

IMPLEMENTATION OF AN ELECTRONIC MEDICAL RECORD SYSTEM FOR LAFENE HEALTH CENTER'S ATHLETIC TRAINERS

JAMIE GALLAGHER

KANSAS STATE UNIVERSITY

MASTERS OF PUBLIC HEALTH - PHYSICAL ACTIVITY
CONCENTRATION

Part 1: Background

Part 2: Applied Practice Experience

Part 3: Project Description

Part 4: Competencies

OUTLINE



PART I: BACKGROUND

An EMR typically comprises of a patients previous medical history, report of how they were injured, clinician findings, musculoskeletal test results, assessment of injury, and plan for patient, as well as any additional important information

The documentation system software utilized in my APE was Point and Click Solutions, Inc.

ELECTRONIC MEDICAL RECORD (EMR)



ATHLETIC TRAINERS

- Athletic trainers are:
 - Multi-skilled health care professions
 - Collaborate with physicians
- Provide services such as:
 - Emergency care
 - Clinical diagnoses
 - Therapeutic intervention
 - Rehabilitation



COMMUNICATION NEEDS PER CURRENT LITERATURE

- **Kantor et al. (2015)**
- Findings: EMR has the potential to increase communication within a healthcare facility
- EMR allows this information to be accessed by appropriate medical staff in order to further treat the patient
- **Nottingham et al. (2017)**
- Findings: Found the 3 main reasons that athletic trainers document: communication, monitoring patient care, and legal implications
- Quality documentation by health care professions is important for both clinicians and patients
- Clinicians stressed importance of knowing previous pain levels, rehabilitation progress, and treatment plans
- **Todaro et al (2017)**
- Findings: “Communication and trust were keys for positive working relationships.”
- When clinicians collaborate and communicate effectively, there is enhanced patient care



PART 2: APPLIED PRACTICE EXPERIENCE

LAFENE HEALTH CENTER



Professionally accredited
outpatient healthcare facility
located in Manhattan KS



Provides healthcare services to
Kansas State University students



Sports Medicine Clinic and
Rehabilitation Services

ADDRESSING THE PROBLEM

The Problem:

- Communication gap between Lafene athletic trainers and physicians
- Athletic trainer responsible for:
 - Recreation athletes typically injured during intramural sports
 - Who also suffer from chronic conditions
- Important to document these conditions

Why I chose to address it:

- Personal experience
- Encounters with physicians at Lafene as well as athletic trainers
- Knowledge of current gaps
- MPH experience to dictate process

Accident/Injury Report



Date Accident Occurred: _____ Time Accident Occurred: _____
 Date Accident Reported: _____ Time Accident Reported: _____

Name _____ Address (local) _____ Zip Code _____ Phone _____ WID or Membership Key Tag # _____
 Status (Circle): Student Faculty/Staff Alumni Guest Dependent Spouse Rec employee (on duty)
(Must fill out Employer's Report of Accident)

Nature of Suspected/Stated Injury or Illness:
 Abrasion _____ Cramps (type) _____ Heart _____ Puncture _____ Other: (Describe) _____
 B l e e d i n g _____ Dislocation _____ Heat exhaustion/stroke _____ Scratched _____
 Breathing difficulty _____ Fainting _____ Inhalation/fumes/ gases _____ Shock (type) _____
 Bruise/contusion _____ Foreign Body _____ Internal injury _____ Sprain _____
 Burn/scald _____ Fracture _____ Laceration _____ Strain _____
 Concussion _____ Frostbite _____ Poisoning _____ Suffocation _____

Part of Body Injured: Indicate Right (R) or Left (L) Side
 Skull/Scalp _____ Mouth _____ Abdomen _____ Wrist _____ Ankle _____
 Eyeball _____ Tooth _____ Back _____ Hand _____ Foot _____
 Eyebrow area _____ Jaw _____ Pelvis _____ Finger _____ Toe _____
 Cheek _____ Neck _____ Shoulder _____ Hip _____ Other: (Describe) _____
 Head _____ Spine _____ Upper arm _____ Thigh _____
 Ear _____ Chest _____ Elbow _____ Knee _____
 Nose _____ Lungs _____ Forearm _____ Lower leg _____

