



ED Software & Patient Care at TSH

Susie Thibeault, BScN, MIST
Manager, Clinical Informatics &
Applications

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Outline

- TSH context
- Project Goals
- Accomplishments
- What's next...

TSH Context

- TSH is a multi-site urban community hospital:
 - 2 hospital sites (both equipped with ED) & 5 satellites in Toronto: ~645 beds
- In 2004-5, TSH had:
 - 44,319 surgeries, 91,535 ER visits & 5,721 births
- Using Meditech Magic since 1993 & currently using version 4.9 SR6

TSH-ED Context...

- ❑ Staff numbers: 140 nurses, 21 ER clerks, 51 Registration clerks & 44 MDs
- ❑ Capacity at each campus: Grace: 30 stretchers – General: 52 stretchers
- ❑ Using MSM tracker at the General since 1998 & whiteboard at the Grace
- ❑ All documentation on paper

Project Goals

TSH wanted to:

- Increase patient satisfaction
- Increase staff satisfaction
- Provide accurate indicators of its performance



Why EDM?

- ❑ Online whiteboard fully integrated to other Meditech modules & available from any PC in ED at both campuses
- ❑ Ability to view which nurse/physician is caring for patient
- ❑ Supports a model based on best practice guidelines in patient care

EDM has...

Increased patient satisfaction by

- Providing a consistent method for triage of patients
- Improving turnaround time for test results
- Providing standardized & personalized discharge instructions
- Improving quality & timeliness of information available to patients and their families

EDM has...

Increased staff satisfaction by

- Making patient information available to all clinicians involved in the care of the patient
- Streamlining the processing of patients
- Providing a model of interdisciplinary cooperation in the care of the ER patient

EDM has...

Provided accurate indicators of ER performance by

- Providing accurate data for provincial & federal reporting agencies
- Providing data for benchmarking & comparison with peers

Scope of Phase 1

- Implement EDM Tracker with Reception & Registration through EDM
- Support online documentation of Triage
- Provider Order Management (POM) for Nursing only (no medication or IV orders)
- Point of care carts with wireless network access for both EDs

Accomplishments

2005/09/15

CC Generates Triage

- ❑ EDM was created with 175 Chief Complaints (CC), based on CEDIS (Canadian Emergency Dept Info System) Presenting Complaints list
- ❑ Exhaustive list of look up indices map user to the appropriate CEDIS chief complaint

Triage Assessment

The patient care standard is:

- All ED patients get Triage Assessment
- CTAS (Cdn Triage & Acuity Scale) level defines when patient is reassessed while waiting for ER admission:

CTAS Level	Time to Reassessment
Level 2	Every 15 minutes
Level 3	Every 30 minutes
Level 4	Every 60 minutes
Level 5	Every 2 hours

Private Tracker

Main ER (Patient Based) (SP=Main ER)																
Current Patient		Burling, Janice - 23/F							GE000235/04							
C	RM	NAME	TR	AGE	S	CHF_COM	ERMD	CONS	CL	L	E	X	C	U	STAT	SERV
	→	RES 02	Demo, Grace	2	44	M SOB	SOBE	Birm	2	█	█	█	█		PROC	ORT
		RES 03	Grace, Abby	3	42	F ABD PAIN	HUES			█					PROC	
	→	RM 03	Mermaid, Little	2	33	F >20WKS PREG	SOBE								NEW	
	→	RM 04	Burling, Janice	3	23	F FLANK PAIN	SOBE		2	█			█		ARQ	SUR
	→	RM 07	White, Snow	4	34	F CP	RED								MD2C	
	→	RM8 03	Bunny, Bugs	4	64	M DYSPHAGIA	SOBE								RNRA	
		RM8 07	Cruise, Tom	3	45	M CP	EDMD								TRGD	
	→	OBS 01	Fudd, Elmer	2	55	M CP	RED								NEW	
		OBS 01	Minnie, Mouse	3	26	F VAG BLEED				█			█		INTR	
		OBS 03	Lagamon, Virginia	3	48	F EPISTAXIS	SOBE	HoPi							MD2C	CC
			Pickles, Tom			M EARACHE	RED								REG	
			Charming, Pi		44	M CELLULITIS	RED								REG	
							RED								REG	

Indicator of outstanding Triage Assessment

- Recpt
- Trg/Doc
- Rm/Staff
- Adv St Ev
- Orders
- Order Sum
- Clin View
- PCI
- Comment
- Call Mngt
- Adm Req
- Forms
- Trackers
- Go To

