Board of Medical Practice. There are duties which are included in the scope of practice and then there are activities which are “over and beyond” duties. For example, COVID -19 testing and contact tracing became a duty for many ATs during 2020-2021.

Quantitative Findings related to RQ3

The quantitative strand of data contains AD answers to questions that involve AT scope of practice requirements. This strand also includes ADs answers to questions about activities that are beyond the scope practice. These items, like managing insurance, are not outside the scope (illegal), but they certainly add to workload. The researcher calculated descriptive statistics using IBM SPSS Statistics 27.

Because ATs work under the direction of the team physician, the researcher collected data about the practice of the team physician on campus. The majority of ADs report the team physicians are on campus for event coverage only (Table 4.25).

Table 4.25

Team Physician On-Campus for More than Event Coverage

		N	%	Valid %
Valid	Yes	21	29.2	29.2
	No	51	69.9	70.8
Missing		1	1.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

To understand the relationship between the team physician and the athletic department, the researcher asked about the contractual status of the team physician. Athletic Director responses are shown in Table 4.26.

Table 4.26

Relationship between Athletic Department and Team Physician

		N	%	Valid %
Valid	Team Physician is a volunteer position	26	35.6	36.1
	Contract w/local provider for coverage of events	9	12.3	12.5
	Contract w/local provider for coverage of events <u>and</u> daily care	18	24.7	25.0
	Contract w/local provider for physician and AT coverage	15	20.5	20.8
	Other	4	5.5	5.6
Missing		1	1.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.27 reveals how AD describe the AT reporting lines, with the majority of ATs reporting to the AD.

Table 4.27

ADs Describe AT Reporting Line

		N	%	Valid %
Valid	Director of Athletics	53	72.6	73.6
	Director of Health Services	2	2.7	2.8
	AT is contracted through 3 rd party	6	8.2	8.3
	Other	11	15.1	15.3
Missing		1	1.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The surveyed ADs are aware that their ATs are in good standing with governing bodies (Table 4.28) and believe that ATs are well-trained professional health care providers. (Table 4.29)

Table 4.28

ADs Perceive ATs are in Good Standing with Board, NATA, and BOC

		N	%	Valid %
Valid	Yes	70	95.9	97.2
	No	1	1.4	1.4
	Do not know	1	1.4	1.4
Missing		1	1.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.29

ADs Perceive ATs as Well-Trained Professional Health Care Providers

		N	%	Valid %
Valid	Yes	71	97.3	98.6
	No	1	1.4	1.4
Missing		1	1.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

As revealed in Table 4.30, little more than half (51.5%) of ADs indicated that ATs are not responsible for COVID-19 contact tracing. However, of the eight ADs who responded “other”, six indicated that ATs on their campus assisted with another contact-tracing group on campus. Of the 68 ADs who provided answers, 33 ADs (48.5%), report that their ATs are responsible or partially responsible for COVID-19 contact tracing.

Table 4.30

ADs Believe ATs Responsible for COVID-19 contact tracing

		N	%	Valid %
Valid	Yes	25	34.2	36.8
	No	35	47.2	51.5
	Other	8	11.0	11.8
Missing		5	6.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Thirty-eight percent of ADs indicated that ATs are responsible for COVID-19 testing (Table 4.31). Ten ADs responded “other” and eight provided definitions. Of the eight ADs who provided additional information, five indicated that ATs on their campus assisted with another testing group on campus, and three indicated that they were not making ATs responsible “yet”. Of the 68 ADs who provided answers, 31 ADs (45.6%) report that their ATs are responsible or partially responsible for COVID-19 contact tracing and 4% did not rule out the possibility of ATs providing this service.

Table 4.31

AD’s Believe ATs Responsible for administering COVID-19 testing

		N	%	Valid %
Valid	Yes	26	35.6	38.2
	No	32	43.8	47.1
	Other	10	13.7	14.7
Missing		5	6.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The survey asked ADs to indicate whether they are familiar with the medical record-keeping system of ATs and responses are shown in Table 4.32. In addition, every reporting AD felt that ATs should keep detailed medical records (Table 4.33).

Table 4.32

ADs Have Knowledge of Medical Record Keeping

		N	%	Valid %
Valid	Yes	64	87.7	95.5
	No	3	4.1	4.5
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.33

ADs Believe ATs Should Keep Detailed Medical Records

		N	%	Valid %
Valid	Yes	67	91.8	100.
	No			
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The minimum degree requirement for Board of Certification (BOC) of the Athletic Trainer credential has been changed to entry-level Master’s degree. The survey asked ADs to indicate the minimum degree requirements for AT education and their responses are reported in Table 4.34.

Table 4.34

ADs Have Knowledge of Current Minimum Degree Required of ATs

		N	%	Valid %
Valid	Bachelor’s	29	39.7	43.3
	Master’s	38	52.1	56.7
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The survey showed that the majority of ADs are aware of continuing education requirements for ATs (Table 4.35).

Table 4.35

ADs Perceive Knowledge of ATs Continuing Education

		N	%	Valid %
Valid	Yes	66	90.4	98.5
	No	1	1.4	1.5
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher wanted to know if ADs are aware of evidence-based practice (EBP) research. Nearly 90% of AD indicate that they know about AT research requirements (Table 4.36).

Table 4.36

ADs Have Knowledge of ATs Research Requirements

		N	%	Valid %
Valid	Yes	65	89.0	97.0
	No	2	2.7	3.0
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher wanted to know if ADs are aware that AT must take into account the values and preferences of the SA when providing appropriate medical care; regardless of outside opinions. Eighty-five percent of ADs indicate understanding the importance of SA preferences and values to appropriate care (Table 4.37).

Table 4.37

ADs Recognize ATs Practice Integrating SA Preferences and Values with Research

		N	%	Valid %
Valid	Yes	62	84.9	92.5
	No	5	6.8	7.5
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The NCAA Injury Surveillance Program (ISP) formerly referred to as the Injury Surveillance System (ISS), is a voluntary participation program. The survey asked ADs if they believe that ATs should participate and Table 4.38 shows the results.

Table 4.38

ATs Should Participate in NCAA Injury Surveillance Program

		N	%	Valid %
Valid	Yes	63	86.3	94.0
	No	4	5.5	6.0
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Nearly 90 % of ADS report that they understand ATs must practice in the manner outlined by team physician instructions (Table 4.39).

Table 4.39

ADs Understand Physician Oversight of AT Practice

		N	%	Valid %
Valid	Yes	65	89.0	97.0
	No	2	2.7	3.0
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Standing orders are written protocols that allow an AT to complete certain tasks without having to obtain a physician’s order. Table 4.40 reveals that the majority of ADs report they have knowledge that standing orders are in place in their facility.

Table 4.40

ADs Perceive Knowledge of Standing Orders for AT Practice

		N	%	Valid %
Valid	Yes	53	72.6	79.1
	No	6	8.2	9.0
	Do not know	8	11.0	11.9
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Managing the SAs health insurance is a part of many ATs job expectations. Table 4.41 shows how ADs understand the role of the AT in managing SA health insurance.

Table 4.41

ADs Consider ATs to be Institutional Experts in Managing SA Health Insurance

		N	%	Valid %
Valid	Yes	42	57.5	68.9
	No	10	13.7	16.4
	There is a health insurance manager on campus	9	12.3	14.8
Missing		12	16.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The survey asked ADs to indicate whether they were confident that they have a good understanding of AT scope of practice and the results are shown in Table 4.42

Table 4.42

ADs Have Confidence of Good Understanding of AT Scope of Practice

		N	%	Valid %
Valid	Yes	67	91.8	98.5
	No	1	1.4	1.5
Missing		5	6.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The survey asked ADs to indicate whether they were confident that they have a good understanding of AT professional training and skills and the results are shown in Table 4.43

Table 4.43

ADs Have Confidence of Good Understanding of AT Professional Training and Skills

		N	%	Valid %
Valid	Yes	59	80.8	88.1
	No	8	11.0	11.9
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

This concludes the statistical findings related to RQ3. Athletics Directors answered scope of practice questions in the survey with confidence. In order to have a better understanding of AD perceptions of AT scope of practice, the researcher utilized the interview data presented in the next section.

Qualitative Findings related to RQ3

The researcher asked ADs about their understanding of AT scope of practice within of the NATA Code of Ethics and the BOC standards. Athletics Directors provided answers that align with Themes 1, 2, and 3.

Theme 1: Lived Experience. The researcher noted that ADs continued to associate their personal experiences with each question. The following response was a typical response for scope of practice questions. This very detailed description of scope of practice reveals a one-dimensional response scope of practice is all face-to-face SA care.

Being in the athletic training room as much as I was, it's more than just the treatment of the injury. It's the prevention of injury. It's the education on nutrition, sleep rest, time off, the mental health. That's the other part that gets lost in a lot of this stuff. The number one contact for 90 percent of our SAs is not their head coach or assistant coaches, it's their AT, that's who they trust because they have a relationship with them because they've seen them at their lowest of lows. If they have an injury, they are with

their AT more than they are with their coach. Mental health has been a big problem the last decade. A lot of our ATs are the front line of that too. ATs notice if an SA is off sooner than a coach would you know. (P4)

Theme 2: The 30,000-foot view. The researcher observed that what ADs know and what they can apply are different. One AD connected his lack of understanding to his decision to remain at a distance when it came to appropriate medical care.

I think the way that I would answer it is I think we know the scope. I don't think we understand it. I think I recognize that my athletic trainers have an ethical board and have to do continuing education and have all registered. I understand. I know those things. It's a data point that I have and I recognize. Do I understand all of the different roles that requires? No, because I don't live that reality. You know, I try to I ask the question and try to understand, but know that it is very different than what my reality is. (P1)

There were some observations about ADs which align with both Theme 1: lived experiences and Theme 2: 30,00-foot view. Older ADs had more experience to draw upon and had experienced the development of the profession of athletic training. One AD, drawing upon his lived experience as an AD, provided a perspective common to the four ADs over age 50.

Maybe you should ask our trainer [if I understand the scope of AT practice]. I don't know, maybe I'm going to say yes, I'm going to say to the point I need to know. As an AD, sometimes all you hear are the problems. I don't hear of problems. I don't hear of dissatisfaction among our SAs or the coaches. And so I have a little bit of faith that, we're doing the right thing. I don't know that I completely understand the day-to-day stuff that they do. So I think as much as I should know, I do about that. (P6)

Theme 3: Expectation. The researcher noted that ADs reported knowledge without providing evidence of understanding; they have information without context. This factor can drive expectations. Take the comment of P1:

If we're this far away already [referencing AMCIA recommendations], but we're "managing it" what is one more? I have yet to see a breakdown of what would be different about what we're doing if we had an extra person? You know when right now we cover all of our high-risk sports, every practice, every game, and we have the athletic training room open at least five days a week.

The researcher noted that the two female ADs were prepared to answer questions regarding scope of practice. They answered the question from their lived experience and the researcher also noted that this was the lived experience of an AD. Neither recruited memories of being either an SA or a coach to answer the question. Both supplied similar lived experiences (theme 1) and expectations (theme 3) as reflected in this response:

I think they [ADs] do [understand AT scope of practice] and I think they do know more than they ever have with all those things have been happening around us. With the concussions, with the catastrophic injury stuff. And an AD is foolish if they don't keep up. It's no longer just taping ankles and setting up water, because there's a lot they have to do from a documentation standpoint. I think I think an AD has got to be living under a rock if they are not paying attention to the actual practice of it [Athletic Training]. (P8)

To summarize the results of RQ 3: Do ADs understand athletic training practice within the scope of the NATA Code of Ethics and the BOC standards? Both datasets addressed the scope of AT practice and ADs expressed confidence in their knowledge. Information from these findings are further synthesized in Chapter Five.

Research Question Four: Findings

RQ4: How do ADs prioritize hiring decisions and budget allocations?

Athletics Directors manage the competing interests of every member of an athletic department. How ADs make decisions with regard to employees and budget allocation is an important piece for the delivery of appropriate medical care. Descriptive statistics were run on each survey question using IBM SPSS Statistics 27.

Quantitative Findings related to RQ4

When faced with prioritizing job positions within the landscape of ever-tightening budgets, the researcher sought to understand how ADs make decisions. In order to make good hiring decisions, employers must be able to evaluate the position based on the skill set needed. The AD should know how to measure the quality of an AT employee when prioritizing hiring decisions. The researcher asked ADs questions about a variety of employment issues that influence current and future employees.

The researcher asked NCAA DII ADs if they are confident that they understand the skills and professional training required for ATs (Table 4.44).

Table 4.44

ADs Have Confidence in Good Understanding of AT Professional Training and Skills

		N	%	Valid %
Valid	Yes	59	80.8	88.1
	No	8	11.0	11.9
Missing		6	8.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher asked ADs about their perceptions of AT longevity working in the field of athletic training. Table 4.45 shows that surveyed ADs tend to think that longevity in an AT is desirable.

Table 4.45

ADs Perceive Longevity to be Desirable

		NN	%	Valid %
Valid	Yes	51	69.9	86.4
	No	8	11.0	13.6
Missing		14	19.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher asked ADs how confident they were evaluating AT skills in 11 areas of a typical performance evaluation. Athletics Directors generally agreed they could provide knowledgeable guidance to improve AT skills in most areas. These results of these questions are shown in Tables 4.46-4.56

Table 4.46

ADs Can Provide Knowledgeable Guidance in Injury Prevention Skills

		N	%	Valid %
Valid	Agree	32	43.8	53.3
	Disagree	28	38.4	46.7
Missing		13	17.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.47

ADs Can Provide Knowledgeable Guidance in Injury Assessment Skills

		N	%	Valid %
Valid	Agree	22	30.1	37.9
	Disagree	36	49.3	62.1
Missing		15	20.5	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.48

ADs Can Provide Knowledgeable Guidance in Injury Treatment/Care Skills

		N	%	Valid %
Valid	Agree	21	28.8	36.8
	Disagree	36	49.3	63.2
Missing		16	78.1	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.49

ADs Can Provide Knowledgeable Guidance in Injury Rehabilitation Skills

		N	%	Valid %
Valid	Agree	17	23.3	29.3
	Disagree	41	56.2	70.7
Missing		15	79.5	
Total		73	100	100

Table 4.50

ADs Can Provide Knowledgeable Guidance in Time Management Skills

		N	%	Valid %
Valid	Agree	53	72.6	91.4
	Disagree	5	6.8	8.6
Missing		15	20.5	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.51

ADs Can Provide Knowledgeable Guidance in Communication Skills

		N	%	Valid %
Valid	Agree	56	76.7	96.6
	Disagree	2	2.7	3.4
Missing		15	20.5	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.52

ADs Can Provide Knowledgeable Guidance in Organization Skills

		N	%	Valid %
Valid	Agree	57	78.1	98.3
	Disagree	1	1.4	1.7
Missing		15	20.5	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.53

ADs Can Provide Knowledgeable Guidance in Networking/Referral Skills

		N	%	Valid %
Valid	Yes	45	61.6	78.9
	No	12	16.4	21.1
Missing		16	21.9	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.54

ADs Can Provide Knowledgeable Guidance in Medical Research Skills

		N	%	Valid %
Valid	Yes	17	23.3	29.3
	No	41	56.2	70.7
Missing		15	20.5	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.55

ADs Can Provide Knowledgeable Guidance in Financial Management Skills

		N	%	Valid %
Valid	Yes	56	76.7	96.6
	No	2	2.7	3.4
Missing		15	20.5	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 4.56

ADs Can Provide Knowledgeable Guidance in Leadership Skills

		N	%	Valid %
Valid	Yes	56	76.7	96.6
	No	2	2.7	3.4
Missing		15	79.5	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

As a way of determining the ADs priorities, the researcher asked ADs which athletic department position they would hire next if the budget allowed. Table 4.57 reveals that 44% of surveyed ADs indicated that the next athletic department hire would be an AT if the budget allowed.

