

Recognition and Treatment of the Deteriorating Patient

Rapid Response Systems for Ireland?

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November 2010



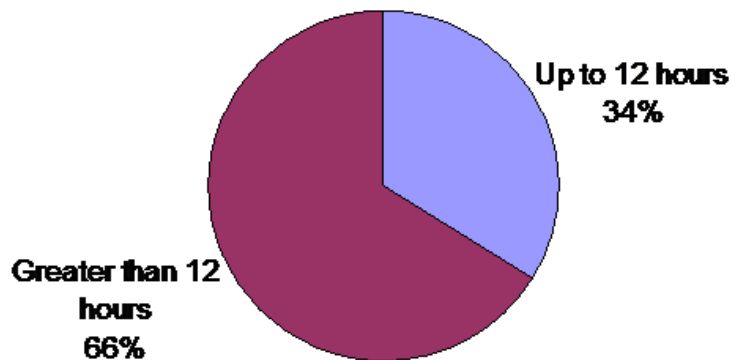
- Delayed or inappropriate treatment
- 66% of patients had physiological instability for more than 12 hours prior to ICU admission
- ***No consultant had seen 17 out of 40 patients who died within 24 hours of admission***



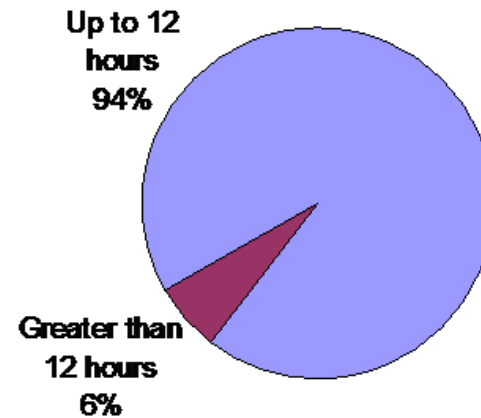
Duration of instability

Time between first physiological instability and referral to ICU

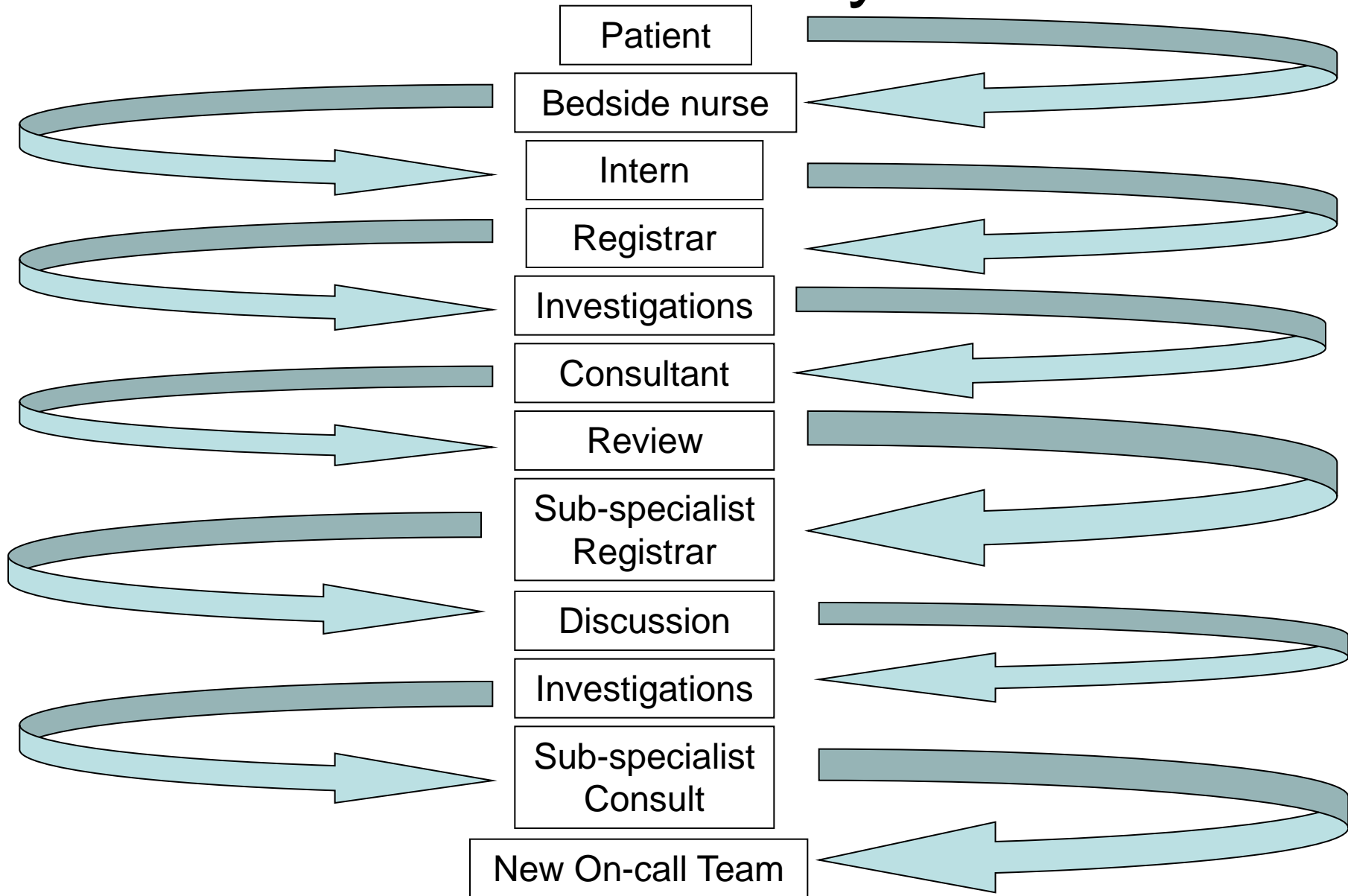
Patients that were in hospital for more than 24 hours prior to ICU admission



