Member Names Sahil Bellare, Samuel Cheng, Lauren Gryder, Jerrard Hall, Yilin Li, & Yingying Zeng
Interviewed clinici Michelle Ossmann

Care Steps		Enter Hospital/Emergency	Reception	Triage/Initial Assessment	MD Assessment	Decision Point (Admit? Discharge?)	Initial Treatment	Waiting for Patient Transfer	Patient Care "Hand-off" and Patient Transport	Patient Arrives at Medical Inpatient Ward	Patient Transfer to ICU	Diagnosis: Patient in septic shock, decision to intubate and
Socio-Technical System	**People (Stakeholders)**	PT (Sam), PR (Sam's Wife)	PT, Admin (Receptionist)	PT, PR, RN	PT, PR, RN, ED MD, RT	PT, ED MD, On-Call Physician	PT, ED MD, RN, Pharmacist	PT, Bed Control Czar, RN, Other RN, ED Charge Nurse, Patient	PT, PR, ED RN, ED MD, ED Phlembotomy Team, Floor Nurse, RT,	PT, PR, Charge Nurse, Floor RN, Other Nurse, MD, Patient Transport, PCT	PT, PR, Floor RN, RRT, MD, RT, ICU Team, Bed Czar, Charge Nurse, ICU Charge	PT, ICU Charge Nurse, Admitting Nurse, ICU MD, APP, ICU RN, RT, Nephrology
	Built Environment	Entrance	Lobby, Reception area	Triage, Lab, Work Area	Provider Area, Waiting	Provider Area	Pharmacy, Provider area	Provider Area	Provider Area, Lab, Elevator, Corridors, Waiting Area, Public Restroom	Inpatient Ward	Inpatient Ward, Corridors, Elevator, ICU	ICU Room, Equipment Storage
	Tasks	PT: Open the door and enter the hospital; PR: Physically assist the patient into the hospital	PT: Give identification and insurance information, explain symptoms and pain level; Admin: document patients arrival, create a file for patient	PT: explain symptoms to Triage nurse; PR: assist the patient in explaining symptoms; RN: Take Vitals, documentation	RN: Re-check vitals, treament O2, notify RT of treatment, take blood; ED MD: document patient history, physical exam, order tests, make preliminary diagnosis	ED MD: make call to On-Call Physician to begin process of admitting patient, verbal orders; On-Call Physician: give orders to run more tests	ED MD: give orders to nurse, documentation; RN: give 2 liters IV fluid, call pharmacist to order medication; ED Pharmacist: fill prescription for ceftriaxone	Bed Control Czar: check bed availability, contact ED Charge Nurse; ED Charge Nurse: contact RN with verbal orders to move patient; RN: patient assessment, pass off patient to other RN, get meds, document all treatment	ED Phlembotomy Team: lab cultures; ED RN: contact Floor Nurse and give report before transfer, patient assessment, antibiotic administration, contact MD for request for examination; ED MD: see other patients, move patients quickly through ED, make decision to see previous patient again or trust nurse with care; Patient Transport: pick up patient for transport from ED to Floor	PR: confirm patient's inhaler use, fill in medical history blanks; Charge Nurse: Logs patient arrival contacts Floor RN; Floor RN: provide care to other assigned patients, check in with new patient, initial assessment, record vitals taken by other nurse, notify MD of patient's arrival, contact ED to give message to PR, complete intake assessment questionnaire; Other RN: take vitals of Floor RN's patient; MD: take history and physical exam, review labs, notes concern for sepsis	Floor RN: check vitals to confirm crash, contact MD and RRT, record events in EMR after transport; Charge Nurse: Bring PR to ICU; MD: respond to emergency situation, order fluids; RRT RN: assist in situation, rush patient to ICU; RRT Supervisor: call ICU and request transfer, notify bed czar of transfer	ICU RN: Prep patient, rapid exam, connect patient to monitors ICU, administer vaso active medication, sedation medication, assesment "time-out" bundles and identification, urinary catheder, look for PR, document all events with patient and discussion with PR; RT: brings mechanical ventilator, set initial settings; MD: Order blood tests, EKG, find portable ultrasound machine, diagnosis of Septic shock, intubation, CVC
	Technology and Devices	Door access for the disabled	computer, scanner	Stethescope, Blood Pressure Cuff, Computer? Pulse Auximitor, Vital Sign	oxygen tank, x-ray, EKG, IV, lab equipment	telephone	computer, IV, antibiotics, pneumatic tube	telephone, tube system, inhaler	lab equipment, telephone, antibiotics, oxygen tank, heart rate monitor, stretcher	computer, EMR, telephone, misc. vital sign equipment	telephone, stretcher, IV	oxygen tank, EKG, heart rate monitor, intubation kit, ventilator