Table 4.57

ADs Next Hire if Budget Allowed

		N	%	Valid %
Valid	Administrative position	13	17.8	22.0
	Coaching Position	13	17.8	22.0
	Support Staff Position	7	9.6	11.9
	Athletic Trainer	26	35.6	44.1
Missing		14	19.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher asked each AD for the number coaches, administrators, and ATs employed by the athletic department. The researcher compared this data with the reported number of reported SAs. In each case, full-time employees were counted as 1.0 FTE, part-time employees were counted as .50 FTE, and graduate assistants/interns were counted as .25 FTE. The researcher recognizes that individual contractual agreements may be different, but this process was consistent for all reported staff (Table 4.58).

Table 4.58

Ratios of SAs to One AT, Coach, and Administrator reported by ADs

		SAs per AT	SAs per Coach	SAs per Admin
N	Valid	68	55	54
	Missing	5	18	19
Mean		91.23	17.87	68.83
Median		88.73	14.81	55.17
Std. Deviation		25.46770	12.01299	40.61114
Minimum		42.50	8.41	10.00
Maximum		175.00	86.36	180.00

This concludes the statistical findings related to RQ4. Athletics Directors reported that they had confidence evaluating the position of the AT and they reported prioritizing the hiring of an AT position if the budget allowed. The researcher will integrate this information with the responses from the qualitative interview.

Qualitative Findings related to RQ4

The findings in this section are presented by the discussion topic related to the research question. Decision-making and budget allocation are discussed by theme, followed by evaluation and hiring, and conclude with AD’s discussion on the pros and cons of longevity in an AT career. The researcher asked ADs how they make decisions about budget and staffing. Most ADs had difficulty articulating the process of decision-making with regard to decision-making and budget. Only one AD responded in a way that acknowledged comprehension of a medical standard in the process. She said, “In terms of appropriate medical care. It should be regardless of resources. Right?”

Theme 1: Lived Experience. The researcher noted that the ADs did not provide a clear picture of their decision-making process and observed palpable discomfort in some ADs. The researcher took note of the often-mentioned process of talking to the president of the university with a list of priorities. One AD shared the following observation:

That's not a real hard question for me to answer, because and I've made that known around here. And I'm not just saying it because I'm talking to a an AT, but sports medicine is the one area that we have never skimmed or cheated on in the midst of we don't have a capital budget where, you know, oh, you can do this or whatever, but the trainers know me well enough and they know we'll go out and raise money for that stuff [Capital equipment and supplies] (P6).

As one AD pointed out, the process for decision-making was indistinct, but he had an explanation of his choices.

I don't necessarily have a metric. So, you know, it's difficult sometimes: it's who gets to you first. Or it's in my opinion, as the AD, this is just a little bit more important than this piece. I'm not saying that it's not important. I'm not saying that it's not a need. But we just have to focus on this right now because maybe it's going to help more people or more SAs. (P5)

Theme 2: the 30,000-foot view. The researcher noted that meetings with the president indicated the preferred manner in which department needs were presented for budget allocation. The researcher selected this AD's response as representative of four other ADs.

Well, it's a pretty easy system. I talk to the president and I have a list of positions and their priorities and those priorities change from year to year, depending upon who's the head coach. Athletic training assistant was always at the top of the list. It became more important once the field changed the criteria of having to have a Master's. You know what my needs are, I need an assistant AD for marketing, and I think that's so important. But that's on the bottom of the list. We make do. I talk to the president. (P2)

Another AD described the competitive nature of budget requests in the athletic department and his experience as the decision-maker:

As you know, the AD has everyone in the department, politicking for it [budget], and I'll often hear, oh, the trainers have enough. They have enough. They don't even work that hard over the summer. They don't have to do this and this and this. Here's why I need the assistant coach as opposed to them having, you know, another AT. (P1)

Theme 4: seeking solutions. The search for solutions to budget allocation and hiring decisions was an on-going process for several ADs. One described his learning curve this way:

As simple as it sounds, I asked the people that were making those decisions. I asked our head AT. I asked our head coaches. I asked our administrators. Where do you all see the needs being with this additional money? We're pretty lucky with our budget. We don't have revenue expectations that play into our budget. We are pretty much 100% funded by institutional dollars. I do have to make the decision when I get that laundry list, I have to decide which are the most critical. And that's where I just have to lean on other colleagues, lean on my other senior administrators, and then go from there. (P1)

When evaluation and hiring of ATs were discussed it became apparent that in an environment where funding seems to be based on personal judgement, it is important to understand how ATs are positioned. The researcher questioned ADs about the qualities of an AT they find to be important and valuable.

Theme 2: the 30,000-foot view. Only one AD reported determining the value of the AT employee by calling upon medical resources. This AD spoke of five “buckets” which included staff culture, appropriate policies and procedures, communication/working relationship with the

department and the medical care piece. This researcher noted that this answer accounted for the disadvantage experienced by the AD in the process of evaluating and prioritizing ATs.

When I do evaluations, I'll send an email to the doctors we work with because their opinion matter. They're working under their direction, you know, in their opinion, if he's doing the things he's supposed to be doing. And that tells me a lot of what I need to know to evaluate them. And then we can have the fifth bucket, which is the working relationship within the athletic department. (P8)

Theme 3: Expectations. A common response, when asked about the qualities of a good AT, involved whether the AT could handle the workload and whether the AT was liked by SAs and coaches.

Well, number one can you keep up. I think the kids will tell you if they feel like they're getting good care or not. And I think that the coaches will tell you. I don't know a whole lot, you know, tell you the truth about anything. But I observe. And, if somebody is treating people right, it's a gut feeling of, you know, what do I got? I've had trainers in here that I've gotten a lot of complaints and I just had to make changes I don't know how to answer that. I think that the SA will tell you if they are getting good care or not, and it's more of an intuitive answer. (P2)

Theme 4: Seeking Solutions. The researcher observed that many of the ADs responded to questions about evaluating AT with questions of their own. The response of the AD was particularly honest:

The head AT is the one sports medicine person that I evaluate and it's really hard, probably one of the hardest. I ask questions of our SAs at the end of every year and our faculty athletic rep does and our exit surveys about their experience with athletic training.

I asked my head coaches about their experience with our ATs. I asked my business folks how they're managing their budget. I ask about all of those things. Yet none of that actually has to do with their medical care. I have thought about bringing our team physician into that conversation, But we landed on: No, that's really not what we can do, so if you can give me the decoder ring on that, I certainly would appreciate it because I don't know how to evaluate that side I really don't. (P1)

The researcher wanted to know if AT longevity was important to ADs with regard to budgeting and hiring.

Theme 1: Lived Experience. The researcher noted two common ideas amongst ADs. One AD summarized thoughts about the Head AT in this way: “he’s become the old grumpy AT. I think they [ATs] just get jaded over time”. The researcher compared that answer with the answer provided by P1 regarding youthful ATs:

I would go on the road with the team that had a 21- year old GA who was responsible for their team and the way that that person would interact with the team or act as a professional or most of the time not as a professional, etc., certainly impacted the way that I think many of the coaches viewed the profession (Theme 1: Lived Experience).

Another common perspective on longevity was whether or not an AT could manage the work-life balance. Nearly every AD discussed the effect of workload on this balance:

Theme 3: Expectations. I certainly have empathy for work life balance. But at the same time, I cringe when somebody comes and says that I can only work this amount of hours and I haven't had a day off. I'm kind of like, well, that's athletic training and that's athletics. You know what I mean? But, you know, I appreciate somebody can't work 30

days in a row. But at the same time, you know, you can't say that. Well, I've had a couple of 10 hour days in a row, well, welcome to athletics. (P5)

Most ADs had experienced turnover. In some cases, it was like a changing of the guard where they had experienced the retirement of a long-tenured AT only to experience a period of high turnover.

Theme 3: Expectations. Participant Two referenced a succession of ATs leaving his institution, “My assistant trainer is just 90 days old and my head trainer is even newer than that, I had a head trainer who, quite frankly. She couldn't handle it”. Another AD discussed the impact of turnover on his staff.

Our Head AT, she has probably been here maybe seven years. Her two longest tenured assistants have been here for probably six years, and then we just hired a young lady that is basically fresh out of grad school. Yeah, OK. You know, so but there you go again to your point to me, they're all so young. They're all 30 or under. (P5)

Another factor cited with regard to AT turnover was failing to provide a competitive salary. The response of this AD was representative of many of the interviewees.

Theme 4: Seeking Solutions. We are small, we pay 20 % less than our colleagues, than our competitors. We seem to be proud of that. Which is sad but that's across the board.

We give them experience and then I feel like we push them out the door but I feel like we push them out the door because they go get better jobs for higher pay. (P2)

To summarize the results of RQ 4: How do ADs prioritize hiring decision and budget allocations? Both datasets addressed how ADs determine the value of the AT to prioritize hiring decisions and the decision-making process of budget allocations. Information from these findings is further synthesized in Chapter Five.

Research Question Five Findings

RQ 5: How do ADs describe their advocacy for ATs?

The researcher notes that ADs have positive feelings about appropriate medical care and perceive that they understand appropriate medical care. The researcher wanted to understand how ADs proceed with concerns about appropriate medical care. The quantitative and qualitative strand for this research question addressed how ADs advocate for ATs. Descriptive statistics were run on each survey question using IBM SPSS Statistics 27.

Quantitative Findings related to RQ5

The researcher collected data concerning ADs perceptions of AT professionalism in order to answer research question five. The researcher observed that ADs had personally received care from ATs and were satisfied with that care (Appendix E). In addition, ADs perceived that ATs were in good standing with professional associations and that ATs are perceived as well-trained professional health care providers (Tables 4.27 and 4.28).

The NCAA has acknowledged that work-life balance is a central concern for those who work in the intercollegiate athletic setting. ADs felt that ATs in NCAA DII Institutions have a good work-life balance (Table 4.59).

Table 4.59

ATs Have a Good Work-Life Balance

		N	%	Valid %
Valid	Yes	39	53.4	63.9
	No	22	30.1	36.1
Missing		12	16.4	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher determined that more than 90% of responding ADs indicated that they had advocated for ATs to upper level administration and the university president (Table 4.60).

Table 4.60

AD has advocated for ATs to Upper Level Administration

		N	%	Valid %
Valid	Yes	55	75.3	91.7
	No	5	6.8	8.3
Missing		13	17.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

To determine the depth of AD advocacy for AT’s, the researcher asked whether ADs had discussed appropriate medical coverage at conference meetings. Nearly 77% of responding ADs indicated that they had discussed appropriate medical coverage at conference meetings. (Table 4.61)

Table 4.61

Conference ADs have Discussed Appropriate Medical Coverage

		N	%	Valid %
Valid	Yes	46	63.0	76.7
	No	14	19.2	23.3
Missing		13	17.8	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

The researcher determined that providing protection and counsel to ATs is considered advocacy and asked ADs if institutional insurance policies provided complete protection for ATs, the results can be found in Table 4.62.

Table 4.62

ATs at this Institution are Fully Protected by Institutional Insurance Policies

		N	%	Valid %
Valid	Yes	48	65.8	82.8
	No	2	2.7	3.4
	Do not know	8	11.0	13.8
Missing		15	20.5	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Qualitative Findings related to RQ5

The researcher asked ADs what “advocacy” looked like with regard to ATs and appropriate medical care: specifically, how do they as ADs advocate for the appropriate medical care of SAs. The researcher asked how the AD was evaluated and by whom, and if the subject of appropriate care was an item on their evaluation. In addition, the researcher asked ADs about risk management, insurance, and if someone other than ADs were aware of AT practice on campus.

Most ADs quickly established that they believed that ATs experienced workload and work-life balance issues. This qualitative data was used in RQ1 and RQ2. Participant 5 said in response to workload and work-life balance, “I would say that it's been a conversation every day. When we were down an AT last semester it got tough, we were fortunate that we weren't competing because it just would have been impossible for them to cover all of our SAs and our program needs” (Theme 3: Expectations).

Discussing his successful advocacy for ATs with upper level administration, P4 was quick to acknowledge the role of financial constraints. His remarks align with Theme 4: Seeking Solutions.

I think also some of the best reasons for staffing is financial, when you talk about risk. Liability, that sort of thing. Higher education is very litigious, adverse. They're very afraid of that stuff. So when you have stuff like the Arrington case and things like that, administrators really don't want to mess with that, and so that's why I say there was some marketing to us going up to six (staff ATs) pretty quickly.

The researcher followed up to ask if he, as the AD being evaluated, was every questioned about appropriate medical care, his response was “We don't talk about the care of the SAs, OK? And so it is it's talked about in a roundabout way” (Theme 2: 30,000-foot view).

One AD, (P5) used a computer example when asked about advocacy for his AT staff: “I'll give you a quick example. So for 30 years, 40 years, whatever, the AT staff would share a computer. Share one computer. So last semester I was able to get another laptop”. This AD was startled when the researcher asked about his advocacy for workload and appropriate care, however; the researcher learned that this AD had improved his staff numbers; He described the manner in which this change occurred.

I had to go through our executive leadership team, which is made up of other vice presidents from across other departments, and, you know, you have to justify it, and just like, you know, I can't work these three young ladies 70 hours a week to get this done. That's just not reasonable. You know, we need another athletic trainer. So I did, was able to get the position.

Theme 2: 30,000-foot view. One AD made the following comment about ATs in his lived experience (Theme 1): “I had a lot of my head coaches say I wish my ATs would work harder. I wish they understood the job they signed up for. I wish they X, Y and Z. And I'm sure it's things you've heard in your career from other coaches”. This AD's perceptions were different

from other AD's across the board; however at times his viewpoint provided useful information not previously encountered. The researcher asked this AD who evaluated him and what criteria were included in his evaluation. This is a fragment of that interview

P1: I'm evaluated by, I have a dual reporting line, so I report to the VP for student life and then also to the president.

Interviewer: Does appropriate medical care ever come out in your evaluation?

P1 Zero, Zero

Interviewer: It's all budget?

P1: its budget, it's fundraising, it's those type things. There's never a question about medical care.

Another AD had this to say about appropriate medical care and the evaluation process for ADs: "It's very thirty thousand foot view (theme 2). It's not a line. Sometimes NCAA compliance can be a line item, but medical services aren't necessarily, you make an interesting point" (P8). She went on to discuss how support for appropriate medical care would look in her department:

And so if you come to me with data, information, data about what it is we're trying to, it might be a product, it might be a process, but then also how it applies to us here at [Name] and what our SAs are doing or what they're seeing in terms of injuries. Give me the data, tell me why our teams need them. Tell me what it does for them and then what the price is and then let's plan for it right now.