Location of Accident:
Recreation Complex _____ **Combatives Room** _____ **Outdoor Areas** _____ **Outdoor Rental Center** _____ **Ahearn Complex:** _____
 HS/RS Court (number) _____ Circuit Area (1st/2nd floor) _____ HS/RS Courts _____ Parking Lot (#) _____ Pools _____
 Gym(East/West/Small) _____ Lounge/Snack Bar _____ Basketball Court (#) _____ Challenge Course _____ Locker Room _____
 MAC Gym _____ Locker/Shower Rm _____ Playfields (#) _____ Memorial Stadium _____ Gymnasium _____
 Track (1/14 or 1/5) _____ Weight Room (N/S) _____ Send Volleyball Ct (#) _____ Field _____ Fieldhouse _____
 Exercise Studio (A-D) _____ North End Cardio Area _____ Jogging Trail _____ Track _____ Bleachers _____
 Cardio Mezzanine _____ Games Lounge _____ Stadium Seating Area _____ Other: (describe) _____
 Personal Trainer Studio _____ Climbing Wall/Boulder _____

Type of Participation:
 Intramural Sports Activity (type of activity) _____ Pools (type of activity) _____
 Free Rec Activity (type of activity) _____ Group Fitness (type of activity) _____
 Sport Clubs (type of activity) _____ Challenge Course (type of activity) _____
 Personal Training (type) _____ Rental (type of activity) _____
 Climbing/Bouldering (type) _____ Other (type of activity) _____

Witness Name _____ Address _____ City _____ Zip Code _____ Phone _____ WID or Membership Key Tag # _____

Details of Accident: (Describe fully events, actions & conditions, including environmental, physical & emotional factors which may have contributed to the injury. Be complete.)

Immediate Action Taken (Please check)
 _____ treated at location _____ no treatment, referred to Lafere Health Center
 _____ treated at location, referred to Lafere Health Center _____ no treatment, referred to hospital
 _____ treated at location, EMS called _____ no treatment, EMS called
 _____ treated at location, referred to hospital _____ refused aid
 _____ AED administered _____ Other _____

Describe treatment administered:

Assess	Create a needs assessment for Lafene Health Center to address gaps of the communication system between athletic trainers and physicians. Learn how this gap affects both clinicians and patients.
Implement	Implement a new tool in order to bridge the communication gap.
Learn	Learn about the different sectors and employees at this public health institution and who is involved with policy and procedure process.
Work	Work alongside these employees in order to create tool.
Examine	Examine how this implementation has affected Lafene Health Center and its' patients.

LEARNING OBJECTIVES



PART 3: PROJECT DESCRIPTION

PROPOSAL & ASSESSMENT

- EMR System
- Identified gaps within Lafene's Health Center's communication system such as:
 - Dated documentation system
 - Delayed transition of medical information
 - Dated privacy guidelines
 - Inadequate information for physician examination
 - Need to increase patient follow-up care

Jamie Gallagher
Proposal

Intramural Sports Electronic Medical Record Implementation System

Goal: To implement an Electronic Medical Record System (EMR) for documenting injuries sustained by recreational athletes at the Chester E. Peters Recreation Complex (REC)

Projected Outcomes

- Allows athletic trainers to document the injuries of REC athletes who sustain injuries while utilizing the facility.
- Provides a secure and private medical interface for athletic trainers to document injuries and incidents.
- Includes an online referral system between Lafene staff physicians, physical therapists and Via Christi Hospital staff.
- Grants Lafene physicians access to a patient's REC injury history before Lafene visit.
- Allows physicians to schedule appointments with athletic trainer at REC facility for certain rehabilitation programs that would not need to go through the physical therapy department at Lafene.
 - i.e.: Concussion return to activity protocol, basic rehabilitation exercises, and proper stretching techniques.