Possible Problems	PT: It is hard to open a door as there is no button for disabled that automatically opens the door	PT: unable to verbally communicate his symptoms, forgets to mention a crucial piece of information, doesn't have proper identification Admin: human error, patient information incorrectly entered	technology error in reading vitals RN: human error in documenting	PR: in waiting room -- missing information ED MD/RN: verbal orders undocumented, onset of symptoms unknown, misdiagnosis, lengthy testing process	ED MD: loss of information in verbal communication, conversation and decisions undocumented, verbal orders given by On-Call Physician, suggestions made before patient is examined by On-Call physician	ED MD: verbal orders to nurse undocumented RN: must leave patients unsupervised to make trip to pharmacyPharmacist: human error, wrong dosage, wrong medication,	Bed Control Czar/ED Charge NurseOrders to transport patient given verbally, possible miscommunication RN: time it takes to travel to pharmacy, patient hand off Other RN: increased work load, does not know patient's history or treatment plan Patient	PR: Went to restroom and missed notification of PT transport ED RN: nurses request is dismissed by doctor, patient hand off is completely verbally via phone conversation ED MD: too busy with other patients see the patient Patient Transport: did not get the orders to bring heart rate monitor and oxygen tank -- delays, must go retreive	RN: treatment not communicated, antibiotic administration undocumented, nurses in this ward untrained to handle a crash, nurses busy with other patients on arrival MD: delay in patient visit, unaware of lactate levels, too busy to research Sepsis PCT: defers vital sign collection	Patient transfer causes problems and loss of information, emergency response events not fully documented, patient separated from family	crowding, dosage confusion, misstep on admission, side effects of medication, necessary equipment not readily accessible, estimated dosage, estimated ventilator settings, no time to admister drug the safest way, documentation performed in retrospect, information missingpotential compromise of the time out bundle, and the CLABSI Bundle,
Collaboration Events	people + people (face to face), people +	people + people (face to face), people +	people + people (face to face), people +	people + people (face to face), people +	people + people (phone call), people +	people + people (phone call,	people + people (phone call, face to	people + people (phone call, face to face), people +	people + people (phone call, face to face), people + technology	people + people (phone call, face to face), people +	people + people (phone call, face to face), people +

**** Abbreviation and Color for People (You can change the list below, but please be consistant with the color code that you use on the table)***

PT	Patient
PR	Providers
MA	Medical
Admin	Administrative
Other	Others

Member Names Ramtin Motahar
Interviewed clinician Dr Shapiro

Care Steps		Enter Hospital	Arrival to ED Reception	Triage	ED Treatment	Find Floor Bed	Transfer to Floor, Floor Treatment	Emergent Transfer to ICU	ICU Care	Placed on Life Support
Socio-Technical System	**People (Stakeholders)**	PT	PT, Admin (Receptionist), Security, PT Wife	Nurse Tech, PT	ER Physician, Respiratory Therapist, Lab	ER Physician, ER Nurse	Patient, Waiting Room Clerk, Rapid Response Team	Physician	Physician, Nurse, Chaplain	
	Built Environment	Entrance	Reception area	Triage Room	ED Treatment Area: Bed/Stretcher, Physician Work Area, Nurse Work Area, Lactation, Restrooms	ED Treatment Area	Floor Room: EMR Access		Single, Small Room: Packed with Medical Devices, Physician and Nurse Work Space, Medication Prep Area, Linen Storage, Communication Device, Computer Workstation,	
	Tasks	PT: Open the door and enter the hospital	PT: Provide Personal Info/Insurance Admin: Take Personal Info/Insurance	MA: Move PT from Traige to Providor Area, Take Vital Signs	Give Oxygen, EKG, Take Blood, Decide on Disposition	Find Bed to Admit Patient, ER Physician Report to On-Call Hospital Physician, ER Nurse Report to ICU Nurse	Hand Off Report, Communication Between ED Physician and ED Nurse About Transport, Report Called from Lab to ED, Transfer to Bed, Vital Signs Taken, Communication to PT Wife, Nurse Picks Antibiotic Treatment, Identify Sepsis, Physician Comes Up With Plan, Give Patient Treatment Plan, Check EMR for Additional Info, Ask	Get PT Wife Info	Check for Heart Attack, Central Line IV, Rounds: Medication, Bathed, Turned Every 2 Hours, Bowel Check, Monitored Continously, Interpret Monitors, Invasive Test	Sedation Medication Giver, Physician Decision to Place on Life Support, Intobation, Ventilator
	Technology and Devices	PT: Door access for the disabled	PT: Wheelchair Admin: Provide Wheelchair	MA: Vital Sign Monitor	Chest Xray, EKG, IV Pump		Patient Factor from ED, Digital Library for EMR to Search for		Central Line Insertion, Bronchoscopy,	Central Venous Catheder