Theme 1: Lived experience, continued to be prevalent as the researcher continued to probe for ways in which ADs had advocated to university presidents in their meetings. This exchange regarding evaluation was similar for several interviewed ADs: "No health care does not come up [in AD evaluation]. My president played football at Rice University in the 80's and

so he understands the importance of sports medicine”. Another AD echoed the same position “Yeah, I would be lying if I said that we specifically talk about health care and that aspect of what we're doing. I kind of feel as though no news is good news, you know”.

Theme 2: 30,000-foot view. The researcher asked ADs about risk management strategies that protect and support ATs. The interviewed ADs were at times able to demonstrate some knowledge and at times, they were not.

I would say we have we have insurance partners [name] who cover our risk, and especially with Covid, our contact for [name] I never knew him before. His name is [name]. We've talked a bunch of times this year because we've had to constantly be changing, you know, how we're doing things with the protocols. (P7)

The researcher asked ADs specifically about the NCAA’s Class Action Concussion Settlement with NCAA DII SAs. This snapshot was not atypical:

Interviewer: Did you guys sign the Arrington agreement? Arrington settlement?

AD: What’s the Arrington's settlement?

Interviewer: The concussion settlement.

AD: We did

Interviewer: did that raise any concerns about your coverage?

AD: I don't think so. You know, the president and I talked about it and, of course, being in the [State] system, we have access to [State]legal and they were involved and now it's not really a.... It might, now that you mention that, it might, should be an issue, but I don't give it much thought.

The researcher noted that several of the ADs were working with local health care providers in a mutually beneficial relationship that supports and advocates for ATs. One AD partnered with a local health care provider and as a result:

Theme 4: Seeking solutions. And then we have four full time ATs. We signed a partnership two years ago with [Name] to provide two other ATs, so we have seven ATs and then technically 9 if you count the athletic health care administrator and the associate AD who still have the sport coverage right now. We have a part time secretarial staff, which we call professional support staff or PSS staff. We have a part time staff that handles all the insurance claims. That's our staff.

To summarize the results of RQ 5: How do ADs describe their advocacy for ATs? To summarize the findings, the data collected indicated that ADs intend to be supportive of ATs, however the two datasets did not blend well on issues of work-life balance, advocacy to upper level administration and knowledge of legal protection. A detailed convergent analysis of quantitative and qualitative data is presented in Chapter Five.

Chapter 5

Discussion and Recommendations

Overview

Appropriate medical care of National Collegiate Athletic Association (NCAA) Division II (DII) student-athletes (SAs) has been the driving force behind this research. The number of SA participants and teams is increasing, as are the allowable contact hours between SA and sport. Growth on the demand side of appropriate medical care is outpacing the supply side. The increasing numbers participating in DII athletics is unlikely to abate, as more universities are looking to athletic departments to help enrollment and retention numbers. The NCAA DII Athletic Trainer (AT) finds themselves facing an ever-widening gap between the complexity of athletic medicine and the unreasonable workload that happens when SA numbers increase and AT numbers do not. The AT must continue to provide excellent care to SAs because anything less than appropriate athletic health care is not only a legal liability, it is morally unacceptable.

The literature about athletic health care demand is copious. We know the number of SAs, number of sports, and NCAA-regulated contact time. Predicting AT workload is based on decades of collected data about SA injuries and illnesses. The number of ATs employed in NCAA DII universities is a known data point. The literature has also revealed AT attrition and burnout: women are more likely to leave the profession by the time they are 28 years old, and men are likely to leave the collegiate setting for the high school setting by their mid-40s. A review of case law illustrates that liability is a constant concern. The research is consistent and reproducible.

The researcher's professional need to understand why available information has not produced change necessary for supply to meet demand drove the study. After decades of serving

NCAA DII SAs as an AT, the researcher would like to improve the SA experience, improve the work-life balance for ATs, and serve DII universities by minimizing risk and liability. The researcher wondered, "why aren't we doing what we know we should do?" and embarked on a journey to discover what barriers blocked the path to appropriate SA care and acceptable AT workload. If change is data-driven, the researcher wondered how data is perceived and managed by ADs. Athletics Directors have oversight over hiring and budget. The researcher decided to study the perception of ADs concerning appropriate medical care.

The overarching goal for this researcher was to study appropriate medical care of SAs from the AD perspective. There is a general lack of research on this topic. Even the material designed to prepare professionals for the AD's position lacks information about the creation and substance of intercollegiate appropriate medical care programs at any level. The researcher developed questions to create an understanding of AD perception.

The researcher arrived at five subjects to develop research questions to understand how ADs perceive appropriate medical care. The researcher developed research questions to gain an understanding of these areas.

Research Questions

1. What are the perceived barriers to providing appropriate medical care to NCAA DII SAs, identified by ADs?
2. How do ADs define appropriate event coverage of SAs?
3. Do ADs understand athletic training scope of practice?
4. How do ADs prioritize hiring decisions and budget allocations?
5. How do ADs describe their advocacy for ATs?

A mixed-method convergent approach to the research was chosen as the best option to gain the data necessary to explore ADs' perceptions of appropriate medical care. The researcher is an AT employed by an NCAA DII university and has been in this capacity for nearly three decades. This history has allowed the researcher to acquire a great deal of information about athletic health care and a working knowledge of the DII environment. The NSIC conference office was able to supply a comprehensive list of current DII universities. The researcher collected contact information for the online survey. The survey questions were developed with an emphasis on ease of completion because ADs lead complex, chaotic departments, and 2020-2021 was especially difficult with COVID-19 changing the landscape of all higher education. For this foray into understanding, the researcher decided to ask simple questions about event coverage, the scope of practice for the AT, and quick perception questions about barriers, hiring, budget, and advocacy for ATs. The researcher has experience with the positive effect of persistence on outcome regarding ADs and sent the survey on six dates. Seventy-three ADs completed the survey, and the researcher used descriptive statistics to review the data.

The researcher was satisfied that the samples for both strands of data were representative of NCAA DII ADs. Using IBMS Statistics SPSS 27, the researcher analyzed the survey questions using descriptive statistics for each question. The statistical analysis revealed that not all AD's believe that there is a lack of adequate staff to provide appropriate medical care. Also, most ADs believe that appropriate event coverage is "on-site" coverage; they understand the scope of practice; they would hire an AT as their next hire. They report having advocated for ATs to upper-level administration and the conference. The researcher used a linear regression to determine if the number of SAs, number of sports teams, or ratio of SAs to one AT were predictors of the coverage scores reported by ADs in the survey.

The AD reported staff numbers, numbers of SAs, and the number of sports teams does not merge well with the number of hours the athletic training facility is open, the number of hours per week ATs work, and the number of additional duty expectations. The qualitative analysis yielded results that were similarly incongruent with the statistical findings. The participants revealed perspectives on appropriate medical care that allow for vigorous discussion on improving health care for NCAA DII SAs.

Interpretation of Findings

The results of this study were difficult to ascertain. The convergent mixed-method study involves comparing two strands of data for areas of convergence and areas of divergence. The data for each research question provided challenges in interpretation. As viewed through the lens of the AD, appropriate medical care appears very different from that of the AT. An apt analogy might be the skill of word identification in contrast to the skill of reading comprehension. The online survey provided ADs an opportunity to recognize and select correct answers. The data revealed that ADs often select correct responses to appropriate medical care questions; however, there was a conflict between survey responses and interview data, magnifying the gaps and disconnects in the survey responses. The researcher will provide an interpretation of the results for each research question.

- I. What are the perceived barriers to providing appropriate medical care to NCAA DII SAs, identified by ADs?

The researcher discovered that a significant barrier to appropriate medical care was the lived experiences of ADs. The survey results and relevant literature indicate that most ADs entered the profession from the coaching staff ranks, and nearly all had been collegiate SAs. In the absence of evidence in the literature that ADs receive formal education about appropriate

medical care, experience with ATs appears to be the most substantial factor influencing AD decision-making. The researcher discovered that interviewed ADs indicated an understanding of AT workload and universally expressed the need for more staff that stood in stark contrast to the survey response.

Another barrier to appropriate medical care is the distant vantage point of the AD, the 30,000-foot view. Athletics Directors are not in the arena for the bulk of appropriate care delivery. To summarize the majority's opinion, they believe things to be going well because problems do not reach their ears. The AD has to balance the competing needs of the department: so distance is a built-in barrier. The researcher wonders how much "lived experience" impacts decisions made from this distant vantage point.

The researcher identified the barrier of AD expectations about appropriate medical care. The interview yielded a surprising element concerning AD perceived barriers: participants perceived the changing landscape of athletic training education as a considerable barrier. The general transition of athletic training education from apprenticeship to its most current model as an entry-level Master's program is not viewed favorably by some ADs. In older educational models, student athletic trainers (ATs) learned through their work experiences, often providing a significant amount of human resources to the universities they attended. Athletic Departments now have to pay for a service that used to come at the students' expense through tuition paid and hours served in internship models. Athletics Directors report believing that undergraduate ATs can deliver many facets of appropriate medical care due to unrealistic expectations and lived experiences.

The interviewed ADs were unequivocal in their stated inability to retain the number of ATs necessary to deliver appropriate medical care due to financial constraints. This AD belief

converges with the qualitative strand. Most of the interviewed ADs were receptive to solutions but did not believe that viable answers existed or believed that they had exhausted their options. Athletics Directors pointed to challenges determining where to apply departmental resources to do the most good and address the most significant deficit. The researcher determined that perception of departmental problems was a complicated factor. The researcher called this barrier "seeking solutions." Because these ADs were unable to articulate a definition of appropriate medical care that accounts for the ATs' scope of practice, they could not discern the necessity of finding a solution. Another explanation might be that in a competitive environment, because ADs do not correctly understand appropriate medical care, they are not considering all the factors when deciding what problems receive financial attention.

II. How do ADs define appropriate event coverage of SAs?

Lived experience, their 30,000-foot view, and expectations impact the way ADs define appropriate event coverage. The event coverage responses on the survey indicated that ADs perceive a level of event coverage in stark contrast to other survey answers. The researcher asked ADs a wide range of questions about appropriate event coverage and aspects that influence appropriate event coverage. These questions ranged from demographic questions about the actual practice to administrative questions. The interviewed ADs perceive that practice and event coverage is the most critical component of appropriate medical care provided by ATs. Athletics Director perception is evident in the great emphasis that placed on this coverage. Medical event coverage must consider the number of SAs and the number of sports teams to be covered. Within the responding ADs, the average number of varsity SAs and sports teams, when compared to the number of reported ATs, begins to create gaps in the data. Athletic Trainers must provide event coverage to teams in their championship season, non-championship season,

and out-of-season activities. While the number of contests varies by sport, those competitions are significant and highly weighted in event coverage decisions. Countable athletically related activities (CARA) are limited to 4 hours/day or 20 hours per week but can occur six out of seven days in a given week during championship segments. CARA hours are limited to eight hours per week during non-championship segments and out-of-season segments. SAs must get two days a week off during this time. However, because these CARA hours involve individual or small group practice, one team may have multiple practices during a day.

The number of staff who are qualified to provide coverage for events is a limiting factor. In the surveyed group, there are 91 SAs per one AT. Athletics Directors reported that they use the Appropriate Medical Coverage of Intercollegiate Athletics (AMCIA), and ADs reported their coverage plan for intercollegiate sports. The data are incompatible. The AD coverage scores were relatively low: suggestive of solid coverage of events. However, statistical procedures showed that the number of teams, SAs, or the ratio of SAs to one AT could not predict those scores. The staff sizes, roster sizes, number of sports, number of hours the athletic training facility is open, and the number of hours worked by an AT per week are not congruent. Additionally, results do not converge when ADs believe that they have enough staff to satisfy the Arrington Settlement, which requires AT availability at all high-risk intercollegiate sports practice and games, in-season or out-of-season, home or away. There is room for a considerable amount of continuing research in this area.

III. Do ADs understand athletic training scope of practice?

Athletics Directors can correctly identify duties that are in the scope of AT practice. They inflate this identification to include duties over and beyond AT scope of practice as activities that ATs "should" complete. The conflict between knowing and understanding is the starting place

for further discussion. The vast majority of ADs come from the coaching ranks and have lived experience as SAs. Athletics Directors know the elements of the scope of practice but have not fully integrated that knowledge into understanding.

Athletics Director knowledge without understanding; information without context; can drive expectations which are often unattainable. The fact that ADs can recognize eighteen survey questions that involve the scope of practice indicates that they know details of AT practice but have not connected the dots about personnel and length of time. The researcher interprets the ADs' lived experience as the cause of this disconnect. The misperception that ATs can be everywhere and accomplish everything might be because the lived experience for ADs has occurred within the parameters of a high-risk sport like football or basketball (six of the eight interviewees): they have experienced the highest levels of coverage.

There is also the matter of the 30,000-foot view. Most interviewed ADs reported interacting with ATs when there was a competition or a problem. The researcher is familiar with the distant vantage point necessary for departmental oversight. This distance creates a buffer for the AD when the scope of practice conflicts occur. Often, the scope of practice issues must be dealt with immediately, so the AT has managed the problem by the time the AD is involved. What remains is for the AT to communicate how they solved the problem and the rationale. The researcher finds this reliance on the AT to be an everyday occurrence for most NCAA DII ATs.

The researcher interprets and attributes AD understanding of AT practice to lived experiences, expectations, and the 30,000-foot view. Information produces knowledge; however, knowledge without context has muddled AD understanding of appropriate medical care.

IV. How do ADs prioritize hiring decisions and budget allocations?

The quantitative strand revealed that ADs are confident that they have a good understanding of AT professional training and skills. They believe that they are capable of evaluating and guiding AT employees to improve their professional skills. Nearly 25% of ADs display confidence that they can even evaluate and improve an ATs appropriate medical care skills. Survey information diverged from the information compiled in the qualitative strand. In the semi-structured interview, AD's admitted to struggling with AT evaluations. Standard evaluation techniques involved asking coaches and SAs how satisfied they were with the AT performance. Interviewed ADs displayed discomfort with articulating what qualities were essential to a good athletic trainer. Some openly admitted that they did not know how to evaluate an AT, some floundered in their response, and two indicated that they sought knowledgeable outside help. Turnover in the athletic training position had impacted these NCAA DII ADs and caused increased scrutiny on hiring decisions and budget allocations. The experience level of the AT provided some nuance to the hiring and budgeting decisions. Like every other profession, more experienced ATs command larger salaries, impacting the budget for personnel. Also, more experienced ADs often require more accountability for every level of decision-maker from AD to SA. Most of the interviewed ADs had experienced a great deal of turnover in the AT position, and current AT employees were predominantly female and under 30.

The researcher obtained budget information in the qualitative strand of data; however, there was a lack of clarity in explaining or understanding budget allocations. The ADs indicated they used personal judgment and accessed upper-level administration for financial decision-making. Some indicated that they solicited the help of their staff to determine budgetary priorities.