Supplies Needed to Implement EMR

- Tablet
- Access to Point and Click system
 - Possible encryption for system

Advisory Board

- Head Advisor:* Dr. Mailey
- Dr. McElory
- Dr. Besenyi
- Dr. Campell

Involved Staff

- Director of Lafene Health Center:* Jim Parker
- Rec Complex Director:* Steve Martini
- Rec Complex Associate Director:* John Wondra

Reasons to Implement EMR

- Will improve communication between Lafene staff and REC athletic trainers.
- Will enhance the current REC documentation system, which does not currently allow appropriate SOAP note documentation of certain injuries.
- Will allow REC student athletes to utilize athletic trainers for rehabilitation.
- Will strengthen patient confidentiality in REC records.

IMPLEMENTATION PROCESS

Details

- Assigned duties to multiple staff members
- Gained needed materials
- Contacted appropriate staff
- Created templates
- Created training module
- Trial and error
- Gained feedback from all involved

Staff Involved

- Michael Campbell, MD- Assistant Medical Director
- Jim Parker, MBA- Director
- Shecky Davis- Associate Director
- Jeff Kreuser, ATC- Director of Rehabilitation Services
- Robin Millington- IT Support Specialist
- Susan Shankweiler, RN- Software Liaison

ELECTRONIC MEDICAL RECORD SYSTEM FOR ATHLETIC TRAINERS

New Appointment [X]

Type: Patient Group/Outreach Meeting Block/PTO

Patient: ZZTEST, WILLIE A H -

989661234 [F] - 1/1/1991 Age: 28yrs

Ref/Case: (none) [v] New Edit

Provider(s): REC, AT [x] Visit Type: AT ATHLETIC TRAINING [v] Duration: 0h 15m [v]

Location: Athletic Training [v] Department: ATHLETIC TRAINING [v]

Start Date/Time: 3/23/2019 8:30 PM [v] Find Openings Reason Code: Head Injury [v]

Edit Recurrence...
 Double Bookable Early List Block Self Check-in

Reason: [v]

Save Cancel

ZZTEST, WILLIE A Pt #: 989661234 DOB: 1/1/1991 Age: 28 yrs Sex: Female
 3/23/2019 8:30 PM with REC, AT for AT ATHLETIC TRAINING
 Encounter #: A282883-45 Appointment Reason: Head Injury

ATHLETIC TRAINING NOTE

Patient Contact with REC Center

Date/time: [v] Today Now New Entry
 Type of contact: walk-in radio call from supervisor observed other clear

SUBJECTIVE

Chief Complaint: [v]

Type of Participation: [v]

Activity: [v]

Location Injury Occurred:

[v]
 < Enter text here >

Assisting Student Trainer: [v]

INJURY/PAIN PREVENTATIVE SERVICE HEAD INJURY CUT/LACERATION ILLNESS OTHER

< Enter text here >

- RS Exam- Cervical Spine
- RS Exam- Elbow
- RS Exam- Foot-Ankle
- RS Exam- Gait
- RS Exam- Hip-Pelvis
- RS Exam- Knee
- RS Exam- Lumbar Spine
- RS Exam- Shoulder
- RS Exam- Wrist-Hand

ZZTEST, WILLIE A Pt #: 989661234 DOB: 1/1/1991 Age: 28 yrs Sex: Female
3/23/2019 8:30 PM with REC, AT for **AT ATHLETIC TRAINING**
Encounter #: A282883-45 Appointment Reason: Head Injury

ATHLETIC TRAINING NOTE

Patient Contact with REC Center

Date/time: Today Now New Entry
Type of contact: walk-in radio call from supervisor observed other [clear](#)

SUBJECTIVE

Chief Complaint:

Type of Participation:

Activity:

Location Injury Occurred:

< Enter text here >

Assisting Student Trainer :