ED Triage Nurse



Orders based on CC

- ❑ Based on pre-approved Medical Directives, most Chief Complaints are connected to an order set.
- ❑ They appear the first time the nurse accesses <Orders> for the patient in EDM
- ❑ They are not pre-checked because they require a medical order prior to submission

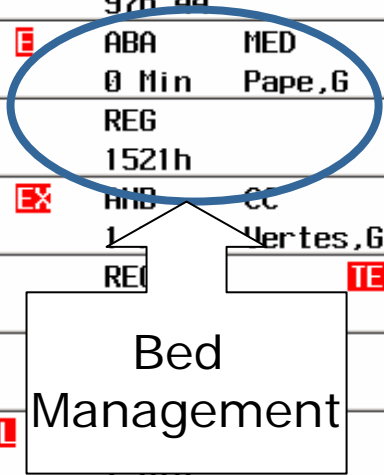
Tracking Hospital Admissions

- History: Backlog of patients in ER caused by inability to locate an available bed in the hospital
- Tracker can assist Charge Nurse with updates on status of bed availability based on time since update of Status Event:
 - ARQ: Admit Bed Request
 - ADM: Request Received by Admitting
 - ANB: Admitted no bed
 - ABA: Admitted bed assigned

Bed Management

Charge Nurse Tracker (SP=Main ER)											
Current Patient		Davis, Scott - 22/U						HE000560/04			
C	RM/U/P	NAME/AGE S	TR	CHFCOM/TIME	MD/CONS	CL	LEXCU	SE/TIME	ARQ	TEL/MD	
<input checked="" type="checkbox"/>	RM 01 U	Davis, Scott 22 U	4	RASH 1634h 5	HUES PAP			TRGD 1634h			
<input type="checkbox"/>	RM 01	Merrithew, Edith 86 F	3T	CP 605h 58	RED			REG 605h 5			
<input type="checkbox"/>	RM 02	Cube, Ice 21 F	3	CP 68h 47m	PERL			TRGD 68h 41			
<input type="checkbox"/>	→ RM 03A P	Jay, Blue 02MM	3	CP 1749h 5	HUES	2		REG 21 Min	PAED	TEL	
<input type="checkbox"/>	RM 03B P	Houlihan, Hotlip 54 F	3T	ABD PAIN F 97h 47m	KELT			REG 97h 44			
<input type="checkbox"/>	→ RM 03C	Fry, French 32 M	3T	BURN 1785h 3	HUES	2		ABA 0 Min	MED Pape, G		
<input type="checkbox"/>	→ RM 04 P	Tse, Terry 23 F	3T	BACK PAIN 1659h 1	SOBE			REG 1521h			
<input type="checkbox"/>	→ FAMILY	Doo, Scooby 24 M	3	BACK PAIN 1785h 3	HUES	2		AMB 1	CC Vertes, G		
<input type="checkbox"/>	HAL 01 U	Mop, Floor 29 M	T	SOB F 536h 42	PAP			REG		TEL	
<input type="checkbox"/>	HAL 02	Oreilly, Radar 54 M	2T	ALLERGIC 97h 46m	HUEB						
<input type="checkbox"/>	HAL 03	Merrithew, Marga 76 F	3T	CP 606h 16	ABRA						

- Adv St Ev
- Call Mngt
- Recpt
- Trg/Doc
- Orders
- Reg
- Pt Notes
- Rm/Staff
- Pt Rpts
- PCI
- Depart
- Adm Req
- Rebuild
- Go To
- Trackers
- Comment
- Order Sum
- Clin View
- Forms