What emerged from the qualitative strand was that AD's prioritize based on their perception of what is essential. The criteria used to determine "essential" in this decision-making process is poorly understood. The ramifications of former SAs and coaches creating a needs assessment for appropriate medical care present a need for additional study.

V. How do ADs describe their advocacy for ATs?

Athletics Directors have positive feelings about appropriate medical care and perceive that they understand appropriate medical care. The majority of NCAA DII ATs report to ADs in the reporting lines of the organizational chart. Relevant literature supports the understanding that ATs have taken issues of appropriate medical care to ADs for resolution of problems. The quantitative and qualitative strand for this research question addressed how ADs advocate for ATs regarding work-life balance, activism to upper-level administration, and knowledge of legal protection.

The researcher found that answers to this question originated in lived experience, the 30,000-foot view, expectations, and seeking solutions. The NCAA has acknowledged work-life balance as a central concern for those working in the intercollegiate athletic setting. Policies developed by the NCAA in 2006 have suggested that member institutions improve the work-life balance culture and climate by addressing staffing, scheduling, and workload. Despite relevant literature and personal experience, nearly 64% of surveyed ADs felt that ATs in NCAA DII Institutions have a good work-life balance. The researcher points out that some AD decisions send a confusing message. The AT is responsible for appropriate event coverage of a complex department and yet 40 % of surveyed ADs do not believe that ATs should have a voice in determining practice schedules (Table 4.19). On the qualitative strand, ADs quickly established that they believed that ATs experienced workload and work-life balance issues; however, more

than half believed that ATs knew what they had signed up for a 24/7 job. Most of the ADs discussed not having a financially viable solution. Many were exploring outsourcing or sharing medical care with local health care providers as a solution.

The qualitative data revealed that while ADs perceive that they are advocates for ATs, the description of that support to upper administrative levels was hazy. While ADs did refer to meeting with the president about budgetary allocations (RQ4), most reported no discussions of appropriate medical care with upper-level administration during the evaluation process. As with needs assessment, the researcher is troubled that support and advocacy for ATs is in the hands of professionals who lack expertise about appropriate medical care.

The researcher learned that ADs lacked confidence when the discussion turned to risk management. It was unclear whether university risk management teams are aware of ATs and the service they provide. Athletics Directors may or may not be knowledgeable of the AT legal protection by the university and may or may not know about the Arrington settlement. There was a great deal of confidence reported by surveyed ADs on these matters, with the majority of ADs reporting that ATs were protected legally and that they were confident in their ability to comply with the Arrington Settlement. The information gained from the interviewed ADs often stands in contrast with that of the online survey or creates questions for future research. The lived experience theme was the most powerful to develop throughout the interviews. Athletics Directors come to the position of AD from the ranks of participating and coaching. The most challenging curtain to draw is the one of their own experience. It is the curtain that communicates, "I received care, so I know what care should entail." This perception is a powerful obstacle to overcome.

Recommendations for Action

The outcomes for this study suggest that there are many opportunities for improvement of appropriate medical care for SAs. The researcher developed each research question about AD perception of appropriate medical care through the literature available on appropriate medical care. Standards of care are developed and intended for implementation in the delivery of appropriate athletic health care. Standards of care are not based on financial ability; they are based on acceptable levels of care required to treat human beings. Appropriate medical care must exist outside of any discussion of resources.

The researcher recommends that NCAA DII athletic departments refocus on allocating resources: personnel, capital equipment, and supplies to athletic health care. All SAs deserve medical care that rises above the level of event coverage and includes all aspects of the AT scope of practice. Also, the researcher points out that SAs medical care should rise to the appropriate medical standards of the situation, regardless of sport or gender. Trained personnel should provide this medical care and, in so doing, not be required to give up every vestige of personal or family life. This message has to be communicated to NCAA DII institutions by someone with the power to command attention. Those who have decision-making power must perceive the message of appropriate athletic health care as essential to effect a change. If the message is not clear to institutions, it must be embraced by the NCAA as the highest authority and mandated.

The requirements for attaining the Athletics Director position should include an educational process that delivers knowledge of appropriate medical care. This thorough education about the appropriate medical care of the SA should be delivered from the healthcare provider's vantage point. Institutions should not rely on ADs' knowledge of appropriate medical care based on lived experience as a coach or SA.

University presidents evaluate ADs in the majority of situations. Athletics Directors are evaluated on their departmental control and oversight, marketing and fundraising, team success, fiscal management, facilities management, community relations, professionalism, communication skills, life in the balance, leadership style, vision, strategic planning, and SA well-being. In the literature designed to educate and train ADs, SA well-being is an inclusive line item that deals predominantly with classes, sexual assault/harassment, drug education, and testing, and academic policies. The researcher finds the emerging picture to be disturbing. The AD with the lived experience as an SA and coach has little accountability for appropriate medical care concerning their job performance evaluation and yet makes the decisions allocating budget/resources without a mention of a metric for making those decisions. The researcher believes that risk management and liability are the sole factors that carry weight. The AD believes these items to be addressed by the current state of athletic health care in NCAA DII universities.

NCAA member institutions should be required to abide by appropriate medical care guidelines. Institutions that cannot afford to provide appropriate athletic health care should not be allowed to provide SA experiences that would require such health care. A greater degree of accountability is required for the privilege of being an NCAA member school.

Implications for Change

The literature documents the growth of athletics programs in NCAA DII institutions. This trend will continue as schools seek opportunities to improve enrollment and retention. The current level of support is inadequate, and growth can increase the gap unless measures are taken to change. Quality care should be safe, timely, effective, efficient, equitable, and patient-centered (Baker, 2001). Currently, ATs are keeping a lid on the most pressing needs of SAs however, a

focused effort on providing appropriate medical care of NCAA DII SAs will ensure a higher quality of care.

The researcher believes that improving athletic health care will significantly enhance the SA experience, providing a safer and more satisfying encounter with intercollegiate athletics. The dividends to improving athletic health care by increasing AT numbers will improve the employee's experience, reducing attrition and burnout. Improved athletic health care also translates to reduced risk of liability and legal exposure on the AT, the coach, the AD, and the institution.

The researcher has established that the rate of change in healthcare knowledge is great. Quality improvement in health care means continuing to evolve as professional health care providers. Athletic Trainers need to continuously upgrade care by monitoring, assessing, and improving the quality of health care being delivered. Monitoring medical information, keeping current with changing practice, and delivering high-quality care requires enough staff to perform these tasks. Delivery of great care while staying current is unsustainable by the AT in the current pattern of medical care at the NCAA DII level. The researcher finds that ATs are triaging care: either the most visible or the most pressing of athletic health care needs are addressed.

Recommendations and Reflections

The researcher believes that all aspects of appropriate medical care at levels above the AT await the necessary research to elicit a change in the status quo. The researcher believes that each research question in this study presents an opportunity for a deeper dive into how administrators manage appropriate medical care at the NCAA DII level

The researcher also believes that ADs are supporters of ATs and appropriate medical care. The AD decision-making process provides a rich environment for further study. The researcher

would be interested in exploring any links between the evaluation of ADs and how they prioritize departmental decisions.

The researcher found the coverage scores of ADs fascinating because how well an athletic training staff provides coverage depends on the number of SAs, number of teams, and number of SAs per team. The researcher believes there is no realistic way that at least one of those variables is not a significant predictor. One person cannot be in two places at the same time. The researcher questions why ADs perceive they are receiving more coverage than they believe and considers this an area for further research.

The researcher would be interested to know ADs' awareness of duties that are not being attended to by the AT. The researcher believes that ATs contribute to the problem of appropriate health care by allowing ADs to believe that every aspect of appropriate care is being managed. In reality, the researcher makes the analogy of an iceberg; if one can keep the iceberg under the water's surface, no one is aware of the iceberg's size. However, that iceberg can still sink great ships. In the researcher's own employment, she notes the deficiencies in performance due to staffing on each performance evaluation to make the AD and Human Resources officials aware of these issues.

The potential is great for follow-up studies to build upon this research. There is little documented about the perceptions of appropriate athletic health care in upper-level administrators at the NCAA DII level. The relationship between DII ATs and the team physicians and local providers can be explored to resolve some athletic health care limitations. The researcher would pursue a comparison of NCAA DII sports medicine programs that have retained a traditional structure with those institutions that have moved sports medicine out of the athletic department and those institutions that have entirely outsourced athletic health care to

local providers. The researcher notes that this is hardly an exhaustive list of topics for future study.

There are also limitations that the researcher will mention here. The researcher is an AT with nearly three decades of experience at the NCAA DII level. This lens of advocacy always carries with it the potential for bias. The researcher has been diligent in the attempt to present information accurately and fairly. The survey also imposes limitations. The survey results reflect the segment of the AD population who participated in the study and the answers may not be representative of all ADs. The interviewer is not experienced in the art of interviewing which may have impacted AD responses. The interview limitations also include the number of ADs who accepted the invitation, and any propensity for contributing to research about appropriate medical care might include a bias factor. Finally, the researcher acknowledges this first attempt at a mixed-method convergent study and analysis of collected data may contain errors. The researcher truly feels that the data collected (73 surveys and nearly 500 minutes of interview) could continue to reveal patterns essential to the study of appropriate medical care.

The researcher points out that ATs face each day attempting to provide exemplary care to SAs at the NCAA DII level. They often finish very long days in one of two ways: 1) accomplishing all the tasks of appropriate care at the expense of any personal time, or 2) they leave work undone in the interest of personal time. The researcher agrees to some extent that there is a cost to a career in sports medicine and that one of those costs are long hours including evenings, weekends and holiday; however, every person has a breaking point. The profession will continue to lose good people if a change is not implemented.

In conclusion, the researcher notes that the purpose of this research was to address significant gaps in the literature to explain "why we, NCAA DII institutions, are not

implementing policies reflective of the vast amount of research on appropriate medical care".

The most enduring issue is that of athlete health care. We owe SAs the duty to provide the type of appropriate medical care they deserve, regardless of gender or sport.

Appendix A

Institutional Review Board Documents

Protection Human Research Participants Certificate of Completion

Figure 5.0 Certificate of Completion



Figure 5.0 National Institute of Health Certification of Completion

Institutional Review Board letters of approval

Figure 5.1 Institutional Review Board Minnesota State University Moorhead

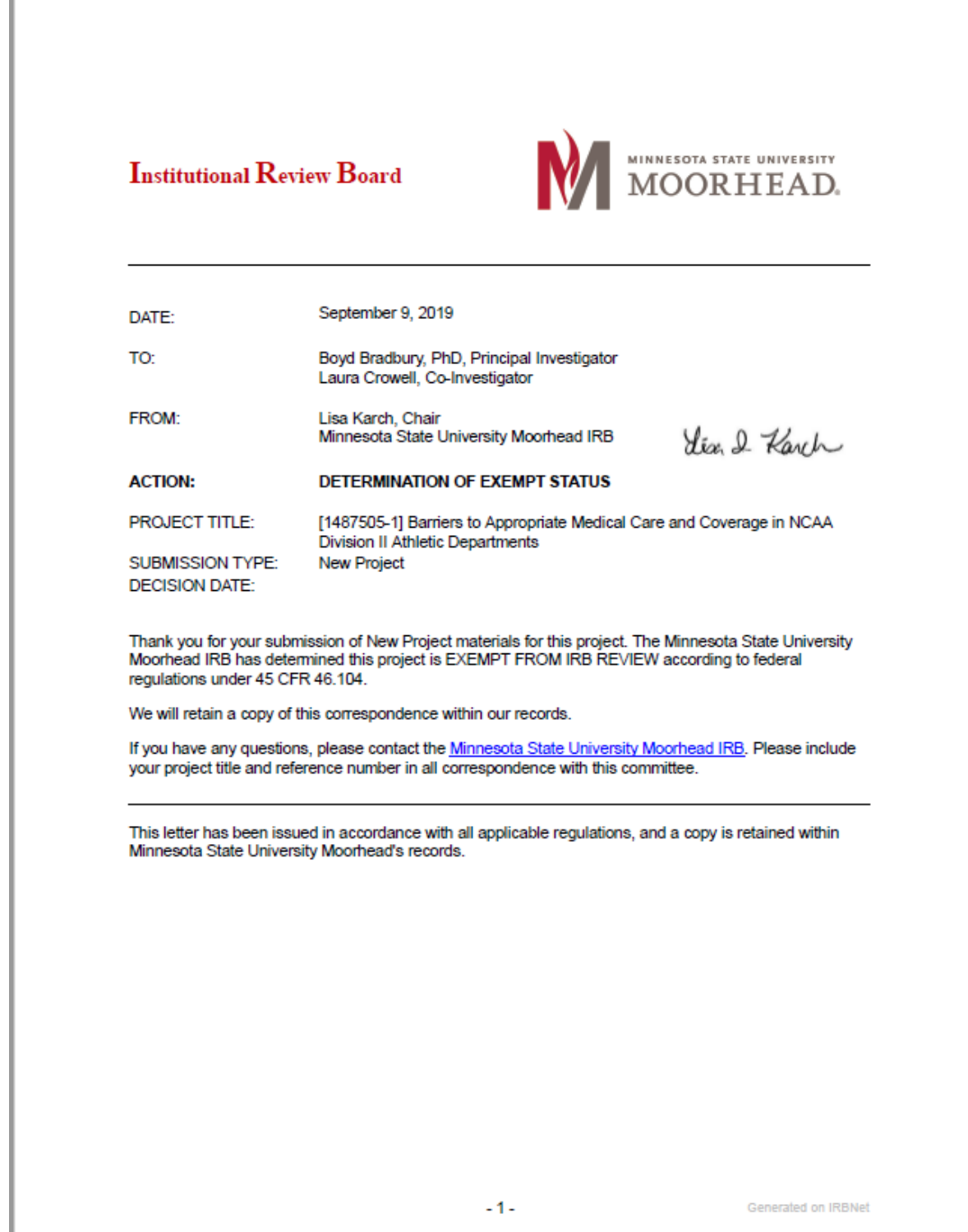


Figure 5.1 Institutional Review Board Exempt State Minnesota State University Moorhead

Figure 5.2 Institutional Review Board Southwest Minnesota State University



INSTITUTIONAL REVIEW BOARD

Date: 9-18-2020

Dear Laura Crowell,

This letter is to notify you that your IRB application and supporting documentation have been reviewed by the Southwest Minnesota State University Institutional Review Board (IRB). A copy of the signed application form is on file and available upon request. Details of the IRB review are as follows:

Principal Investigator: Laura Crowell

Faculty Advisor:

Project Title: Barriers to Appropriate Medical Care and Coverage in NCAA DII University Athletic Programs.

IRB Protocol #: F20-07

Level of Review: Full	Expedited	Exempt
Status: Approved	Approved with Conditions	Rejected

Approval Date: 9-18-2020

Expiration Date: 5-30-2021

Additional Comments:

This project should be conducted in accordance with the submitted and approved research plan. If any changes are made to the research protocol or consent form during the period of approval, you must submit a revised application form to the IRB, designating your application as a *Revision*. A change in Principal Investigator can be indicated by marking the *Change in PI* box on the application form. If this project is not completed by the expiration date stated above, please submit a revised application form to the IRB, designating your application as a *Renewal*. Thank you and best of luck with your research!