Possible Problems	PT: It is hard to open a door as there is no button for disabled that automatically opens the door	PT: Disoriented, Not Fully Aware of Surrounding Admin: Interoperability of Health Records, Record Keeping from Monitors, Communication b/w Wife and Care	PT Wife in Waiting Area	Failure to Identify Sepsis, Failure to Follow Sepsis Protocal	Failure to Find Bed in ICU for Patient	Lab Results Not Reaching Producer, Nurse Delay, IV Fluid Empty, Antibiotic Empty, No Blood or Sputum Culture Area in Lab System	Unable to Locate PT Wife Immediately	Distrust b/w PT Wife and Medical Staff, PT Does Not Get Enough Rest	Nurse Begins Documentation Retrospectively, Patient Didn't Want Life Support, Miscommunication b/w Nurse and Physician

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PT	Patient
PR	Providers
MA	Medical Assistants
Admin	Administrative
Other	Others

Member Names Interviewed clinician	Kelsey Hollington Dr. Murphy; Nicolas Tailhardat; Jing Shni; Teng Shao; Brian Sudduth

Care Steps		**Enter Hospital**	**Reception**	**Triage**	**Provider Area**	**Provider Area**	**Provider Area**	**Provider Area**	**Provider Area**	**Provider Area**	**Inpatient Ward**	**Provider Area**	**Inpatient Ward**	**Inpatient Ward**	**Inpatient Ward**	**Inpatient Ward**	**Inpatient Ward**	**Inpatient Ward**	**Inpatient Ward**	**ICU**	**ICU**	**ICU**
	People (Stakeholders)	PT	PT, Admin (Receptionist)	PT, MA	PT, ED nurse	PT, ED physician	PT, Radiation Tech, MA	PT, ED physician	PT, ED nurse	PT, Bed Control Czar	PT, Nurse	PT, Transport Tech	PT, Receiving Nurse	PT, Inpatient Nurse	PT, Physician	Wife, Inpatient Respiratory Therapist	Patient, Wife, Patient Care Tech, Nurse	Patient, RRT	PT, Bed Control Czar	PT, Change Nurse, Admitting Nurse, ICU Physician	PT, PR	PT, Wife, Admitting Nurse, ICU Physician
	Built Environment	Entrance	Reception area	Triage area	Emergency Department	Emergency Department	Emergency Department	Emergency Department	Emergency Department	Emergency Department	Hospital Room	Emergency Department	Hospital Room	Hospital Room	Hospital Room	Hopsital Room	Hopsital Room	Hospital Room	Hospital Room	Hospital Room	Hospital Room	Hospital Room