Patient Education

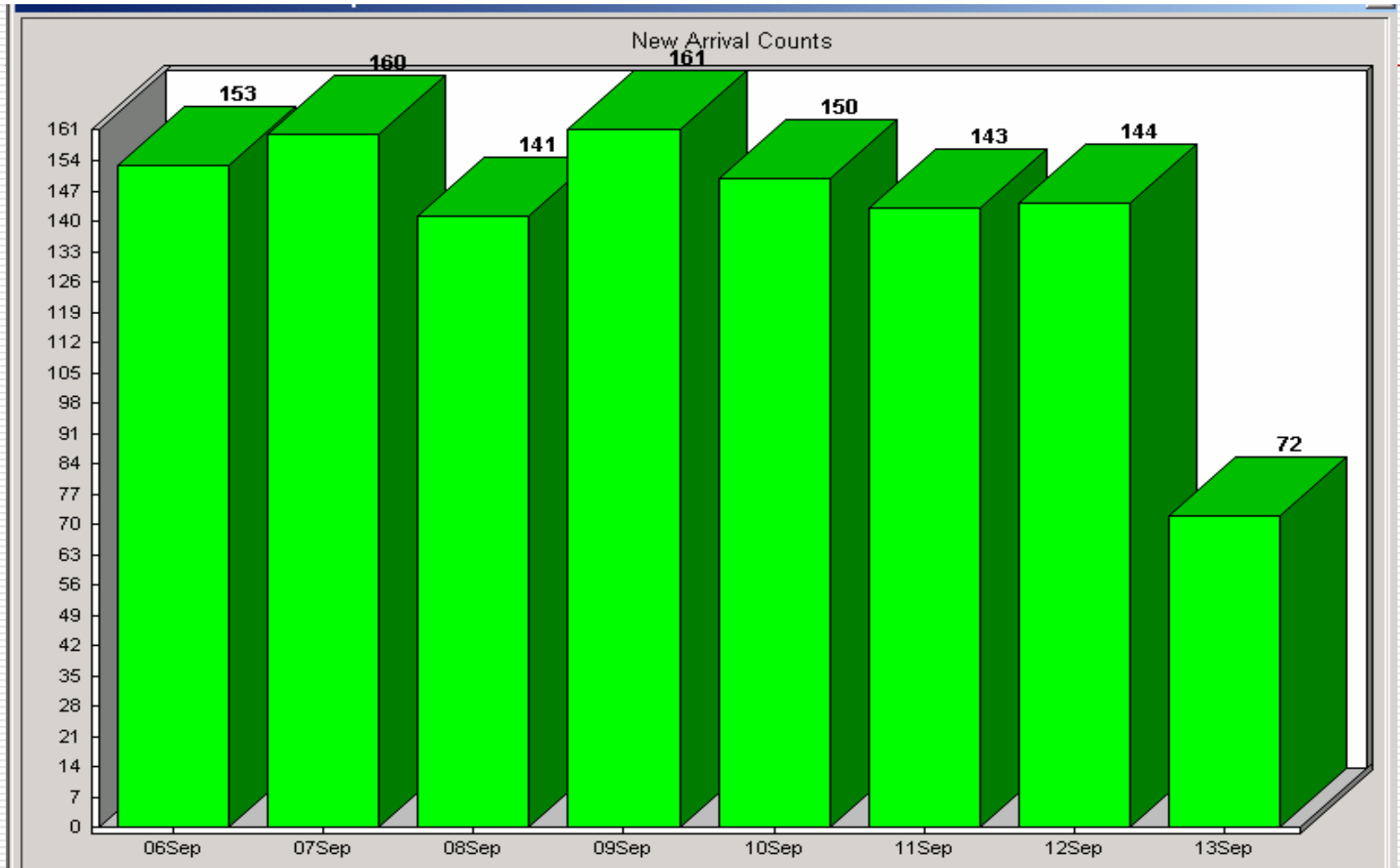


- Opportunity to provide up-to-date personalized patient information through Forms process