Sincerely,

Mostafa Hegazy
Chair, SMSU Institutional Review Board
Phone: (507) 537-6243
E-mail: Mostafa.hegazy@smsu.edu

Figure 5.2 Institutional Review Board Exempt State Southwest Minnesota State University

Appendix B

Informed Consent Agreements

Informed Consent for Online Survey

Dear Athletics Director,

My name is Laura Crowell and I am in the Educational Leadership Doctoral Program at Minnesota State University Moorhead. You are invited to participate in this research project because you are employed as the Athletics Director/Vice President for Athletics (or equivalent) at an NCAA DII college or university.

The purpose of this research project is to study the processes, experiences, perceptions and barriers to all aspects of appropriate medical care and coverage for intercollegiate teams and student-athletes at the NCAA DII level. Your participation is voluntary and would involve completion of this survey. The survey should require less than 15 minutes to complete. You may skip or exit the survey anytime without penalty. There are no known risks or discomforts associated with this study. The expected benefits associated with your participation are improved areas of understanding in order to facilitate improved athletic health care. Improved student-athlete care is the ultimate goal. The link to complete the survey is listed below. By clicking on the survey link, you are agreeing that you understand and agree to voluntarily participate in this study.

This is a mixed method study. If you would be willing to participate in a focus group interview you may choose to provide contact information and be entered to win one of three \$100 gift cards for focus group participation.

Please consider contributing, as the leaders in your field, your responses are vitally important. If you have any questions regarding the study, please contact Laura Crowell at laura.crowell@go.mnstate.edu

Thank you
Laura Crowell

Follow this link to the Survey:

[\\${1://SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL below into your internet browser:

[\\${1://SurveyURL}](#)

Follow the link to opt out of future emails:

[\\${1://OptOutLink?d=Click here to unsubscribe}](#)

Informed Consent for Semi-Structured Interviews

Title: Appropriate Medical Care: A Mixed Method Study of Perceptions of Athletics Directors in National Collegiate Athletic Association Division II Colleges and Universities.

Purpose: The purpose of the study is to understand the processes, experiences, and decisions related to the implementation of appropriate medical care for intercollegiate athletic teams and student-athletes. This process will be generally defined as a review of the perceptions of your experiences developing, implementing and modifying your unique athletic health care program. Data collection will involve documents (program development, policies and procedures), interviews (transcripts of interviews with participants), and any observations and field notes (made by the researcher).

Study information: This study will consist of interviews with Athletics Directors of NCAA DII Institutions. The interview will take place in a virtual setting (ZOOM) to discuss all aspects of appropriate medical care delivery to student-athletes on your campus.

Time: The interview will take no longer than one hour.

Risks: There are no known risks and/or discomforts associated with this study. The expected benefits associated with your participation are improved understanding of athletic health care across the division. The goal is to improve athletic health care and add to the knowledge base.

Benefits: Participation may provide expanded insight into appropriate medical care. Participants will be entered into a drawing for one of three \$100 gift cards.

Confidentiality: Participant's identity will not be shared with anyone except the researcher: Laura Crowell. All individual information will be coded and tracked under an identification number and not the participant's name. All results will be published without identifying information. Data will be stored on a University issued PC with adequate firewalls, virus protection, and encryption that help protect confidential research data from being stolen. All files are password protected.

Participation and withdrawal: Participation is optional and participants may withdraw at any time without any negative effects.

Recording: During the collection of interview data, a recording of the session will be created for note-taking purposes. By signing this form, participants understand that information collected is for capturing data pertinent to the research and will be kept confidential.

Please feel free to ask questions regarding this study. Contact information: Laura Crowell: Laura.crowell@smsu.edu or Crowella@mnstate.edu, (507) 537-7165 or Dr. Boyd Bradbury, Minnesota State University Moorhead- Department of Education: bradbury@mnstate.edu, (218) 477-2095. Any questions about your rights may be directed to Dr. Lisa I. Karch, Chair of the MSUM Institutional Review Board at (218)477-2699 or by email at: irb@mnstate.edu.

Acceptance to Participate: *Your signature indicates that you have read the information provided above, and you have consented to participate. You may withdraw from the study at any time without penalty after signing this form. You will be provided with a copy of this form for your records.*

Participant Name (Print)

Participant Signature

Date

Investigator Signature

Date

Appendix C**Online Survey**

Athletics Director Survey

Q1 Does the team physician practice on campus (more than event coverage)?

- Yes
- No

Q2 Which of the following statements best describes the collaborative relationship between the athletic department and the team physician/health care provider?

- Team physician is a volunteer position
 - Contract with a local health care provider for physician coverage of events/competitions
 - Contract with a local health care provider for physician coverage of both event and daily cares.
 - Contract with a local provider for physician and athletic training coverage
 - Other (please provide details below)
-

Q3 Who does your head athletic trainer/director of sports medicine report to?

- Director of Athletics
 - Director of Health Services
 - Athletic Trainer is contracted through third party
 - Other, please provide details below
-

Q4 Athletic Trainers practicing at this institution, are in good standing with the Medical Board governing the state, the NATA, and the BOC?

- Yes
- No
- Do not know

Q5 Athletic trainers practicing at this institution, are well-trained, professional health care providers?

- Yes
- No

Q6 In the following situations, check the option that best reflects your practice:

On-site coverage means AT is physically present

Remote coverage means AT can respond within 3-5 minutes

On-call coverage means AT response time is equal to or greater than EMS (ambulance call)

No coverage means that AT is not available.

Q7 Competitions

- On site coverage by Certified Athletic Trainer
- Remote coverage by Certified Athletic Trainer
- On-call coverage by Certified Athletic Trainer
- No coverage necessary

Q8 In-season practices for high risk sports:

- On site coverage by Certified Athletic Trainer
- Remote coverage by Certified Athletic Trainer
- On-call coverage by Certified Athletic Trainer
- No coverage necessary

Q9 In-season practices for moderate risk sports:

- On site coverage by Certified Athletic Trainer
- Remote coverage by Certified Athletic Trainer
- On-call coverage by a Certified Athletic Trainer
- No coverage necessary

Q10 In-season practices for low risk sports:

- On site coverage by Certified Athletic Trainer
- Remote coverage by Certified Athletic Trainer
- On-call coverage by Certified Athletic Trainer
- No coverage necessary

Q11 Out of season practices for high risk sports within fall and spring semesters:

- On site coverage by Certified Athletic Trainer
- Remote coverage by Certified Athletic Trainer
- On-call coverage by Certified Athletic Trainer
- No coverage necessary

Q12 Out of season practices for moderate risk sports within fall and spring semesters

- On site coverage by Certified Athletic Trainer
- Remote coverage by Certified Athletic Trainer
- On-call coverage by Certified Athletic Trainer
- No coverage required

Q13 Conditioning and strength training practices within fall and spring semesters:

- On site coverage by Certified Athletic Trainer
- Remote coverage by Certified Athletic Trainer
- On-call coverage by Certified Athletic Trainer
- No coverage necessary

Q14 Conditioning and strength training practices during the summer:

- On site coverage by Certified Athletic Trainer

- Remote coverage by Certified Athletic Trainer
- On-call coverage by Certified Athletic Trainer
- No coverage necessary

Q15 We employ an adequate number of athletic trainers to provide appropriate medical care to student-athletes regardless of sport or gender?

- Yes
- No

Display This Question:

If We employ an adequate number of athletic trainers to provide appropriate medical care to student = No

Q16 Please rank the barriers to having an adequate number of athletic trainers.

Drag and drop the statement into your preferred order.

- _____ Financial/Budgetary Limitations
- _____ Hiring decisions are approved at a higher administrative level
- _____ Coaching and administrative positions are more necessary
- _____ Outside barrier (contract with health care provider)
- _____ Other

Q17 Decisions about the number of staff and the type of medical coverage for events, practices, and conditioning/training sessions are made by:

- Athletics Director
- Head Athletic Trainer
- Other (please list) _____

Q18 The athletic training facility is open an adequate number of hours for athlete care (not including practice or event coverage)?

- Yes
- No

Q19 The athletic training facility is open for athlete care (not including practice or event coverage).

- 1-2 hours/day
- 3-4 hours/ day
- 5-6 hours/ day
- 7 or more hours/day

Q20 How many hours per week do full-time Athletic Trainers at your institution work?

- 40 hours per week
- 41-50 hours per week
- 51-60 hours per week
- more than 60 hours per week

Q21 Athletic Trainers on this campus are responsible for COVID contact tracing?

- Yes
- No
- Other _____

Q22 Athletic Trainers on this campus are responsible for administering COVID testing?

- Yes
- No
- Other _____

Q23 I am familiar with the methods of injury documentation and record keeping used by the athletic training staff at this institution.

- Yes
- No

Q24 We utilize the Appropriate Medical Coverage of Intercollegiate Athletics (AMCIA) recommendations to manage staff:

- Yes
- No
- Do not know

Q25 Appropriate medical care for athletes requires that an Athletic Trainer travel with teams to away competitions?

- Yes
- No

Q26 I feel confident that I have a good understanding of an Athletic Trainer's scope of practice?

- Yes
- No

Q27 I am confident in my knowledge of the professional training and skill required to be an Athletic Trainer?

- Yes
- No

Q28 What is the current minimum degree an athletic trainer is required to complete before becoming an Athletic Trainer?

- Bachelor's Degree
- Master's Degree
- Doctoral Degree

Q29 Athletic Trainers are responsible to receive continuing education?

- Yes
- No

Q30 Athletic Trainers should be required to research the latest techniques and protocols to insure appropriate medical care?

- Yes
- No

Q31 Athletic Trainers should be required to participate in the NCAA Injury Surveillance System?

- Yes
- No

Q32 Athletic Trainers at this institution should provide medical coverage for youth and high school summer sport camp programs held by university teams?

- Yes
- No

Q33 Athletic Trainers should practice in a manner that integrates current research evidence with the preferences and values of each student athlete?

- Yes
- No

Q34 Clinical responsibilities of an Athletic Trainer should be performed in a manner that is consistent with the instructions of a physician?

- Yes
- No

Q35 There are standing orders in place on our campus for the practices of the athletic training staff?

- Yes
- No
- Do not know

Q36 Athletic Trainers should keep detailed medical records?

- Yes
- No

Q37 Athletic Trainers in this institution are the experts in managing the health insurance issues which arise with student-athletes?

- Yes
- No
- There is an insurance manager on campus

Q38 The risk of injury associated with the sport is an important determinant of appropriate medical coverage?

- Yes
- No

Q39 Equity is an important determinant of appropriate medical coverage?

- Yes
- No

Q40 Coaches on this campus are qualified and capable of responding to an emergency?

- Yes
- No

Q41 Coaches on this campus have an emergency action plan?

- Yes
- No

Q42 Athletic Trainers on this campus have a good work/life balance?

- Yes
- No

Q43 Athletic Trainers on this campus have a voice when determining practice schedules?

- Yes
- No

Q44 Longevity in the athletic training profession is desirable?

- Yes
- No

Q45 In a performance evaluation, i can provide knowledgeable guidance to improve the following athletic training skills:

	Agree	Disagree
Injury Prevention	<input type="checkbox"/>	<input type="checkbox"/>
Injury Assessment	<input type="checkbox"/>	<input type="checkbox"/>
Injury Treatment/care	<input type="checkbox"/>	<input type="checkbox"/>
Injury Rehabilitation	<input type="checkbox"/>	<input type="checkbox"/>
Time management	<input type="checkbox"/>	<input type="checkbox"/>
Communication	<input type="checkbox"/>	<input type="checkbox"/>
Organization	<input type="checkbox"/>	<input type="checkbox"/>
Networking and referral	<input type="checkbox"/>	<input type="checkbox"/>
Medical Research	<input type="checkbox"/>	<input type="checkbox"/>
Financial management	<input type="checkbox"/>	<input type="checkbox"/>
Leadership	<input type="checkbox"/>	<input type="checkbox"/>

Q46 If the budget allowed, my next hire would be?

- Administrative Position
- Coaching Position
- Support Staff
- Athletic Trainer

Q47 I have advocated for appropriate numbers of athletic training staff to upper level administration and the institution president?

- Yes
- No

Q48 The conference Athletics Directors have discussed appropriate medical coverage and staffing during conference meetings:

- Yes
- No

Q49 Did your institution agree to the Arrington Settlement Agreement?

- Yes
- No

Display This Question:

If Did your institution agree to the Arrington Settlement Agreement? = Yes

Q50 Are you comfortable that your staffing arrangements satisfy the agreement?

- Yes
- No

Q51 Athletic Trainers at this institution are fully protected by the insurance/risk management policies of the institution, in the event of legal action?

- Yes
- No
- Do not know

Q52 How old are you?

- 30 years or younger
- 31-34
- 35-39
- 40-44
- 45-49
- 50-54
- 55 or older

Q53 What is your gender?

- Male
- Female
- Other

Q54 Highest level of education completed?

- Bachelor's Degree
- Master's Degree
- Doctoral Degree

Q55 Do you currently coach?

- Yes
- No

Display This Question:

If Do you currently coach? = Yes

Q56 What sport(s) do you coach?

Q57 Do you have other institutional duties (i.e., teaching)?

- Yes
- No

Display This Question:

If Do you have other institutional duties (i.e., teaching)? = Yes

Q58 What are your "other" duties?

Q59 Highest level of athletic participation?

- None
- Junior High
- High School
- College
- Professional/Elite

Display This Question:

If Highest level of athletic participation? = College

Or Highest level of athletic participation? = Professional/Elite

Q60 What division/level did you play?

- DI
- DII
- DIII
- NAIA
- NJCAA

Q61 Have you, or someone close to you, ever sustained an injury that was managed by an Athletic Trainer?

- Yes
- No

Display This Question:

If Have you, or someone close to you, ever sustained an injury that was managed by an Athletic Trainer? = Yes

Q62 Following the treatment/care that was received from an Athletic Trainer, I was:

- Extremely satisfied
- Moderately satisfied
- Slightly satisfied
- Neither satisfied nor dissatisfied
- Slightly dissatisfied
- Moderately dissatisfied
- Extremely dissatisfied

Q63 How many years have you been at your present institution?

- 5 years or less
- 6-10 years
- 11-15 years
- 16-20 years
- 20 years or more

Q64 Number of varsity athletes?

Q65 Number of varsity sports?

Q66 Division II Geographic Region (non-sport and association wide committees)?

- Region 1 (CT, DE, DC, ME, MD, MA, NH, NJ, NY, PA, RI, VT)
- Region 2 (AL, FL, GA, MS, NC, PR, SC, TN, VT, WV)
- Region 3 (IL, IN, KY, MI, MN, MS, OH, WI)
- Region 4 (AK, AZ, AR, CA, CO, HI, ID, IA, KS, LA, MT, NE, NV, NM, ND, OK, OR, SD, TX, UT, WA, WY)

Q67 Category of institution?

- Public
- Private

Q68 How many athletic trainers do you employ?

- Full time _____
- Part time _____
- Graduate assistant/intern _____

Q69 How many coaches do you employ?

- Full time _____
- Part time _____
- Graduate assistant/intern _____

Q70 How many administrative staff do you employ?

