

### **Storyboard (urgent, 23 hour obs)**

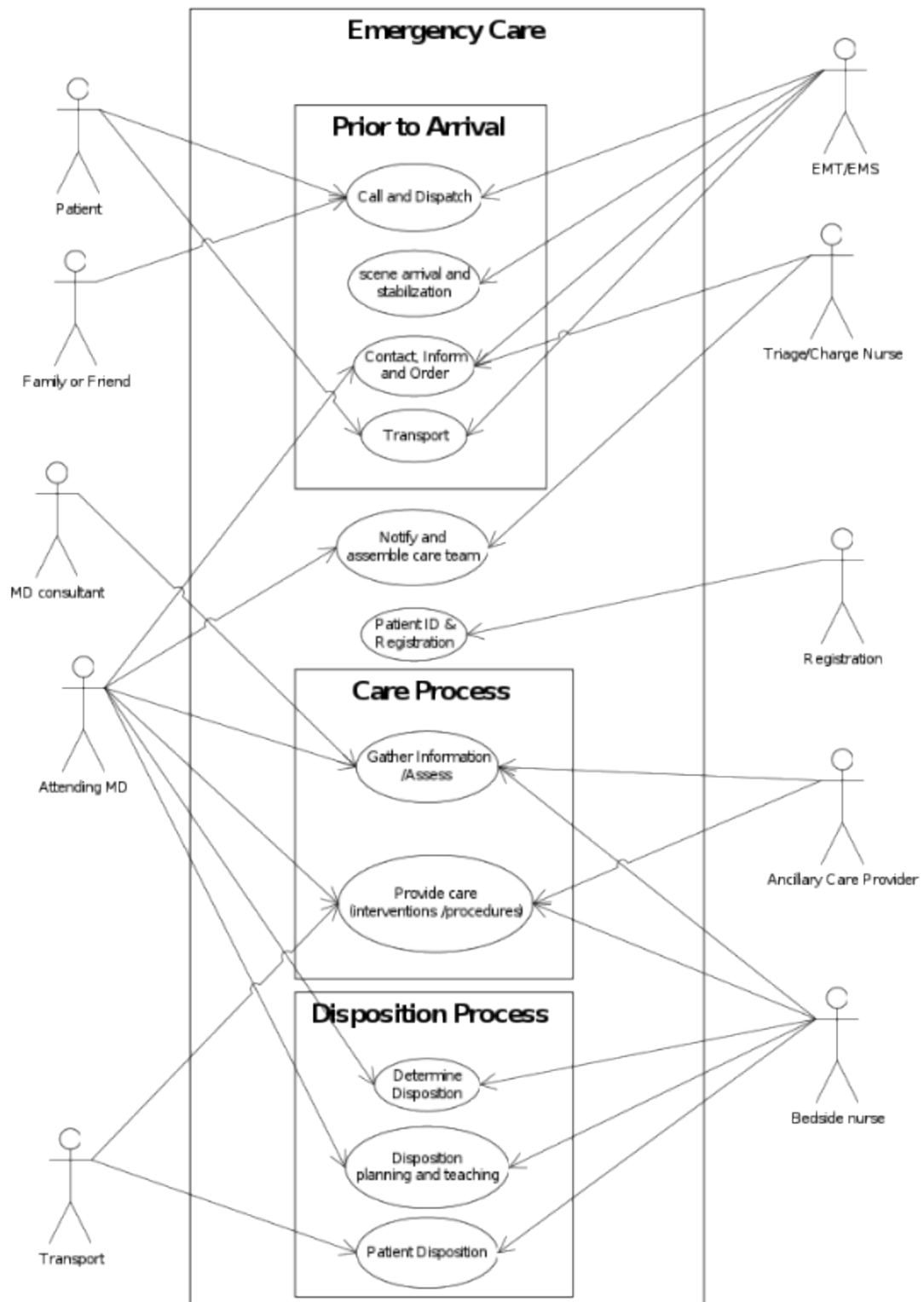
John Doe, an approximately 23 year old male with a history of alcoholism, is a victim of a single car accident in rural Nebraska. He is ejected from the car. Call is made to dispatch to activate S&S EMS. S&S EMS arrives at the scene, stabilizes patient, contacts the regional trauma center Rampart General by 800 MHz radio, to arrange transport by HeliMed. The helicopter is dispatched.