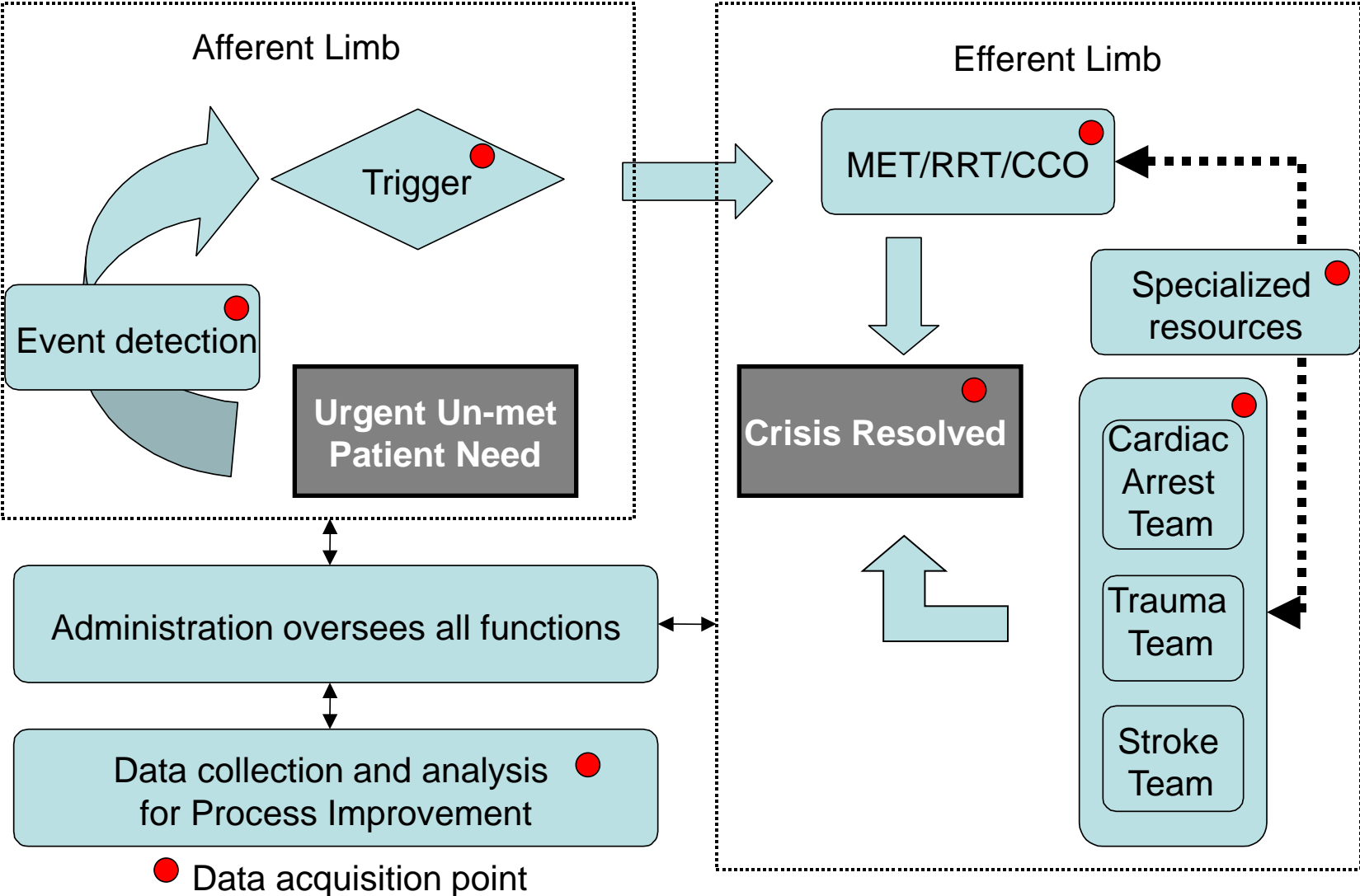
Patients that were in hospital for 24 hours or less prior to ICU admission