INJURY/PAIN PREVENTATIVE SERVICE HEAD INJURY CUT/LACERATION ILLNESS OTHER

< Enter text here >

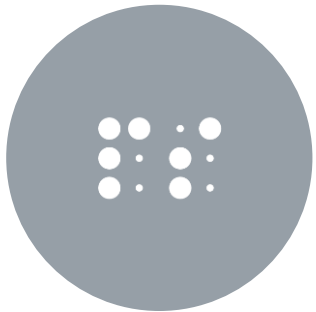
OTHER FEATURES OF EMR SYSTEM



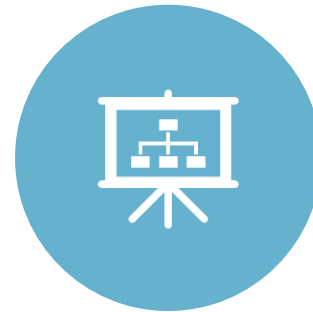
Direct communication features to send to information to medical professionals at Lafene such as physicians and athletic trainers



Follow-up patient phone call protocol for appointment scheduling, symptom follow-up, and injury education



Online accessible injury education and rehabilitation handouts



Tailored information that correlates to the Recreation Complex

QUALITATIVE OUTCOMES REPORTED BY PHYSICIAN & ATHLETIC TRAINER

Clinician Outcomes

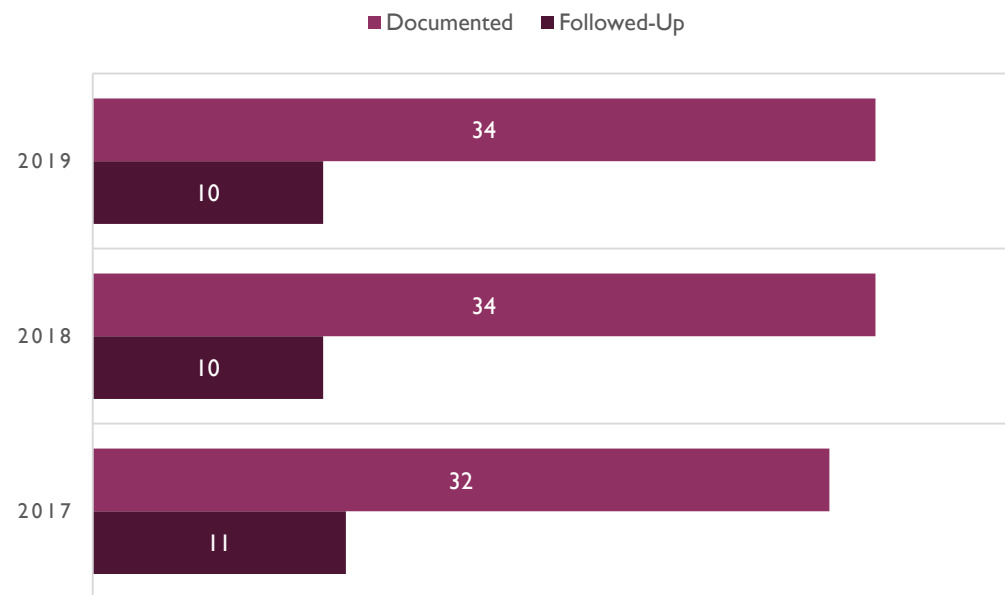
- Faster overall communication
- More efficient evaluation process
- Physician have a more clear picture of mechanism of injury
- Physician evaluations are faster
- Physician and athletic trainer able to educate patient

Patient Outcomes

- Increased autonomous motivation
- Increased injury education
- Increased sense of urgency
- Increased patient privacy

QUANTITATIVE OUTCOMES OF PATIENT FOLLOW-UP RATES

PATIENT FOLLOW-UP OUTCOMES



- Light purple represents # of patients documented at the Rec
- Dark purple represents # of patients who followed-up at Lafene
- Each year represents the data from January and February
- No change between 2018 and 2019
- These results can be interpreted in many ways
 - Implementation did not increase # of injuries
 - Patient is gaining more education via handouts
 - Small snapshot of injury and follow-up rates

LONG-TERM PROJECTIONS FOR EMR SYSTEM

- Increased injury tracking
- Potential to create injury prevention
- More reliable
- Sustainable means of communication for athletic trainers and physicians
- Better organization means for all involved
- Increased patient privacy

TRAINING MODULE

Sunday

Checking Out

- Once note is signed, return to your schedule
- Find the patient's name
- Right click
- Select "check out"
- Once checked out, the patient will have a green line next to their name

jury / Pain, 'R knee pl.'