- Full time _____
- Part time _____
- Graduate assistant/intern _____

Q71 Are you willing to participate in Part II of this research? Focus group interviews will be conducted to further explore the topic. If "Yes", please enter a contact email address below (this identifying information will be confidential and there will be no contact association with the results of the survey). Focus group participants will be entered into drawing for one of three available \$100 gift cards.

- Yes _____
- No

APPENDIX D

Semi-Structured Interview Protocol

The research goal is to increase understanding of the perceptions about every aspect of appropriate athletic health care in National Collegiate Athletic Association (NCAA) Division II (DII) colleges and universities. I will be interviewing eight Athletics Directors

Interview Protocol

Project: Appropriate Medical Care: A Mixed Method Study of Perceptions of Athletics Directors in National Collegiate Athletic Association Division II Colleges and Universities.

Time of Interview: TBD
Date: February 2021
Place: ZOOM/Teams
Interviewer: Laura Crowell
Interviewee: P1-P8
Position of interviewee: Athletics Director NCAA DII Institution
Brief Description of Project:

The purpose of the study is to understand the processes, experiences, and decisions related to the implementation of appropriate medical care and coverage for intercollegiate athletic teams and athletes.

Potential Questions:

1. Describe your sports medicine program? (Organization, In-house/External, reporting lines, personnel).
2. What is your overall satisfaction level with the current situation?
3. How would you define appropriate medical care for student-athletes?
4. Do you think that your perceptions of appropriate medical care and those of your athletic training staff are aligned or is there disagreement?
5. In the literature there is a great deal of concern about the work-life balance of ATs, Have you been approached about this and what is your perspective.
6. Do you agree that AD's understand the scope of practice? (Lens of outside demands?)

7. What factors do you take into consideration when determining appropriate staffing? How do you balance budget with hiring needs? What factors do you consider?
8. What are the barriers that you face as an AD in developing appropriate levels of athletic health care for student-athletes?
9. What is the relationship between sports medicine and risk management?
10. What is the most important aspect of your athletic health care program?
11. What is your biggest concern with your athletic health care program?
12. How did you estimate cost v benefit of your athletic training/sports medicine staff?
13. What is the ongoing assessment, modification and evaluation of the program/staff?
14. What does advocacy for appropriate care look like?
15. In your evaluation, is the sports medicine program a line item?
16. What would you like me to understand about your perspective?

Statement of Thanks: Thank you very much for your time. Your participation in this interview was extremely beneficial to my studies. Due to the nature of this research, the findings of this study may be published; however, your responses will remain confidential.

APPENDIX E

Participant Demographics Quantitative Strand

Table 5.0

AD Age

		N	%	Valid %
Valid	30 years or younger	1	1.4	1.7
	31-34	2	2.7	3.4
	35-39	7	9.6	12.1
	40-44	8	11.0	13.8
	45-49	4	5.5	6.9
	50-54	13	17.8	22.4
	55-older	23	31.5	39.7
Missing		15	20.5	
Total		73	100	100

Table 5.01

AD Gender

		N	%	Valid %
Valid	Female	9	12.3	15.3
	Male	50	68.5	84.7
Missing		14	19.2	
Total		73	100	100

Table 5.02

ADs Highest Level of Education

		N	%	Valid %
Valid	Bachelor's Degree	5	6.8	8.5
	Master's Degree	45	61.6	76.3
	Doctoral Degree	9	12.3	15.3
Missing		14	19.2	
Total		73	100	100

Table 5.03

ADs Highest Level of Athletic Participation

		N	%	Valid %
Valid	High School	11	15.1	18.6
	College	48	65.8	81.4
Missing		59	19.2	
Total		73	100	100

Table 5.04

ADs Other Institutional Duties Required

		N	%	Valid %
Valid	Yes	9	12.3	15.3
	No	50	68.5	84.7
Missing		14	19.2	
Total		73	100	100

Table 5.05

ADs Number of Years at Present Institution

		N	%	Valid %
Valid	5 years or less	18	24.7	31.0
	6-10 years	15	20.5	25.9
	11-15 years	9	12.3	15.5
	16-20 years	5	6.8	8.6
	20 or more years	11	15.1	19.0
Missing		15	20.5	
Total		73	100	100

Table 5.06

Category of Institution

		N	%	Valid %
Valid	Public	35	47.9	60.3
	Private	23	31.5	39.7
Missing		15	79.5	
Total		73	100	100

Table 5.07

Institutional Enrollment

N	Valid	73
	Missing	0
Mean		7001.82
Median		4300.00
Std. Deviation		6936.978
Minimum		739
Maximum		34990

Table 5.08

NCAA DII Conferences Represented

	N	%	Valid %
CCAA	3	4.1	4.1
CACC	4	5.5	5.5
CIAA	1	1.4	1.4
CC	1	1.4	1.4
ECC	2	2.7	2.7
GAC	2	2.7	2.7
GLIAC	3	4.1	4.1
GLVC	5	6.8	6.8
GMAC	1	1.4	1.4
GNAC	3	4.1	4.1
GSC	5	6.8	6.8
IND	3	4.1	4.1
LSC	5	6.8	6.8
MIAA	6	8.2	8.2
MEC	2	2.7	2.7
NE10	1	1.4	1.4
NSIC	6	8.2	8.2
PWC	0	0	0
PBC	3	4.1	4.1
PSAC	5	6.8	6.8
RMAC	2	2.7	2.7
SAC	4	5.5	5.5
SIAC	3	4.1	4.1
SSC	3	4.1	4.1

Complete conference names are located in Appendix G.

Table 5.09

ADs Experienced/Received Care Provided by AT

		%	%	Valid %
Valid	Yes	51	69.9	86.4
	No	8	11.0	13.6
Missing		14	19.2	
Total		73	100	100

The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

Table 5.10

ADs Satisfaction Level with AT Care

		N	%	Valid %
Valid	Extremely Satisfied	31	42.5	60.8
	Moderately Satisfied	16	21.9	31.4
	Slightly Satisfied	1	1.4	1.9
	Neither Satisfied nor Dissatisfied	3	4.1	5.9
	Slightly Dissatisfied	0	0	
	Moderately Dissatisfied	0	0	
	Extremely Dissatisfied	0	0	
Total		51	100	

Note. Only ADs who received care were asked this question.

Note. The % column represents the percentage of all cases, including the missing cases. The Valid % category presents the percentage of only the non-missing cases in each category.

APPENDIX F

Participant Demographics Qualitative Strand

Table 5.11

Semi-structured Interview Participant Demographics

Participant	Gender	Age Range
P1	Male	35-39
P2	Male	55 or older
P3	Male	55 or older
P4	Male	35-39
P5	Male	50-54
P6	Male	55 or older
P7	Female	40-44
P8	Female	40-44

Table 5.12

Semi-structured Interview Participant Conferences

Number of ADs	Conference
1	GLIAC
1	GNAC
1	LSC
2	MIAA
1	NSIC
1	PBC
1	PSAC

Complete conference names are located in Appendix G.

APPENDIX G**NCAA DII Conferences/Acronyms**

CCAA.....	California Collegiate Athletic Association
CACC.....	Central Atlantic Collegiate Conference
CIAA.....	Central Intercollegiate Athletic Association
CC.....	Conference Carolinas
ECC.....	East Coast Conference
GAC.....	Great American Conference
GLIAC.....	Great Lakes Intercollegiate Athletic Conference
GLVC.....	Great Lakes Valley Conference
GMAC.....	Great Midwest Athletic Conference
GNAC.....	Great Northwest Athletic Conference
GSC.....	Gulf South Conference
IND.....	Independent
LSC.....	Lone Star Conference
MIAA.....	Mid-America Intercollegiate Athletic Association
MEC.....	Mountain East
NE10.....	Northwest 10 Conference
NSIC.....	Northern Sun Intercollegiate Conference
PWC.....	Pacific West Conference
PBC.....	Peach Belt Conference
PSAC.....	Pennsylvania State Athletic Conference
RMAC.....	Rocky Mountain Athletic Conference

SAC.....South Atlantic Conference

SIAC..... Southern Intercollegiate Athletic Conference

SSC..... Sunshine State Conference

APPENDIX H**Verbatim Transcript Example**

██████████ Oh, here we have an Associate AD for medical services, which is basically our head athletic trainer, and then he oversees a C. We had my org chart here because we have some ██████████. Have you ever heard of ██████████?

[00:] I'm assuming it's a larger company.

[00:00] Yeah. I want to make sure my numbers here. It's OK. Dr. So we have an associate AD for medical services and then a Athletic health care administrator is also an athletic trainer by trade, but doesn't do athletic training services day to day. So she can fill in if needed in a pinch. But her job is truly to carry out those athletic health care administrator duties as what I believe was, was intended. Right now, the NCAA came and said, you need to designate someone. Right. I wrote a grant to the NCAA as part of the Strategic Enhancement Grant, pushed them on the issue. And even though that wasn't part of, it's usually to hire a compliance or academic adviser. And I said, if you think this is important, you ought to consider this for your grant as well. And I'll be damned if they didn't grant one. So that was great. So that was five years ago. And now we have a full time position. That's the truly the athletic health care administrator.

██████████ [00:01:39] And then we have one, two, three, four full time [Name] athletic trainers, certified athletic trainers. And then we signed a partnership two years ago with [name] to provide to other athletic trainers. So, so we have seven athletic trainers and then technically nine if you count the athletic health care administrator and the associate AD and these and the associate and still has the sport coverage right now, basketball, they have some coverage. So and then we have a part time secretarial staff, which we call professional support staff or PSS staff. We have a part time staff that handles all the insurance claims. That's our staff.

[00:0] are you satisfied with it?

██████████ feel like the expectations of coaches, there's always room for a couple more athletic trainers, so satisfied, that's a weird word for me, I think I think we can provide adequate medical care with our current setup. Could we be better? Yes.

[00:0] So you're sort of straddling the fence in terms of you've got internal and external reporting lines. Where do you think we're going: internal or external?

██████████ I don't know. I think it depends on the size. I can see smaller schools going external and our benefit package is phenomenal. And so the cost of personnel here is high. So when you think of the external where you're paying X amount per hour, I can see it going external for a lot of smaller schools, for the bigger schools. Gosh, I can imagine, depending on just external, you would have to change your expectations and model coverage model. Right. Which could be done. Know, I just think the question I would have to ask before I chose the external route would be how is that going to affect the care for my student athletes? And, you

know, there's something to be said for the our athletic trainers being ingrained sort of in our teams and knowing those student athletes, we could do a model where you just have someone in the athletic trainer room and they always have access, but they're not at practices except for the ones that are required now by the wonderful case.

[00:0] Arrington

[00:0] The Arrington's. Yeah, but for those we can have a model that, you know, that would suffice, but it would be a change in my expectations.

[00:0] Oh, I understand. And that kind of leads me into the next one what is the definition of appropriate medical care. I'm asking from you, like, what do you think that is.

[00:05:11] Appropriate medical care? You almost have to separate it from the expectations. I think. Adequate, appropriate, those are can be looked at very differently, but for me, appropriate medical care means that if I asked my student athletes at the end of their career where they cared for from them, from a mental and physical standpoint, from medical staff, did our medical staff provide them what they needed when they needed it? And if they answer yes, I think that we're providing appropriate medical care is always going to have a difference of opinion. No one gets images quick enough. No one gets to the doctor quick enough. The athletic trainers are conservative. They hold me out. You're always going to get that. And so what you if you separate those things, I think appropriate medical care is we made sure they had the appropriate, appropriate care. They made sure we had appropriate coverage. Right. Based on their risk category. If we're not if you didn't have an athletic trainer there, did they have access to athletic trainers? And if they need athletic trainers did the athletic trainers, provide them with a way back return to play? Because ultimately that's the goal, we assume from all of our student athletes that they put on a pathway. And if they couldn't provide it, did they help them access the other resources, whether its physical therapy, whether it's imaging, did they give them that? They get they make sure that they navigated the process to the doctors if they had an injury. And then you go another route. Is that an injury where it required surgery? Did they help them navigate that process from surgery to aftercare, PT follow up in return to play to me? If they could if, if I were to ask kids whether they had a surgery or not or if they answer yes to those things, then yes, we provided appropriate care and proper follow up. And then the other piece is the paperwork piece. Did we communicate our policies appropriately so that they could make sure their bills were paid?

[00:07:24] You do you still carry an excess insurance policy?

[00:07:27] We do now, it didn't always used to, but we're self insured. It was self-insurance bucket of money. And then just probably four years ago, we picked up some excess to help start with anything above 10 grand because we started to have more and more kids that were uninsured. A couple knee injuries.

[00:07:46] I think I heard you have a staff person that does that for you, that is in the athletic training staff or their secretary or support?

[00:08:00] they're support for OK, work directly for [REDACTED] our head.

[00:08:03] OK.

[00:08:04] All right. So they do all of the like in in January when everybody's insurance rolls over and we're supposed to document whether they lost their policy or kept it. They do that all that for you.

[00:08:29] Do you think that is there agreement between you and that are between administration and athletic training staff about that appropriate care? Are you all on the same page?

[00:08:45] [Head AT]? He and I have some good sparring matches, right? But it's mostly over the expectations. I think for the most part, we're in agreement. You know, sometimes I think. Thinks, I'm always going to be a coach and think like a coach, which is probably the case, but I think for the most part what we expect yeah, I would say to answer that question just is, is it easy? Yes, we're in agreement in terms of that medical care. Maybe how it's delivered, there's always a disagreement, right? It's not in terms of appropriate medical care. It should be regardless of resources. Right. Either have the people here with the know-how and can help them access the different avenues to help get them care. And can I mean, do we have access to a psychologist and we have access to a.... and if a kid wants to know. But we can get them if we need them from a medical standpoint. Right. If we can give them the athletic trainers, an eating disorder, we will get them to maybe even a psychologist or psychiatrist or whatever. So it's not that we have them all on staff, but we can certainly help them navigate that from the appropriate care is getting them to the places they need for that care.

[00:10:29] what is your support situation? I don't know how large your community is, but you do have all of those specialty fields close?

[00:10:39] Oh, yeah, they're all right here in the [Name] area.

[00:10:49] One of the issues about coverage is the work life balance. I'm assuming you've had those conversations with your sports medicine staff.