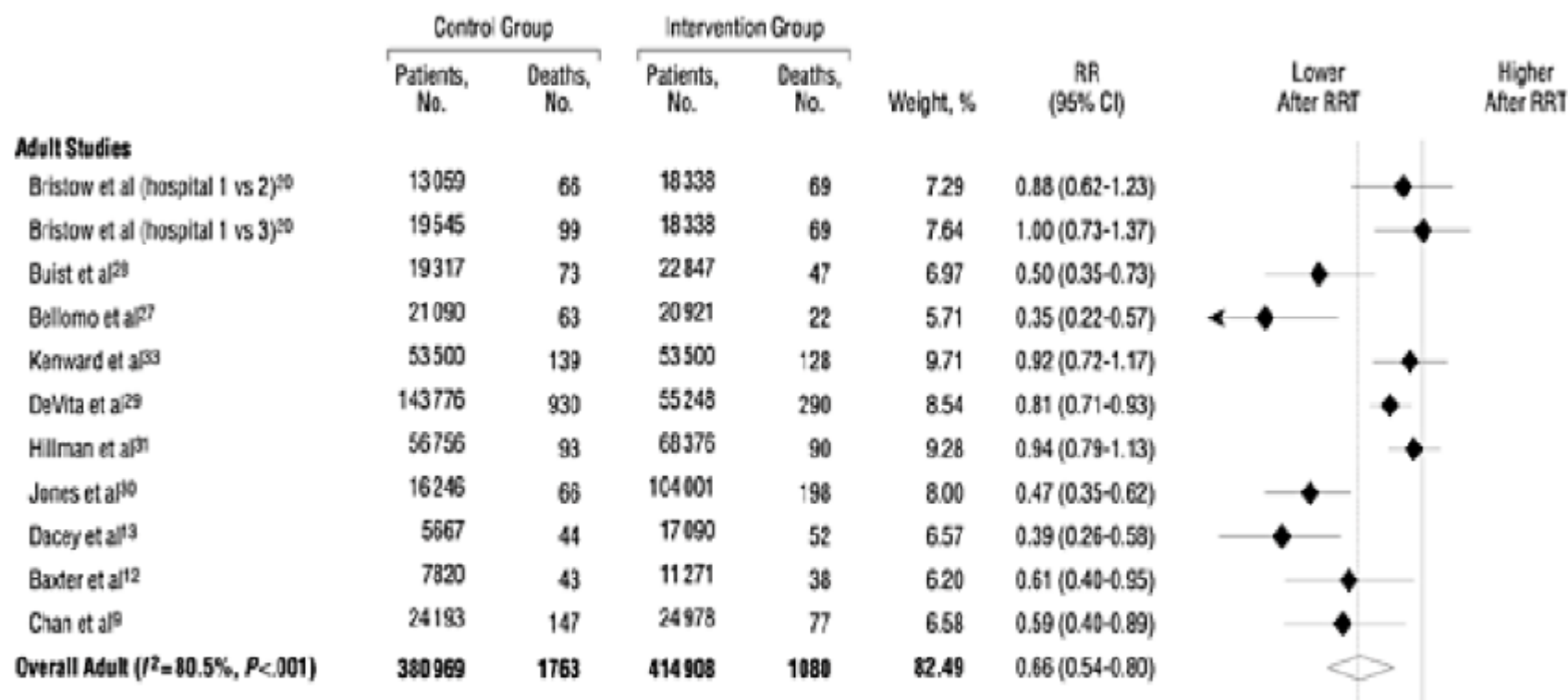
Futile Clinical Cycles



Rapid Response System Structure



Results of meta-analysis



34% ↓ cardiac arrests

WHY WOULDN'T YOU CALL FOR HELP? Junior Docs...

- The patient had been previously assessed by the consultant and was felt to be “okay”
- I have experience managing such patients and don't need help
- My experience of these patients is that they usually get better by themselves
- On the whole getting help is more trouble than it is worth
- Don't know

Buist never to be published 2005

SBAR REPORT TO A PHYSICIAN

BEFORE CALLING THE PHYSICIAN

1. Assess the patient
2. Review the chart for the appropriate physician to call
3. Know the admitting diagnosis
4. Read the most recent Progress Notes and the assessment from the nurse of the prior shift.
5. Have available when speaking with the physician:



Chart, Allergies, Meds, IV fluids, Labs / Results

S

SITUATION

State your **name and unit**

I am calling about: **(Patient Name & Room Number)**

The **problem** I am calling about is:

B

BACKGROUND

State the **admission diagnosis and date of admission**

State the **pertinent medical history**

A Brief Synopsis of the **treatment to date**

A

ASSESSMENT

Most recent vital signs:

BP _____ Pulse _____ Respirations _____ Temperature _____

The patient is or is not on oxygen

Any changes from prior assessments, such as:

Mental Status	Respiratory rate/quality	Retractions / use of accessory muscles
Skin Color	Pulse /BP rate/quality	Rhythm changes
Neuro changes	Pain	Wound drainage
Musculoskeletal (joint deformity, weakness)		G/GU (Nausea / Vomiting / Diarrhea / Output)

R

RECOMMENDATION

Do you think we should: (State what you would like to see done)

- Transfer the patient to ICU or PICU ?
- Come to see the patient at this time ?
- Talk to the patient and/or family about the code status ?
- Ask for a consultant to see the patient now ?

Other suggestion ? _____

Are any tests needed ?

- Do you need any tests like CXR ABG EKG CBC BNP
- Others? _____

If a change in treatment is ordered, then ask:

- How often do you want vital signs ? _____
- If there the patient does not improve, when would you want us to call again?