Checked In

ZZTEST, WILLIE A; AT ATHLETIC TRAINING - Injury / Pain, 'R knee pl.'

ZZTEST, WILLIE A; AT ATHLETIC TRAINING - Injury / Pain, 'R knee pl.'

Checked Out

Edit
Confirm
Patient Ready
Left
Check Out
Update Room...
Reset Appt Status...
Link to Another Appointment
View Appointment History
Insurance E-Verify
Copy

- Created in order to highlight the importance of this communication system
- More efficient for Lafene staff to distribute online
- Created by an athletic trainer for athletic trainers

DISCUSSION

- By implementing this EMR system for athletic trainers, there was a reported increase in communication and efficiency
- Clinicians discuss the improvements for their evaluations & for overall patient care and organization
- Created a more cohesive system of communication that improved both patient and clinician outcomes



PART 4: COMPETENCIES

MPH FOUNDATIONAL COMPETENCIES

- 7- Assess population needs, assets, and capacities that affect communities' health
- 9- Design a population-based policy program, project, or intervention
- 12- Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence
- 18- Select communication strategies for different audiences and sectors
- 21- Performs effectively on interprofessional teams

COMPETENCY 7:

ASSESS POPULATION NEEDS, ASSETS, AND CAPACITIES THAT AFFECT COMMUNITIES' HEALTH

- Two populations were assessed
 - Clinicians
 - How does the communication system affect evaluation skills, communication skills, quality of care
 - Patients
 - Examine patient education, efficiency of care, and privacy of information

COMPETENCY 9:

DESIGN A POPULATION-BASED POLICY PROGRAM, PROJECT, OR INTERVENTION

- Clinicians
 - Gain information for what they need in order to make evaluation process more effective
 - Create a direct connection between athletic trainer and physician
 - Create template specifically for athletic trainers
 - Create training module specifically for athletic trainer
- Patients
 - Create more opportunity for patient education
 - Created enhanced patient care
 - Create sense of autonomy

COMPETENCY 12:

DISCUSS MULTIPLE DIMENSIONS OF THE POLICY-MAKING PROCESS, INCLUDING ROLES OF ETHICS AND EVIDENCE

- MPH720 adapted policy making process:
 - Issue raising
 - Policy design
 - Public support building
 - Legislative decision making & building
 - Legislative decision making & implementation

COMPETENCY 18:

SELECT COMMUNICATION STRATEGIES FOR DIFFERENT AUDIENCES AND SECTORS

- During my time at Lafene I evaluated and enhanced their communication system between athletic trainers and other medical providers
- I created an online training module which assisted Lafene in their training process
- Online injury pamphlets for athletes are an accessible education device
- Phone calls made by clinic athletic trainer enhanced clinic to patient communication

COMPETENCY 21:

PERFORMS EFFECTIVELY ON
INTERPROFESSIONAL TEAMS

- Worked alongside:
 - Physicians
 - Nurses
 - IT personnel
 - Directors
 - Associate directors
 - Athletic Trainers

MPH EMPHASIS AREA COMPETENCIES

- 1- Population Health
- 2- Social, behavioral and environmental influences
- 3- Theory application
- 4- Developing and evaluating physical activity
- 5- Support evidence-based practice

COMPETENCY I: POPULATION HEALTH

EXAMINE AND EVALUATE EVIDENCE-BASED
KNOWLEDGE OF THE RELATIONSHIP BETWEEN
PHYSICAL ACTIVITY AND POPULATION HEALTH

- Classes:
 - KIN 610- Program Planning and Evaluation
 - KIN 612- Policy, Built Environment and Physical Activity
 - KIN 805- Physical Activity and Human Behavior
- APE Application:
 - Incorporating core concepts such as:
 - Individual level control
 - Influences
 - PA guidelines
 - Population needs