Socio-Technical System	Tasks																				
		PT: Open the door and enter the hospital	PT: Gives Admin. Information to check-in Admin: Takes and enters patient's information for check-in	PT: Follows MA to Triage area MA: Takes patient's vital signs	PT: Walks to provider area in ED ED Nurse: Confirms triage information, rechecks vitals, notifies ED respiratory therapist and starts supplemental oxygen	PT: Waits on ED physician, Gives ED physician information on medical history, medication, etc. ED Physician: Takes Patient's medical history, administers physical exam, orders EKG and chest x-ray	PT: Follows instructions for the tests being administered Radiation Tech: Administers chest x-ray; MA: administers EKG	PT: Waits on ED physician for diagnosis ED Physician: Diagnoses pneumonia based on chest x-ray, places IV, takes bloodwork, decides to admit patient to inpatient ward and calls	PT: Waits on ED nurse for antibiotics ED nurse: IV, bloodwork, leaves to get antibiotics; 2nd ED nurse: watches patient while other nurse gets antibiotics	PT: Waits on ED nurse for antibiotics Bed Control Czar: requests for transport to move patient to inpatient ward	PT: Waiting on care from nurse Nurse: gives patient fluids, checks on antibiotics for patient	PT: Moved to transport bed Transport Tech: moves patient to transport bed (with help form ED nurse) and takes patient to inpatient ward	PT: Waiting on care from nurse Nurse: checks vitals, gives notes to assigned nurse	PT: Waiting on care from nurse Nurse: checks and records vitals, calls ED nurse to contact wife, calls for antibiotics	PT: Waiting on care from nurse Physician: takes medical history, performs physical exam, checks record from ED, writes plan for patient, looks up info for sepsis but gives up	Wife: gives respiratory therapist medical information on patient Respiratory Therapist: checks oxygen level on patient, speak with patient's wife	Patient Care Tech: introduces himself, leaves because patient is sleepy Nurse: asks wife for care wishes, checks vitals, calls rapid response team	RRT: Stablizes patient, calls ICU to notify them of this patient	Bed Control Czar: requests for transport to move patient to ICU	Physician: orders tests and labwork, determine patient is in septic shock, ultrasound Nurse: takes physician's orders, administers sedating medications	PR: administers CVC kit	Physician: consults nephrology service for assistance, inserts urinary drain, performs intial formal assessment Nurse: takes wife into room, documents events
	Technology and Devices	PT: Door access for the disabled	PT: Identification Card and Insurance Card Admin: Computer	MA: Blood pressure cuff, Watch	ED nurse: Blood pressure cuff, Watch, Oxygen tank, Computer, Phone	ED physician: Computer, Phone	Radiation Tech: portable x-ray machine, Computer MA: EKG equipment, computer	ED physician: Computer, Phone	ED nurse: Computer, Phone, IV, bloodwork equipment	Bed Control Czar: Phone	Nurse: IV fluid bags	Bed Control Czar: Phone	Nurse: sticky note, bloodpressure cuff, watch	Nurse: Computer, Phone	Physician: Computer	Respiratory Therapist: oxygen tank	Nurse: bloodpressure cuff, watch, phone	RRT: fluids, oxygen, phone	Bed Control Czar: Phone	Physician: portable ultrasound Nurses: pen and scrubs, medication, IV	PR portable ultrasound; CVC kit; sterile drapes, towels, gloves, mask	Physician: computer, urinary drain, phone Nurses: computer

Possible Problems	PT: It is hard to open a door as there is no button for disabled that automatically opens the door	PT: Does not have proper identification, Unable to give good description of medical problems Admin: Enters patient's information incorrectly	PT: Difficulty moving to triage area	PT: Difficulty moving to provider area in ED ED nurse: Difficult to communicate with respiratory therapist	PT: Required to wait on ED physician ED physician: Difficult to communicate with technicians	PT: Set-up for the tests, does the patient still need oxygen while being tested MA and Radiation Tech: Moving equipment from storage to ED	PT: Required to wait on ED physician ED physician: Difficult to communicate with inpatient ward	PT: Required to wait on ED physician ED physician: Difficult to get medication	PT: Waiting for antibiotics and to be moved Bed Control Czar: Communication with transport tech and waiting for transport bed to be available	PT: Waiting for antibiotics and to be moved Nurse: unaware of any changesin patient before hand-off	PT: Waiting for antibiotics Transport Tech: dealing with oxygen tank, not trained to detect any possible issues with patient	PT: Waiting for antibiotics and assigned nurse Nurse: unaware of any changes in patient before hand-off	PT: Waiting for physician Nurse: no report of fluid or antibiotics given to patient in ED	PT: Wife never contacted Physician: limited information from ED, limited access to "quick factsheet" for sepsis	Wife: has not heard any diagnosis Respiratory Therapist: unaware of changes in heartrate and breathing throughout time in ED and hospital, unaware of use of inhaler before move	Patient Care Tech: letting patient rest instead of following procedure	RRT: communicating with the ICU and bed control czar	PT: Unconscious Bed Control Czar: Communication with transport tech and waiting for transport bed to be available	Physician: finding correct machine and medications, not having Nurse: procedure is broken because of severity of disease and lack of time	PR: not aware of care wishes given by wife	Wife: finds husband on life support when that was not in the care wishes	