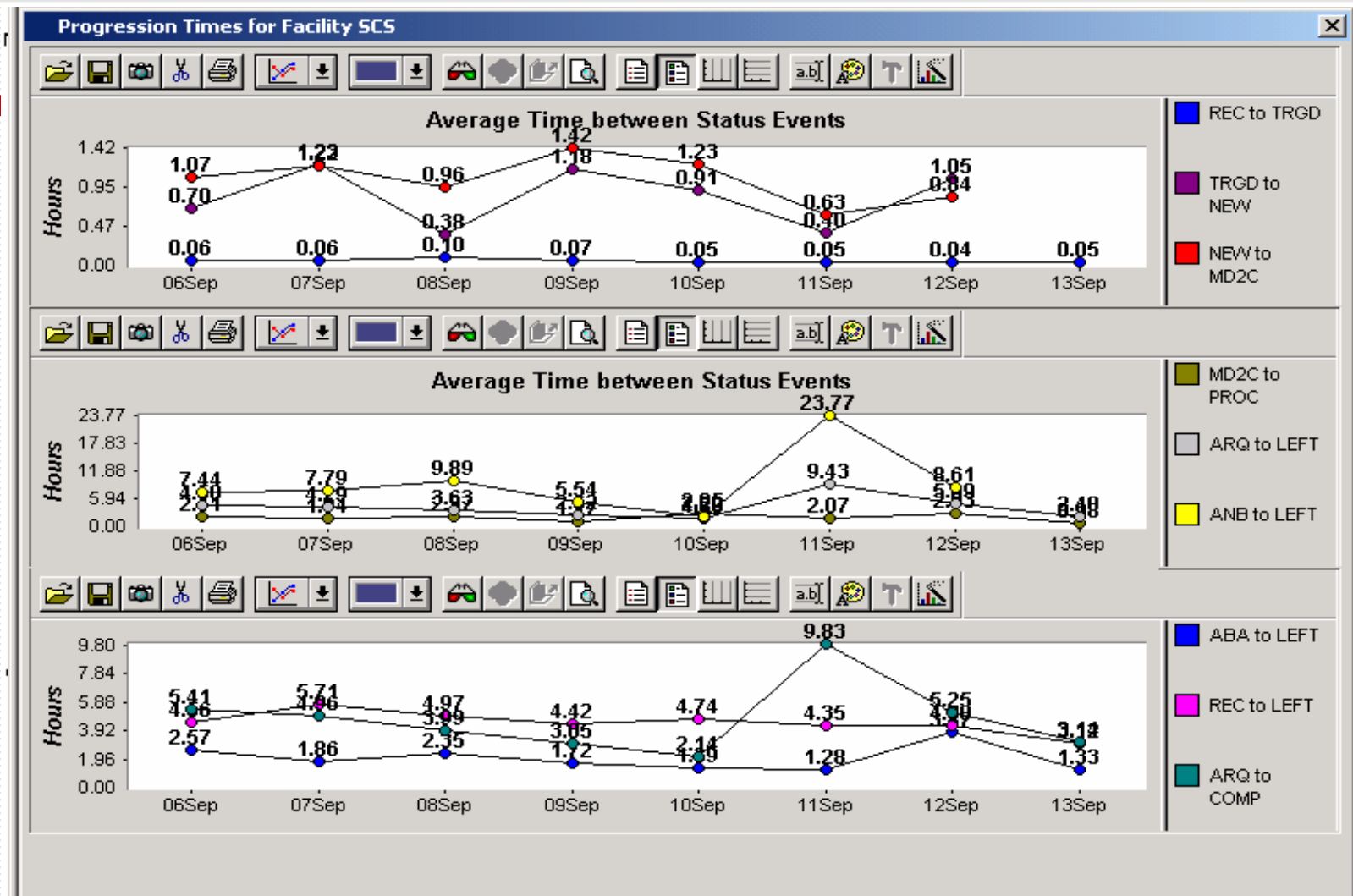
Patient Education Forms

Main ER		Consent Forms		0 checked		X	
Current F		Previous Page				Next Page	
<input type="checkbox"/>	C RM	Health Card Instruction					
<input type="checkbox"/>	RE	Promissory Note					
<input type="checkbox"/>	RM	WCB Instruction					
<input type="checkbox"/>	RM	Cast Care Instruction					
<input type="checkbox"/>	RM	Eye Infections Instruction					
<input type="checkbox"/>	RM	Head Injury Instruction					
<input type="checkbox"/>	RM	Progress Note					
<input type="checkbox"/>	RM	Sprain & Bruise Instruction					
<input type="checkbox"/>	HA	Suture Instruction					
<input type="checkbox"/>	HA	Tetanus Instruction					
<input type="checkbox"/>	HA	Vomitting (A) Instruction					
<input type="checkbox"/>	HA						
<input type="checkbox"/>	HA						
<input type="checkbox"/>	HA						
<input type="checkbox"/>	HA						
<input type="checkbox"/>	HA						