DOCUMENT THE CHANGE IN CONDITION & THE PHYSICIAN NOTIFICATION



WELCOME

ALERT™ COURSE

Poor management of:

Airway

Breathing

Circulation

Oxygen therapy

Monitoring



Modified Early Warning Score

	3	2	1	0	1	2	3
SBP	<70	71-80	81-100	101-199		>200	
HR		<40	41-50	51-100	101-110	111-129	>130
RR		<9		9-14	15-20	21-29	>30
Temp		<35		35-38.4		38.5	
AVPU				Alert	Voice	Pain	Unresponsive

Subbe et al. QJM 2001;94:521-526

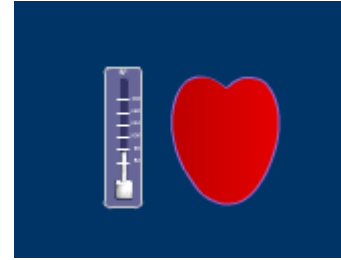
EWS issues

- ***No perfect score***
- ***Most were empirically derived***
- ***Only 5 have been externally validated***
 - **MEWS** – AUROC 65%
 - Original empirical score
 - **REMS** – AUROC 85%
 - Derived from Swedish database – empirical APACHE without lab data
 - External validation has been disappointing
 - **Simple Clinical Score** – AUROC 85% at 30 day; 90% at 24 hours
 - Derived from 6,000 patients, validated in 4000
 - Externally validated in over 2000 patients in two separate independent centers
 - **MARS** – AUROC 90% at 5 days
 - Derived from 10,000 patients and externally validated in 3,500
 - Requires vital signs and lab data
 - **ViEWS** – AUROC 90% at 24 hours
 - Derived from 100,000 observations and validated in several UK hospitals
 - About to used in UK at National EWS

- **Blue and breathless**



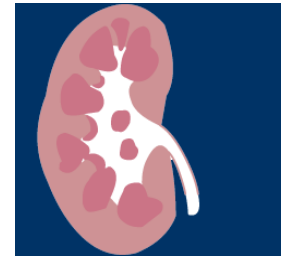
- **Hypotensive patient**



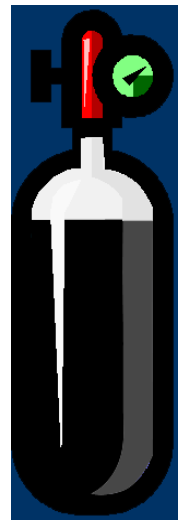
- **Altered mental state**



- **Oliguria**



- **Patient in pain**



Torbay Treatment Escalation Plan[©] (TTEP)

Now, please answer these questions	YES	NO	
Would intravenous fluid resuscitation be an appropriate treatment?			
Would enteral nutrition be an appropriate treatment?			
Would oral antibiotic therapy be an appropriate treatment?			
Would intravenous antibiotic therapy be an appropriate treatment?			
Would a blood transfusion be an appropriate treatment?			
Would cardiovascular support with inotropes and vasopressors be an appropriate treatment?			
Would non invasive ventilation of the lungs be an appropriate treatment?			
Would invasive ventilation of the lungs be an appropriate treatment?			
Would renal replacement therapy be an appropriate treatment?			
Would cardiovascular support with defibrillation be an appropriate treatment?			
<p>THEREFORE, IS THIS PATIENT</p> <p>FOR A CARDIAC ARREST CALL?</p>			

What are the goals of therapy?

- **Very low risk**
 - ***0% chance of death***
 - Why is hospital admission needed?
- **Low risk**
 - ***2% chance of death***
 - How quickly will the patient deteriorate if treatment delayed?
- **Average risk**
 - ***4% chance of death***
- **High risk**
 - ***8% chance of death***
 - Is ICU or transfer needed?
- **Very high risk**
 - ***30% chance of death***
 - Is patient dying?
 - Is palliative care more appropriate?
 - What are the ceilings of care?
 - Is transfer needed?

Expanding Roles for Nurses

VITAL[©] Model of Care

- **Calculating EWS**
 - **Calling MET**
 - **Giving oxygen**
 - **Giving i.v. saline bolus**
 - **Giving i.v. dextrose**
 - **Giving i.v. naloxone**
 - **Reading ECG**
- **Vital signs**
 - **Input and output**
 - **Treatment and Diagnosis**
 - **Ambulation and patient safety**
 - **Legal and patient learning**

THANK YOU