Nancy Nurse receives radio call from S&S EMS and collects basic information about John Doe and the accident. Lonnie Lifeflight, RN of HeliMed arrives on scene, assesses patient, and contacts Rampart General and requests and receives additional orders for medications. Dr. Ed Attending at Rampart General activates the Trauma Team to prepare for the patient's arrival. HeliMed brings John Doe into the ED. Upon arrival to the ED John Doe is taken to the trauma bay where the Trauma team follows the ATLS Trauma 1 protocols. Patient is stable and sent for xrays of c-spine chest and pelvis, and CT of head, abdomen and pelvis. Results of xrays and CT scans indicate no serious injuries. Laboratory results sent upon arrival are also within normal parameters.

Decision is made by Dr Ed Attending to admit patient for 23 hour observation due to the significance of the mechanism of injury.

*Normal CT, Normal Xrays requires 23 hour observation*

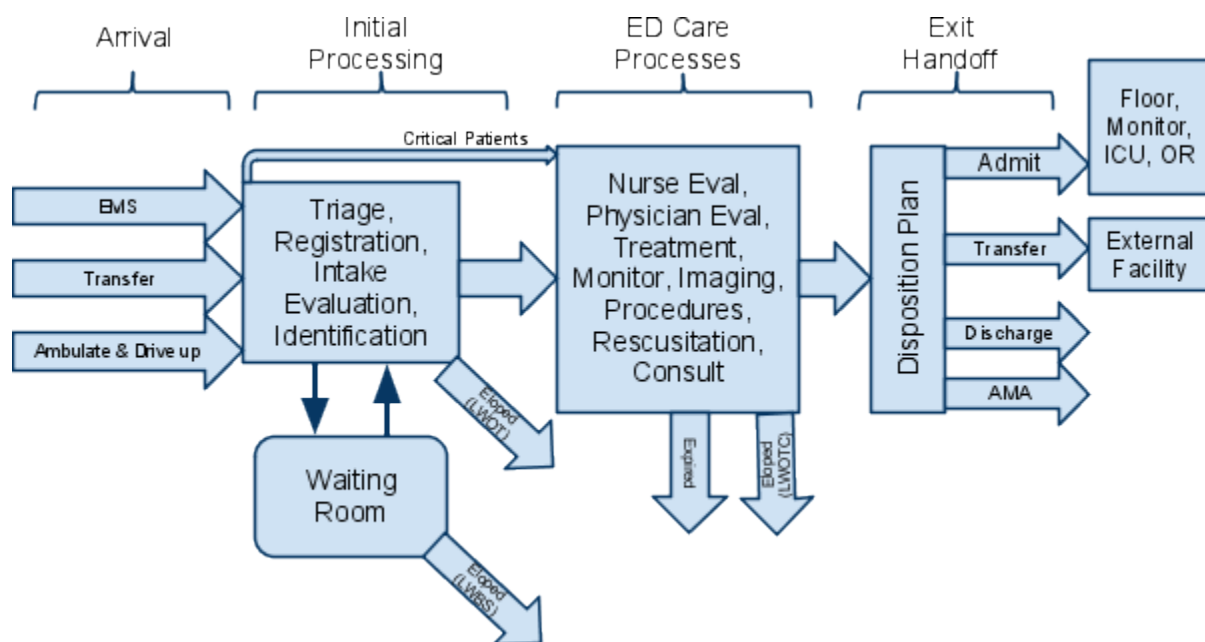
### **Use Case – UML model**



## Alternative paths

Name	Description
Emergent triage category with admission disposition	
Resuscitation triage category, Death disposition	
Urgent triage category, AMA disposition	
Urgent triage category, home disposition	
Urgent triage category, transfer disposition.	MVA victim is ejected – (see above). He is transported to the local community hospital. Injuries are assessed to be severe.
Non-urgent triage category.....	

## Activity Process Flow



Is there an "alternative pathway" worth noting, similar to "Critical Patients" to include those facilities which are using non-standard processes, such as those which do put patients in room before triage. ? disconnecting process with physical location = room"

## **ED Course Elements**

There are several elements that may occur during emergency visit, each detailed below. These elements can occur in parallel or series and they start and end at various times. There may be no elements, a subset of elements, or all elements. Additionally, any element may repeat depending on conditions. These elements can overlap chronologically with the unit admit and triage. They are generally defined by the fact that they occur after Unit Admit and are physician initiated. These course elements can be interrupted by a disposition/exit at any time.

### **Physician Evaluation**

Physician Evaluation consists of an interaction with a physician which results in documentation of patient history elements and physical exam findings.