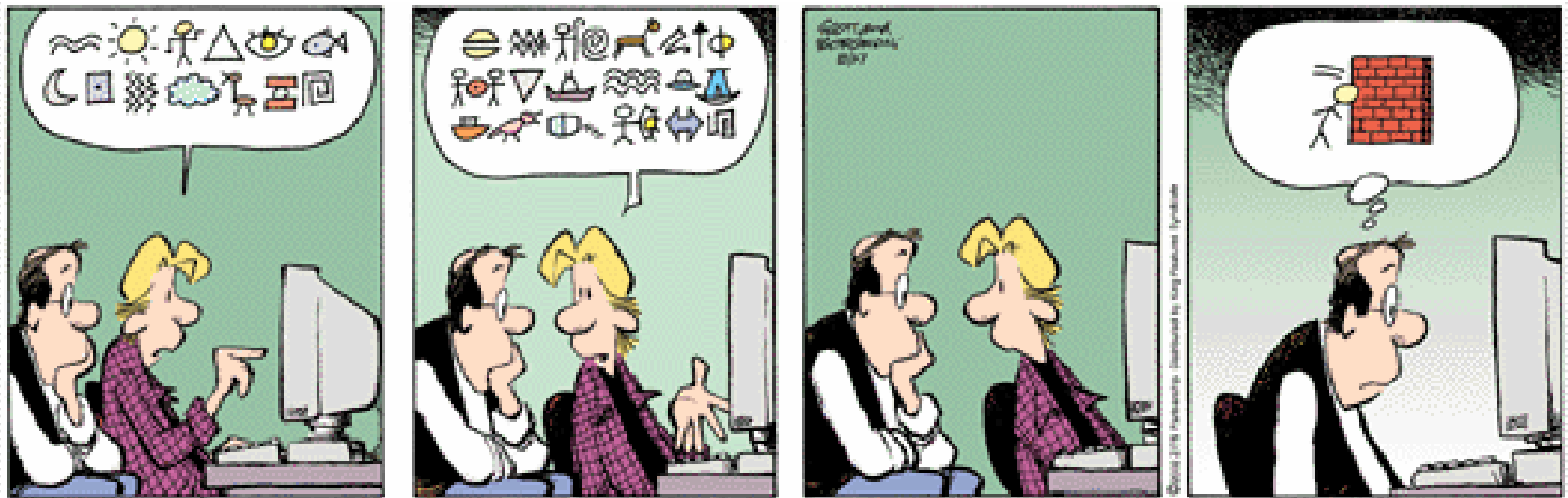
GPA (Graphical Performance Analysis)



GPA



Training Challenges



Support Brochures/Manuals

- EDM Made Easy
- EDM Triage Made Easy
- EDM Quick Reference Cards – attached to PCs
- Training Manual for Nurses & Clerks
- Training package for Registration Staff

Training...

- DO NOT forget the MDs:
 - 2 physicians on EDM Steering Committee
- MDs require 1:1 training by super user or educator – limited MT skills
- MDs defined their trackers & menus
- “EDM Made Easy for Physicians”

MD in Action...



Wireless Technology

- ❑ Both ED, including Registration, now have wireless access throughout the area
- ❑ Dell Motion Computing Tablet PCs on mobile carts for Triage area
- ❑ Ergotron Styleview carts with 17-inch screen & Dell SX 280 PCs
- ❑ 19-inch monitor to view Public Tracker



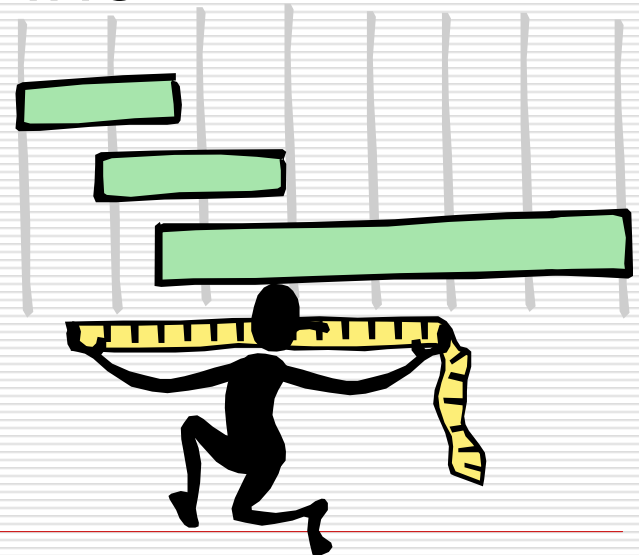
“ROVER”

Public opinion...

- Throughout the implementation process and still today, TSH has managed to keep its reputation for having one of the shortest wait times for patients arriving by ambulance...

What's Next for EDM

- Phase 2 - All remaining Nursing & Allied staff online documentation
- Phase 3 - Physician online documentation:
 - Medical orders
 - Prescriptions
 - Progress Notes



References

- Canadian Department Triage and Acuity Scale: An Education Program for Emergency Nurses, M.J. Murray & L. LeBlanc, 2004
- <http://www.caep.ca/002.policies/002-02.ctas.htm#guidelines>
- <http://www.caep.ca/002.policies/002-03.cedis.htm>

Questions...

Susie Thibeault -
sthibeault@tsh.to
416.495.2701, ext. 5496