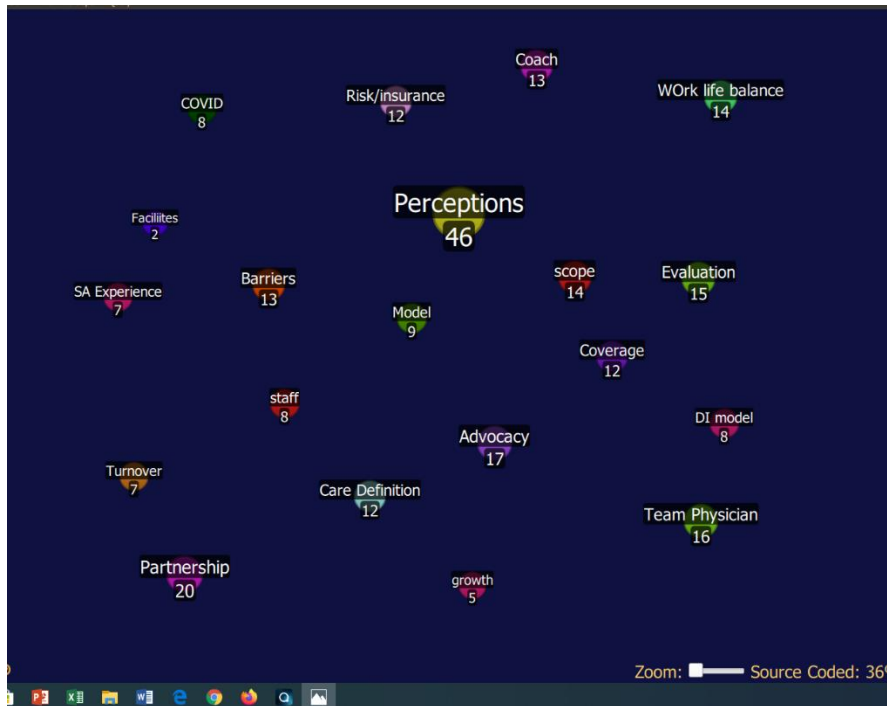
[00:11:09] I mean, it's a concern, to be honest with you right now. I mean, they're over the top in indeed with all the testing. But take that out of the equation and have a conversation. There's a concern. There's a concern mostly in how we keep women in it, because we've had we've lost a number of women that want to go have families and, and being able to keep the hours and have a family has posed some, some challenges. Now we have athletic trainers. We have one to three. We only have two men on staff of that whole room. The rest are all women. So it can be done. It's just it is a concern. And I think that's where the external piece of our external NovaCare supposed to be 40 hours a week. And so that, you know, and that that changes a little bit some of the expectations, what you can in the coverage you can have. So it just puts more on our [REDACTED] full time people. But I think it's a concern and something, again, that we to be prior to Covid [REDACTED] and I said we're starting to go down the road to talk

about that. It's going to be, again, just a shift in the expectations. And I'm fully supportive of that because they shouldn't be working 70 hours a week. The athletics at all of us work a lot at certain times. And you have a rhythm of the year. Again, take Covid out of it and all the testing that we're doing. But, you know, the summer should be the time to recharge. And, and that makes me feel better a little bit about maybe some of the 60 hour weeks and then the travel and those types of things. So you hope you can find a way to maintain that. But we're having more and more student athletes staying around in the summer. So what are those expectations? So it's going to be I feel like there's going to be a changing of the tide a little bit in terms of will we have somebody out at baseball softball practice? I think the answer might be no. In order to help with this, to manage this work life balance, in order to make sure that we're taking care of our people hasn't happened yet. But I think it will it's going to have to because it's just going to have to. If we want to keep good people, we can have them working the hours that they're working, I think then force them to take the time when it's time to take it.

APPENDIX I

Quirkos Examples

Screenshot of Quirkos Coding



Quirkos Report

This report was generated by LC on Sun Mar 07 2021 15:14:32 GMT-0600 (Central Standard Time) for the following file: C:/Users/kv4647cp/Documents/andy_peterson_interview.docx.

Source Summary

Title	Author	Date and Time	Length	Quotes #
P4 Transcript	LC	Invalid Date	34385	43
P5 Interview Transcript	LC	Invalid Date	33856	44
P3 Interview Transcript	LC	Invalid Date	23321	28
P1 Interview transcript	LC	Invalid Date	36630	36
P2 Interview transcript	LC	Invalid Date	20761	23
P6 Interview transcript	LC	Invalid Date	32711	24
P8 Interview Transcript	LC	Invalid Date	38696	29
P7 Interview Transcript	LC	Invalid Date	47807	32

Quirks Summary

Quirk Title	Parent	Grandparent	Description	Author	Date	Total Codes
COVID				LC	Invalid Date	8
Model				LC	Invalid Date	9
Care Definition				LC	Invalid Date	12
Coverage				LC	Invalid Date	12
Coach				LC	Invalid Date	13
Student Athlete Experience				LC	Invalid Date	7
staff				LC	Invalid Date	8
Advocacy				LC	Invalid Date	17
AD Perspectives				LC	Invalid Date	46
Team Physician				LC	Invalid Date	16

Risk				LC	Invalid Date	3
Billing for services				LC	Invalid Date	2
Work life balance				LC	Invalid Date	14
scope				LC	Invalid Date	14
Turnover				LC	Invalid Date	7
Barriers				LC	Invalid Date	13
Evaluation				LC	Invalid Date	15
Facilities				LC	Invalid Date	2
insurance				LC	Invalid Date	9
DI model				LC	Invalid Date	8
Hospital Partnership (merged)				LC	Invalid Date	18
growth				LC	Invalid Date	5
Partnerships				LC	Invalid Date	1
TOTAL NUMBER OF CODES	259					
TOTAL NUMBER OF QUIRKS	23					

APPENDIX J

Athletic Director Scope of Practice Score Data/Statistics

The researcher used AD responses to scope of coverage survey questions to create a “scope score”. The questions that the researcher used for this scope score and the value of each answer are portrayed in Table 5.13. The researcher used the composite score for each AD who answered all 18 questions. A correct answer to the question would count as one point and an incorrect answer would count as two points. The lowest possible score was 18 points and the high score 36. The range of this scope score was 19 points to 26 points with the mean score being 22.6.

Table 5.13

Survey Questions and Values Used to Determine Scope of Practice Score

Survey Question	One point answer	Two point answer
Q5	Yes	No or do not know
Q6	Yes	No
Q25	No or other	Yes
Q26	No or other	Yes
Q27	Yes	No
Q29	No	Yes
Q32	Master’s	Bachelor’s
Q33	Yes	No
Q34	Yes	No
Q35	No	Yes
Q36	No	Yes
Q37	Yes	No
Q38	Yes	No
Q39	Yes	No or Do not know
Q40	Yes	No
Q41	No or Option 3	Yes
Q42	Yes	No
Q43	Yes	No

The researcher intended to compare the scope of coverage score with the AD answers to two questions: 1) I have confidence that I have a good understanding of an Athletic Trainer’s

scope of practice; and 2) I am confident in my knowledge of the professional training and skill required to be an Athletic Trainer?(Table 4.54 and Table 4.55). These independent variables: 1) AD Confidence in understanding scope 2) AD confidence in understanding professional training and skills might explain the differences in the dependent variable: AD Scope of practice score. However, the independent variables were dichotomous and after visualizing the results in both tables there were very few “no” answers, it was determined that there would be no significant predictors with this data.

While analyzing the quantitative and qualitative strands, the researcher became interested in the differences in scope scores between men and women. These data points existed and so the statistical procedure was applied. According to Laerd Statistics (2015), the “independent-samples t-test is used to determine if a difference exists between the means of two independent groups on a continuous dependent variable”. This test will allow one to determine if the difference between two groups, in this case male ADs and female ADs is statistically significant. The dependent variable was the scope scores of ADs based on the 18 scope of AT practice questions, and the independent variable was gender. The researcher used IBM SPSS Statistics 27 with intent to run the independent-samples t-test. In order to run an independent sample t-test there are six assumptions that must be met. Assumption one is met because there is one dependent variable that is measured at the continuous level (scope score). Assumption two is met because there is one independent variable that is dichotomous (gender). Assumption three is met because there are two groups and no one in the male group can be in the female group and vice-versa so there is independence of observations. The null hypothesis for this independent sample t-test is H_0 : the population means of the two groups (male and female) are equal (i.e. $\mu_1 = \mu_2$) and the alternative

hypothesis is H_A : the population means of the two groups (male and female) are not equal (i.e. $\mu_1 \neq \mu_2$).

A boxplot of the data was created using IBM SPSS Statistical 27 to determine if there were outliers (Figure 4.09). There was one outlier in the women's data violating Assumption 4 that there should be no significant outliers. This outlier was a significantly higher score than the rest of the women's scores. After a review of the data, it was determined that there was no data entry error and no measurement error. The researcher elected to keep the outlier in the analysis.

Figure 5.3 Boxplot Scope and Gender

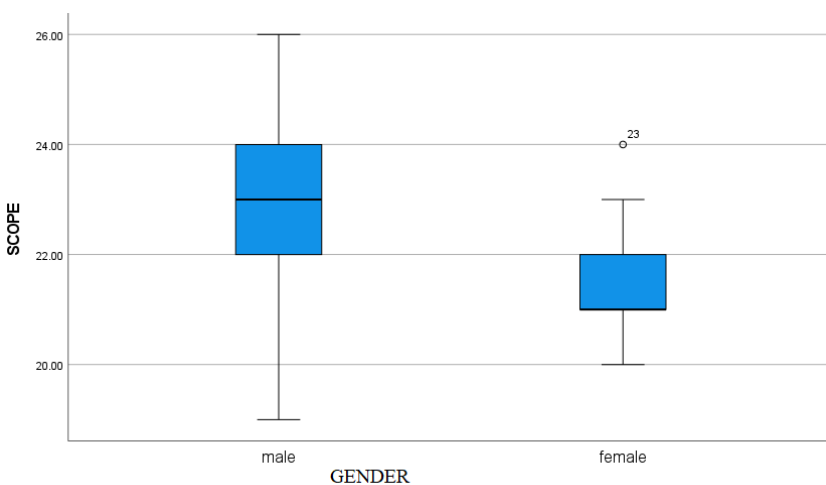


Figure 5.3 Boxplot of Male and Female ADs Scope of Coverage Score

Assumption 5 is that the dependent variable should be approximately normally distributed. In order to determine if the data was normally distributed, the Shapiro Wilk test for normality was used (Figure 4.10). This test is recommended for small sample sizes. If the data are normally distributed, the significance level should be more than .05 ($p > .05$). The assumption of normality was violated because $p < .05$ for the male score score.

Figure 5.4 SPSS 27 Tests of Normality

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
What is your gender?		Statistic	df	Sig.	Statistic	df	Sig.
SCOPE	male	.232	50	.000	.930	50	.005
	female	.217	9	.200*	.922	9	.407

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Figure 5.4 IBM SPSS 27 Tests of normality

According to Laerd Statistics (2015), if the data are not normally distributed, a researcher has three options 1) transform the dependent variable, 2) use a non-parametric test; or 3) carry on with the independent t-test. The research opted to move to the non-parametric Mann-Whitney U test because of the violation of two assumption. The Mann Whitney U test was run to determine if there were differences in scope scores between males and females. Distributions of the scope scores were similar as assessed by visual inspection (Figure 4.11). Scope score was statistically significantly different between males (mean rank 32.15) and females (18.06) $U= 117.5$, $z = -2.329$, $p = .019$. These results indicated that the researcher could reject the null hypothesis and accept the alternative hypothesis that the scope scores between male and female ADs are different. Females had lower scope scores indicating more correct answers on scope of practice questions.

Figure 5.5 SPSS Distributions of Scope Scores for Mann Whitney U Test.

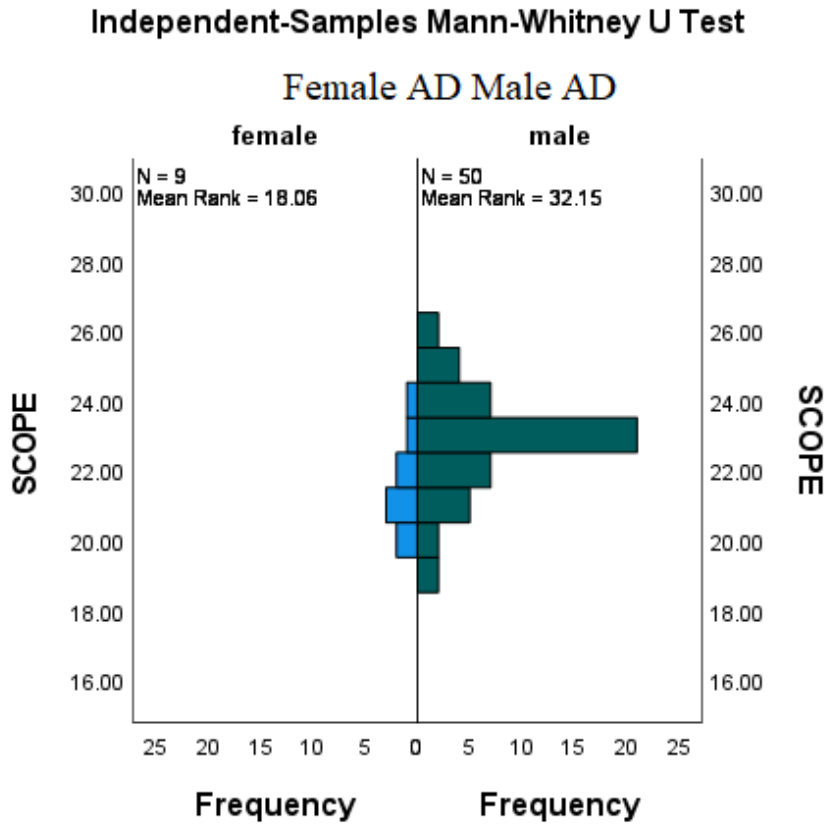


Figure 5.5 IBM SPSS 27 Distributions of Scope Scores for Mann Whitney U Test

In summary, ADs reported confidence that they understand athletic training practice within the scope of the NATA Code of Ethics and the BOC standards. In addition to identifying AT duties that are within the scope of practice, ADs tended to agree that “above and beyond” duties were also in the scope of practice. Female ADs had lower scope scores, which indicated that they identified more correct answers on scope of practice questions. This data, while interesting, was determined to be of little consequence to the research question and moved to this appendix.

References

- Adom, D., Hussein, E. K., & Agyem, J. A. (2018). Theoretical and conceptual framework: Mandatory ingredients to quality research. *International Journal of Scientific Research*, 7(1), 438-441. Retrieved from https://www.researchgate.net/publication/322204158_THEORETICAL_AND_CONCEPTUAL_FRAMEWORK_MANDATORY_INGREDIENTS_OF_A_QUALITY_RESEARCH/link/5a4b67d00f7e9ba868b0aaa2/download
- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochaiski, J., & Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA The Journal of the American Medical Association*, 288(16), 1987-1993.
- Alhojailan, M. I. (2012). Thematic analysis: A critical review of its process and evaluation. *West East Journal of Social Sciences*, 1(1), 39-47. Retrieved from https://fac.ksu.edu.sa/sites/default/files/ta_thematic_analysis_dr_mohammed_alhojailan.pdf
- Almadi, M. A., Sewitch, M., Barkun, A. N., Martel, M., & Joseph, L. (2015). Adenoma detection rates decline with increasing procedural hours in an endoscopist's workload. *Canadian Journal of Gastroenterology and Hepatology*, 29(6), 304-308.
- Aparicio, S., Welch Bacon, C. E., Parsons, J. T., Brown, R. C., Cohen, R. P., DeZeeuw, T., & Valovich McLeod, T. C. (2015, December). Staffing levels at National Collegiate Athletic Association football bowl subdivision-level institutions. *Journal of Athletic Training*, 50(12), 1277-1285. <http://dx.doi.org/10.4085/1062-6050-50.12.04>
- Baker, A. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academies Press.