COMPETENCY 2: SOCIAL, BEHAVIORAL AND ENVIRONMENTAL INFLUENCES

INVESTIGATE SOCIAL, BEHAVIORAL AND
ENVIRONMENTAL FACTORS THAT CONTRIBUTE
TO PARTICIPATION IN PHYSICAL ACTIVITY

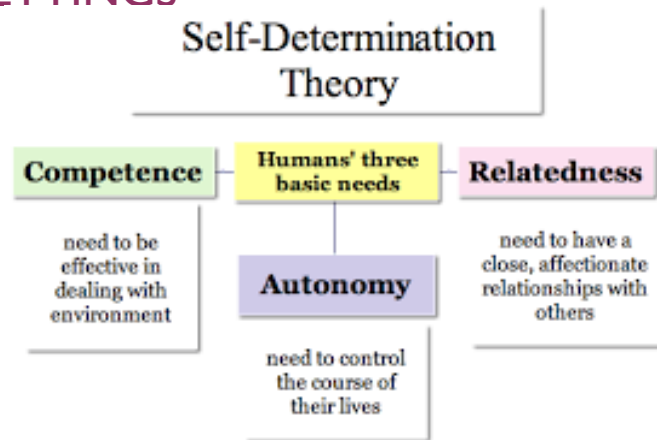
Socio-Ecological Model



- APE Application
 - Social-Ecological Model
 - Levels of social influence and support
 - via telephone calls
 - Self-regulation
 - via handouts
 - Strategic communication community
 - via EMR
- Classes:
 - MPH 818- Social and Behavioral Basis of Public Health
 - KIN 610- Program Planning and Evaluation
 - KIN 612- Policy, Built Environment and Physical Activity
 - KIN 805- Physical Activity and Human Behavior

COMPETENCY 3: THEORY APPLICATION

EXAM AND SELECT SOCIAL AND BEHAVIORAL THEORIES AND FRAMEWORKS FOR PHYSICAL ACTIVITY PROGRAMS IN COMMUNITY SETTINGS



- APE Application:
 - Utilized Self-Determination Theory
 - Via autonomous motivation from clinicians
 - More time for education
 - Patient will have increased perceived competence
- Classes:
 - MPH 818- Social and Behavioral Basis of Public Health
 - KIN 805- Physical activity and human behavior

COMPETENCY 4: DEVELOPING AND EVALUATING PHYSICAL ACTIVITY

DEVELOP AND EVALUATE PHYSICAL ACTIVITY
INTERVENTION IN DIVERSE COMMUNITY
SETTINGS

- Classes:
 - KIN 805- Physical Activity and Human Behavior
 - KIN 612- Policy, Built Environment and Physical Activity
 - KIN 610- Program Planning and Evaluation
- APE Application:
 - Patient population importance
 - Social-Ecological Model

COMPETENCY 5: SUPPORT EVIDENCE-BASED PRACTICE

SUPPORT PUBLIC HEALTH OFFICIALS AND
OTHER COMMUNITY PARTNERS IN THE
PROMOTION OF PHYSICIAN ACTIVITY WITH
EVIDENCE-BASED PRACTICES

- Classes:
 - KIN 805: Physical Activity and Human Behavior
- APE Application:
 - Evidence strengthened argument
 - Self-Determination Theory
 - Education = Confidence
 - EMR will become evidence

SUMMARY

-
- Both the MPH program and my time at Lafene Health Center have equipped me to become a proficient public health official.
 - I will utilize the skills that I have acquired through the MPH program as a clinical athletic trainer
 - Skills such as:
 - Theory utilization
 - Population assessment
 - Epidemiology
 - Policy Implementation
 - & More

THANK YOU

Graduate Committee

- Dr. Emily Mailey
- Dr. Gina Besenyi
- Dr. Mary McElroy

Lafene Staff

- Michael Campbell, MD.
- Jeff Kreuser

MPH Program:

- Dr. Ellyn Mulcahy
- Barta Stevenson