Abbreviation and Color for People (You can change the list below, but please be consistant with the color code that you use on the table)

PT Patient

PR	Providers
MA	Medical Assistants
Admin	Administrative assistants
Other	Others
Nurse	Nurse

Member Names	Margaret Black, Newton Chan, Jarrett Mackey, Kia , Pavan Thaker					
Interviewed clinician	Christie Hunt					
Care Steps		**Enter Hospital**	**Reception**	**ED**	**Floor/Ward**	**The Unit**
Socio-Technical System	**People (Stakeholders)**	PT, Wife	PT, Admin: Receptionist	PT, MA: ED Nurse, ED Respiratory Therapist, Pharmacist, Lab Technicians, Triage Nurse, PR: ED Physician, On-Call Physician	Wife; Nurse colleague; inpatient nurse; Charge nurse; assigned nurse; transport tech; hospital medicine; attending physician; other patients	Advanced Practice Provider, Respiratory Therapist, Nurse Colleague, ICU Physician, Admitting Nurse, Charge Nurse
	Built Environment	Entrance	Reception area	ED Provider Area	Ward	ICU
	Tasks	PT: Open the door and enter the hospital	PT: relate symptoms to receptionist Admin: enter data into computer	Diagnosis; Taking Vitals; Blood Work; Moving Patient; Recheck Vitals in ED; Breathing Assistance; Admit Order	Tell wife husband admitted; Transfer patien; Re-Diagnosis; Physical Assesment; Log Arrival; Checking Documentation; Respiratory & Telemetry; Calling about wife in waiting room; intoductory assestment	Diagonsis of septic shock, biopatch process, intubation, sedation of patient, re-assesment of vital signs, lab testing, verbal lab orders, estimation of weight, central line insertion, Ekg tests, sterlizing the environment, intial assesment of vital signs, monitoring arterial pressure, ultrasound, monitor cup.
	Technology and Devices	Automatic doors	Admin: Computer	Vital Sign Equipment; Supplemental Oxygen Device; IV Equipment	EMR; Vital Sign Equipment; Sticky Note	Cvc kit, ultrasound machine, digital video laryngoscope, mechanical ventilator, beside monitor of vital signs, intubation kit, pants with information written on them, portable ultrasound machine, ABC's equipment, equipment for Ekg process

Possible Problems	PT: It is hard to open a door as there is no button for disabled that automatically opens the door	PT: Unable to verbally communicate symptoms, forgets to mention crucial piece of information Admin: Patient information incorrectly entered	Loss of Resources (i.e., when the wife separates from her husband, the MA & PR are unable to gather the most detailed information about the PT), Poor communication between ED physician and on-call physician leads to loss of information; Poor communcation between triage nurse and ED nurse	Lack of transfer of critical results; Records vital signs on sticky note; No IV fluid antibiotics documented; contacting wife; No fluids or antibiotics given on ward; MA/PR: did not check brain activity while PT was resting.	Control line inserted quickly (CLABSI), Uncertianty of when antibiotics given, Nurse didn't have time to see patient until the end of her shift, Consent no sought even with wife close by, Unclear communication (nodding without looking up or verbal confirmation), nurse assumes MD understands bad vital signs, pH high O2 58%, Technical incompatibility (no image recorded), didn't weigh patient, misplace machine (more time), weight & height not collected, could not intubate, retrospective data input, technology incompatible, dopamine given instead of norepinephrine, wife not informed, nurse scribles lab request on her scrubs), PR has to leave PT to get an ultrasound machine	

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Admin	Administrative assistants
Other	Others