- Barrett, J., Eason, C. M., Lazar, R., & Mazerolle, S. M. (2016, June 2). Personality traits and burnout among athletic trainers employed in the collegiate setting. *Journal of Athletic Training, 51*(6), 454-459. <http://dx.doi.org/10.4085/1062-6050-51.7.08>
- Board of Certification for the Athletic Trainer. (2017). Code of Professional Responsibility. In *BOC Standards of Professional Practice* (3.1pp. 1-5). Retrieved from http://www.bocatac.org/system/document_versions/versions/154/original/boc-standards-of-professional-practice-2018-20180619.pdf?1529433022
- Board of Certification for the Athletic Trainer (2020). Certification Maintenance Requirements. In *Certification Maintenance Requirements for Certified Athletic Trainers* (2020). Retrieved from <https://online.flowpaper.com/7f6907b2/202021CertMaintenanceRequirements/#page=1>
- Bowen, P., Rose, R., & Pilkington, II, A. (2017). Mixed methods-theory and practice, sequential, explanatory approach. *International Journal of Quantitative and Qualitative Research Methods, 5*(2), 10-27. Retrieved from <http://www.eajournals.org/wp-content/uploads/Mixed-Methods-Theory-and-Practice.-Sequential-Explanatory-Approach.pdf>
- Brumels, K., & Beach, A. (2008). Role orientation of certified Athletic Trainers at institutions of higher education. *Athletic Training Education Journal, 3*(1), 5-12. <http://dx.doi.org/10.4085/1947-380X-3.1.5>
- Commission on Accreditation of Athletic Training Education (CAATE). (n.d.) The professional degree. Retrieved April 2, 2021 from <https://caate.net/the-professional-degree/>
- Chen, S., & Esposito, E. (2004). Practical and critical legal concerns for sports physicians and athletic trainers. *The Sport Journal*. Retrieved from

- <https://thesportjournal.org/article/practical-and-critical-legal-concerns-for-sport-physicians-and-athletic-trainers/>
- Class v. Towson University, 806 F. 3d 236 (U.S. Ct. App, 4th Circuit 2015).
- Coleman, M. (2012). Interview. In A. R. Briggs, M. Coleman, & M. Morrison (Eds.), *Research Methods in Educational Leadership & Management* (3rd ed., pp. 250-265). Thousand Oaks, CA: Sage.
- Cotten, D. J., & Wolohan, J. (2017). *Law for Recreation and Sport Managers* (7th ed.). Dubuque, IA: Kendall-Hunt.
- Cresswell, J. W., Klassen, A. C., Plano Clark, V. L., & Smith, K. C. (2011). *Best practices for mixed methods research in the health sciences*. Retrieved from National Institutes of Health Office of Behavioral and Social Sciences Research:
<https://obssr.od.nih.gov/training/online-training-resources/mixed-methods-research/>
- Creswell, J. W., & Plano-Clark, V. L. (2017). *Designing and Conducting Mixed Methods Research* (3rd ed.). [Kindle Version]. Retrieved from Amazon.com. doi:9129106-6269033
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). Thousand Oaks, CA: Sage.
- DeFreese, J., & Mahalik, J. P. (2016). Work-based social interventions, perceived stress, and workload incongruence as antecedents of athletic trainer burnout. *Journal of Athletic Training, 51*(1), 28-34. <http://dx.doi.org/10.4085/1062-6050-51.2.05>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2015). *How to design and evaluate research in education* (9th ed.). New York, NY: McGraw-Hill Education.

- Gallucci, A. R., & Petersen, J. C. (2017). The size and scope of collegiate athletic training facilities and staffing. *Journal of Athletic Training*, 52(8), 785-794.
<http://dx.doi.org/10.4085/1062-6050-52.3.16>
- Grundstein, A., Knox, J. A., Vanos, J., Cooper, E. R., & Casa, D. J. (2017, August). American football and fatal exertional heat stroke: A case study of Korey Stringer. *International Journal of Biometeorology*, 61(8), 1471-1480. <http://dx.doi.org/10.1007/s00484-017-1324-2>
- Hankemeier, D. A., Walter, J. M., McCarty, C. W., Newton, E. J., Walker, S. E., Pribesh, S. L., Jamali, B. E., Manspeaker, S. A., Van Lunen, B. L. (2013, May-June). Use of evidence-based practice among athletic training educators, clinicians, and students, part 1: Perceived importance, knowledge, and confidence. *Journal of Athletic Training*, 48(3), 394-404. <http://dx.doi.org/10.4085/1062-6050-48.2.16>
- Health Care Provider Actions, Chapter 541 2019 Minnesota Statutes § 541.076 (2019).
- Hibberts, M. F., & Johnson, R. (2012). Mixed method research. In A. R. J. Briggs, M. Coleman, & M. Morrison (Eds.), *Research methods in educational leadership & management* (3rd ed., pp. 122-139). Thousand Oaks, CA: Sage.
- Killinger, T. P., & Schellhase, K. C. (2018). Medical claims at national collegiate athletic institutions: The athletic trainers' role. *Journal of Athletic Training* 53(10), 1004-1010.
doi: 10.4085/1062-6050-491-17
- Kleinknecht v. Gettysburg College, 989 F. 2d 1360 (3rd Cir 1993).
- Knapp v. Northwestern University, 101 F. 3d 473 (1996).
- Krueger v. San Francisco Forty-Niners, 234 Cal. Rptr. 579 (Cal. Ct. App. 1st District 1987).

- Laerd Statistics (2015a). Independent-samples t-test using SPSS Statistics. *Statistical tutorials and software guides*. Retrieved from <https://statistics.laerd.com/>
- Laerd Statistics (2015b). Simple linear regression using SPSS Statistics. *Statistical tutorials and software guides*. Retrieved from <https://statistics.laerd.com/>
- Livingston v. DeSoto Independent School District, 391 F. Supp. 2d 463 (ND Tex 2005).
- Make it yours: Life in balance. (2019). Retrieved from https://ncaaorg.s3.amazonaws.com/about/d2/2019-20D2_FactFigures.pdf
- Mazerolle, S. M., Eason, C. M., & Goodman, A. (2017). Organizational infrastructure in the collegiate athletic training setting, part 1: Quality-of-life comparisons and commonalities among the models. *Journal of Athletic Training, 52*(1), 12-22.
<http://dx.doi.org/10.4085/1062-6050-51.12.19>
- Mazerolle, S. M., Faghri, P., Marcinick, M., & Milazzo, S. (2010, May). Athletic trainers' workload in NCAA Division I athletic programs. *International Journal of Athletic Therapy and Training, 15*(3), 34-37. <http://dx.doi.org/doi.org/10.1123/att.15.3.34>
- Mazerolle, S. M., Raso, S. R., Pagnotta, K. D., Stearns, R. L., & Casa, D. J. (2015, October). Athletic directors' barriers to hiring athletic trainers in high schools. *Journal of Athletic Training, 50*(10), 1059-1068. <http://dx.doi.org/10.4085/1062-6050-50.10.01>
- McCallum, J., & Munson, L. (2002). A question of life and death a year after star lineman Korey Stringer succumbed to heatstroke, the Vikings open camp facing new scrutiny over how they handled his on-field collapse. *Sports Illustrated, 97*(4), 54-61. Retrieved from <https://vault.si.com/vault/703748>
- Mills, G. E., & Gay, L. (2019). *Educational research: Competencies for analysis and applications* (12th ed.). Boston, MA: Pearson.

- Mitten, M. J. (2002). Emerging legal issues in sports medicine: A synthesis, summary, and analysis. *St. John's Law Review*, 76(1), 1-83. Retrieved from <https://scholarship.law.stjohns.edu/cgi/viewcontent.cgi?article=1343&context=lawreview>
- Mitten, M. J. (2003). *Support for Certified Athletic Trainers in Intercollegiate Athletics* [Memorandum]. Indianapolis, IN: National Collegiate Athletic Association.
- National Athletic Trainers' Association. (2005a). Membership standards and sanctions. Retrieved June 28, 2019, from <https://www.nata.org/membership/about-membership/member-resources/membership-standards>
- National Athletic Trainers' Association. (2005b). NATA Code of Ethics. Retrieved 2018, from <https://www.nata.org/membership/about-membership/member-resources/code-of-ethics>
- National Athletic Trainers' Association. (2010a). Appropriate medical coverage of intercollegiate athletics (AMCIA). Retrieved from <https://www.nata.org/professional-interests/job-settings/college-university/resources/AMCIA>
- National Athletic Trainers' Association. (2010b). Recommendations and guidelines for appropriate medical coverage of intercollegiate athletics. Retrieved from <https://www.nata.org/sites/default/files/amcia-revised-2010.pdf>
- National Athletic Trainers' Association. (2014). Emergency care and coverage. In J. T. Parsons (Ed.), *2014-15 NCAA sports medicine handbook* (25th, pp. 1-139). United States of America: NCAA.
- National Athletic Trainers' Association. (n.d.). Obtain Certification. Retrieved March 31, 2021 from <https://www.nata.org/about/athletic-training/obtain-certification>

National Athletic Trainers' Association. (2017a). Best practice guidelines for athletic training documentation. Retrieved from <https://www.nata.org/sites/default/files/best-practice-guidelines-for-athletic-training-documentation.pdf>

National Athletic Trainers' Association. (2017b). NATA quick facts. Retrieved from <https://www.nata.org/nata-quick-facts>

National Collegiate Athletic Association Student-Athlete Concussion Injury Litigation, No. 13 C9119, 2014WL 7237208 (N.D. Ill. Dec. 17, 2014).

National Collegiate Athletic Association Student-Athlete Concussion Injury Litigation, MDL No. 2492 IL (Us District Court Northern District of Illinois 2019).

National Collegiate Athletic Association. (2018). *Net generated revenue: 2009-2018* [NCAA finances database]. Retrieved from <http://www.ncaa.org/about/resources/research/finances-intercollegiate-athletics-database>

National Collegiate Athletic Association. (2019a). Executive summary: Sponsorship and participation of NCAA Championship. Retrieved from [ncaa.org/about/resources/research/ncaa-sports-sponsorship-and-participation-rates-database](http://www.ncaa.org/about/resources/research/ncaa-sports-sponsorship-and-participation-rates-database)

National Collegiate Athletic Association (2019b). Division II Facts and Figures. Retrieved from <https://www.ncaa.org/division-ii-facts-and-figures>

National Collegiate Athletic Association. (2020a). 2020-2021 Division II Manual

National Collegiate Athletic Association (2020b). NCAA Demographics Database. Retrieved from <https://www.ncaa.org/about/resources/research/ncaa-demographics-database>

National Collegiate Athletic Association. (n.d.-a). About NCAA Division II. Retrieved from <http://www.ncaa.org/about?division=d2>

- National Collegiate Athletic Association. (n.d.-b). Life in the balance. Retrieved from <http://www.ncaa.org/about/life-balance>
- National Collegiate Athletic Association Division II. (n.d.-c). Model Athletics Department Document. Retrieved from https://www.ncaa.org/sites/default/files/DII_Model_AD_Document_Final.pdf
- National Collegiate Athletic Association Sport Science Institute. (2017). Interassociation consensus: Independent medical care for college student-athletes best practices. Retrieved from: https://www.ncaa.org/sites/default/files/2017SSI_IndependentMedicalCare_20170626.pdf
- New International Version Bible. (2011), Nashville, TN: Biblica, Inc. Harper Collins Christian Publishing.
- Oglesby, L. W., Gallucci, A. R., & Wynveen, C. J., (2020). Athletic trainer burnout: A systematic review of literature. *Journal of Athletic Training*, 55(4), 416-430. doi: 10.4085/1062-6050-43-19
- Overhage, J. M., & McCallie Jr. D., (2014). Physician time spent using electronic health record during outpatient encounters: A descriptive study. *Annals of Internal Medicine* 172(3), 169-174. doi: 10.7326/M18-3684.
- Patel, S. (2015). The research paradigm-methodology, epistemology and ontology - explained in simple language. Retrieved from <http://salmapatel.co.uk/academia/the-research-paradigm-methodology-epistemology-and-ontology-explained-in-simple-language/>
- Pike Lacy, A. M., Eason, C. M., Stearns, R. L., Tosakoon, S., & Casa, D. J. (2019). Legislators' perceptions and knowledge of the athletic training profession: Specific considerations for

- secondary schools. *Journal of Athletic Training*, 54(11), 1140-1148.
<http://dx.doi.org/10.4085/1062-6050-29-19>
- Pike Lacy, A. M., Mazerolle Singe, S., & Bowman, T. G. (2020). Collegiate athletic trainers' experiences with eternal pressures faced during decision making. *Journal of Athletic Training*, 55(4), 409-415. doi: 10.4085/1062-6050-165-19
- Quandt, E. F., Mitten, M. J., & Black, J. S. (2009). Legal liability in covering athletic events. *Sports Health: A Multidisciplinary Approach*, 1(1), 84-90.
<http://dx.doi.org/10.1177/1941738108327530>
- Rogers, A. E., Hwang, W.T., Scott, L. D., Aiken, L. H., & Dinges, D. F. (2004). The working hours of hospital staff nurses and patient safety. *Health Affairs*, 23(4), 202-212.
<http://dx.doi.org/10.1377/hlthaff.23.4.202>
- Rothstein, L., & Johnson, S. F. (2013). *Special Education Law* (5th ed.). Thousand Oaks, CA: Sage.
- Rushton, C. H., Batcheller, J., Schroeder, K., & Donohue, P. (2015). Burnout and resilience among nurses practicing in high-intensity settings. *American Journal of Critical Care*, 24(5), 412-420. doi: 10.4037/ajcc2015291.
- Santore, G. (2018). Rethink the expectations for new athletics directors. *College Athletics and the Law*, 15(3), 1-3. doi: 10.1002/catl.30477
- Saunders, J., (2001). The practice of clinical medicine as an art and as a science. *Western Journal of Medicine*, 17(2), 137-141. Retrieved from
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1071282/>
- Schoepfer Bochicchio, K. L. (2017). The legal system. In D. J. Cotten & J. Wolohan (Eds.), *Law for recreation and sport managers* (7th ed.). Dubuque, IA: Kendall Hunt.

- Scott, L. D., Arslanian-Engoren, C., & Engoren, M. C. (2014, January). Association of sleep and fatigue with decision regret among critical care nurses. *American Journal of Critical Care*, 23(1), 13-23. <http://dx.doi.org/10.4037/ajcc2014191>
- Searles v. Trustees of St. Joseph's College, 695 A. 2d 1206 (Me. 1997).
- Snook, G. A. (1984). The history of sports medicine. Part 1. *The American Journal of Sports Medicine*, 12(4), 252-254. <http://dx.doi.org/10.1177/036354658401200402>
- Wong, G. (2014). The path to the athletic director's office. *Sports Business Journal*. Retrieved from <https://www.sportsbusinessdaily.com/Journal/Issues/2014/06/09/In-Depth/Wong-column.aspx#:~:text=The%20average%20age%20of%20current%20Division%20I%20athletic,age%20distribution%20of%20current%20Division%20I%20athletic%20directors.>