### **Nurse Evaluation**

This is an interaction between the nurse and the patient which results in data

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### **Monitoring**

Monitoring is a time period during which staff watches for changes in condition. This is most frequently done via telemetry, non-interactive visual observation, and patient-initiated alerting.

### **Diagnostic Tests**

Various modalities can obtain additional information on the patient not available in the typical physician evaluation. There are typically performed an ED staff member or ancillary staff member. They differ from the physician evaluation in that they are requested by the physician (or equivalent) to obtain documented findings.

### **Treatment**

Treatment consists of actions performed on the patient which are meant to change the patients condition, not simply to provide an observable finding. However, an observable findings is often obtainable by result. These can be performed by a variety of providers.

## **Information Model**

For each identified process there is a set of concepts, documents, messages, and rules constraining the activity within the domain.

The Domain Information Model describes

Processes, terminology, detailed clinical models, documents, messages and the rules on how they interact.

Detailed clinical models are the rules for using terminology to describe clinical events.

Absent: Artifacts (tracking board, chart rack). Implementation model. What is the interaction between the information model and it's implementation.

Outcome:

## Glossary

## Business Triggers

## Business Rules

ynamic model constrained.

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## Catalog of artifacts:

Name	Organization	Reference/URL	Description	Application to DAM
ER-EHR	AHIC HITSP	<a href="#">HITSP IS 04 Emergency Responder Package</a>	Emergency Responder electronic health record.	
ER-EHR Use Case	AHIC	<a href="#">AHIC NHIN Implementation</a>	Use Case	
DEEDS	CDC		Data elements for Emergency Departments	Vocabulary and detailed clinical models.
Emergency Department Referral (EDR)	IHE	<a href="http://www.ihe.net/profiles/index.cfm">http://www.ihe.net/profiles/index.cfm</a>	allows clinicians to create electronic referrals to the emergency room including the nature of the current problem, past medical	

Emergency  
Department  
Encounter IHE  
Record  
(EDER)

[IHE document](#)

Prehospital  
Care report IHE

[http://wiki.ihe.net/images/9/96/Pre-Hospital\\_PCR\\_Brief\\_Proposal.doc](http://wiki.ihe.net/images/9/96/Pre-Hospital_PCR_Brief_Proposal.doc)

EDIS  
Functional HL7  
Profile

[http://www.hl7.org/library/Committees/emergencycare/EDIS\\_Functional\\_Profile\\_Version\\_0\\_6\\_2006-08-01.doc](http://www.hl7.org/library/Committees/emergencycare/EDIS_Functional_Profile_Version_0_6_2006-08-01.doc)

Triage Acuity ACEP  
Definition ENA

[Uniform Triage Scale](#)  
ENA ESI triage algorithm (\$\$)

Emergency  
Department  
Claims CMS  
Attachment

[Federal register description](#)

history, and medications.  
Upon arrival of the patient to the Emergency Department, the patient is identified as a referral, and the transfer document is incorporated into the EDIS. describes the content and format of records created during an emergency department visit. This profile will support recording information from EMS systems for delivery to the emergency room

Description of triage categories  
Legal definition of claims submission

ED Performance Measures	AHRQ	<a href="#">Paper source</a>	Definitions, measures of performance	Stages of care and e date elements.
ED Record Content	ACEP	<a href="#">ACEP information Paper - old</a>	Chart content	
EDIS Primer	ACEP	<a href="#">Paper Link</a>	Background info from ACEP	
HL7 specs	HL7	Version 3 ballot items related to ED. CCD specification, Detailed clinical models		
PHR/Health Record Banking specs		Have to talk to PHR workgroup to find current references. Lorraine Doo.		
eMeasures measures	HL7	<a href="#">HL7 Ballot</a> Navigate to the eMeasures under Universal Domains. Example: <a href="#">ED Admit time</a>	Representation of the Health Quality Measures Format	Bob Dolin presiding
HAvBED System	AHRQ	<a href="#">Specifications for HAvBED</a>	See appendix G for data specs	emsTraffic  status  (value)
<a href="#">CDA</a>	HL7	Relevant CDA definitions: Example LOINC document ID 34099-2 Cardiology Consultation Note. 28568-4 ED Phys visit note	34111-5, 34878-9 ED E&M note.	
National Voluntary Consensus Standards for Emergency Care	NQF	I have this in my files		

All ED clinical processes follow a model of assess-> interpret -> Plan -> act in cycles of varying levels of detail and time.

To make them discrete requires that the cycles have some way of remaining open until completed.